



Servo Cable



LUTZE Silflex® is ideal for use with any servo drive and motor combination whether you need a signal pair for a brake or feedback. AutomationDirect is proud to offer the full line of Silflex® cable from 16AWG up to 2AWG with or without the shielded signal pair. This cable is available in bulk lengths starting as low as 10ft up to over 1000 feet on most of the part numbers.

Silflex® is rated Tray Cable - Exposed Run (TC-ER) meaning that it can be used with or without conduit, making the installations more cost-effective by reducing the cost of labor and materials.

The TPE jacket is oil and sunlight resistant and suitable for dry, damp, wet and direct burial locations.

Carrying multiple approvals and ratings, LUTZE Silflex® cable can be used for most all stationary servo motor application.



**CUT TO LENGTH
CABLES**



FREE shipping - orders over \$49



Features

- Class K, flexible stranded bare copper conductors
- Black, brown and blue power conductors with PVC / Nylon insulation
- Green and yellow ground conductor with PVC / Nylon insulation
- 85% coverage tinned copper braid shield
- Shielded Signal Pair for Feedback / Brake Control on A317 Series
- Orange RAL 2003 Thermoplastic Elastomer (TPE) jacket
- Cut to length in 1 foot increments
- Minimum cut lengths as low as 10 feet
- Made in USA

Please Note: Our prices on Servo Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

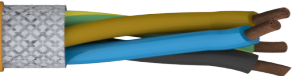
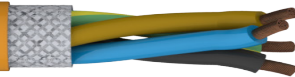
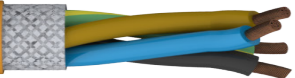
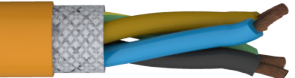
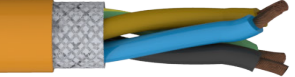


Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable

| LUTZE Servo Cable Specifications | | | |
|--|---|----------------------------|---|
| Power Conductors Gauge & Stranding | 16AWG (26 Strands) to 2AWG (665 Strands), Class K flexible stranded bare copper | Approvals** | UL 1277 - Type TC-ER Standard Power and Control Cables UL 2277 - Type WTTTC Flexible Motor Supply AWM Style 20328 CSA C22.2 No. 210 - CSA AWM I/II A/B CE RoHS-2 cULTC UL MTW Class 1 Div. 2 per NEC Art 336, 392, 501, 502, 505 cURus Oil Res I and II CIC FT4 |
| Shield | 85% coverage tinned copper braid shield | | |
| Signal Pair | Twisted Pair, bare copper conductor with black and white PVC/Nylon insulation and a tinned copper braid and foil shield | | |
| Voltage Rating | 600V UL TC ER 600V UL MTW 1000V WTTTC 1000V Flexible Motor Supply 600V UL AWM 105C | | |
| Outer Jacket Material | Thermoplastic Elastomer (TPE) | | |
| Outer Jacket Color | Orange with black print | Sample Print Legend | www.lutze.com LUTZE SILFLEX M@TPE XXXXXXXX AWGxx-4C + AWGXX-2C (4x2,08mm2 + 2x0,82mm2 – E352875 (UL) TYPE FLEXIBLE MOTOR SUPPLY 90C DRY 1000V OR WTTTC 1000V OR TC-ER 90C 600V THWN SUN RES DIR BUR OIL RES II OR MTW OR c(UL) TYPE CIC CONTROL PVC/N 90C DRY 75C WET FT4 OR AWM 20328 RoHS REACH XXXX CE-XX |
| Minimum Temperature | -40°F (-40°C) | | |
| Temperature Ratings | -40°F to +221°F (-40°C to +105°C) | | |
| Conductor Insulation | Black, brown and blue PVC / Nylon with green/yellow ground | | |
| * See web store for maximum cut lengths ** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |



Servo Cable

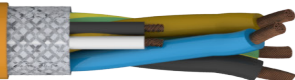
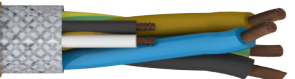
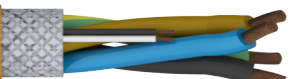
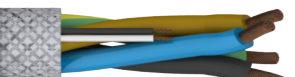
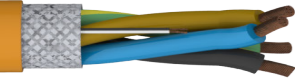
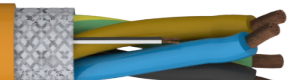
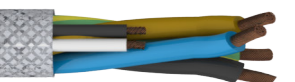
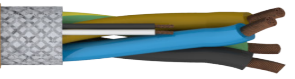
| LUTZE Servo Cable Selection | | | | | | | | | | | | | | | |
|--|--|-----|---------------------|--------|------------------------|--------------|-------------------------|--|---------------------------------|-------------------|---------------------------|------|-------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Conductor OD inches | Strand | Power Conductors (AWG) | Ground (AWG) | Minimum Cut Length (ft) | Nom. Insulation Thickness PVC/Nylon (mils) | Nominal Jacket Thickness (mils) | Nominal OD inches | *Ampacity NEC 310.16 Amps | | Min. Bend Radius inches | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | | 60°C | 90°C | | | |
| <div>LÖTZE SiiFlex* M(C) TPE</div>  | | | | | | | | | | | | | | | |
| <u>A3161604-1</u> | 4 | 16 | 0.117 | 26/30 | 16 | 16 | 20 | 0.016/0.005 | 45 | 0.410 | 10 | 10 | 2.5 | 0.124 | \$3.93 |
| <div>LÖTZE SiiFlex* M(C) TPE</div>  | | | | | | | | | | | | | | | |
| <u>A3161404-1</u> | 4 | 14 | 0.136 | 41/30 | 14 | 14 | 20 | 0.016/0.005 | 60 | 0.455 | 15 | 15 | 2.7 | 0.159 | \$5.08 |
| <div>LÖTZE SiiFlex* M(C) TPE</div>  | | | | | | | | | | | | | | | |
| <u>A3161204-1</u> | 4 | 12 | 0.158 | 65/30 | 12 | 12 | 20 | 0.016/0.005 | 60 | 0.510 | 20 | 20 | 3.1 | 0.214 | \$7.14 |
| <div>LÖTZE SiiFlex* M(C) TPE</div>  | | | | | | | | | | | | | | | |
| <u>A3161004-1</u> | 4 | 10 | 0.206 | 105/30 | 10 | 10 | 20 | 0.021/0.005 | 60 | 0.650 | 30 | 30 | 3.9 | 0.321 | \$10.77 |
| <div>LÖTZE SiiFlex* M(C) TPE</div>  | | | | | | | | | | | | | | | |
| <u>A3160804-1</u> | 4 | 8 | 0.274 | 168/30 | 8 | 8 | 20 | 0.031/0.005 | 80 | 0.825 | 40 | 55 | 4.9 | 0.490 | \$17.77 |

* Ampacity based on NEC 310.16 up to and including 2000 volts, not more than 3 current-carrying conductors, ambient 86°F (30°C)
All dimensions are nominal and subject to normal manufacturing tolerances.



Please Note: Our prices on Servo Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

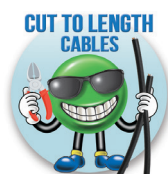
Servo Cable

| LUTZE Servo Cable With Signal Pair Selection | | | | | | | | | | | | | | | | |
|--|--|-----|---------------------|--------|------------------------|--------------|--------------------|--|---------------------------------|----------------------------|-------------------|---------------------------|---|-------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Conductor OD inches | Strand | Power Conductors (AWG) | Ground (AWG) | Minimum Cut Length | Nom. Insulation Thickness PVC/Nylon (mils) | Nominal Jacket Thickness (mils) | Shielded Signal Pair AWG** | Nominal OD inches | *Ampacity NEC 310.16 Amps | | Min. Bend Radius inches | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | | | 60°C | 90°C | | | |
| LOTZE Siiflex*MC TPE | | | | | | | | | | | | |  | | | |
| A3171604-1 | 4 | 16 | 0.117 | 26/30 | 16 | 16 | 20 | 0.016/0.005 | 60 | 18 | 0.477 | 10 | 10 | 2.9 | 0.161 | \$5.70 |
| LOTZE Siiflex*MC TPE | | | | | | | | | | | | |  | | | |
| A3171404-1 | 4 | 14 | 0.136 | 41/30 | 14 | 14 | 20 | 0.016/0.005 | 60 | 18 | 0.505 | 15 | 15 | 3 | 0.196 | \$6.99 |
| LOTZE Siiflex*MC TPE | | | | | | | | | | | | |  | | | |
| A3171204-1 | 4 | 12 | 0.158 | 65/30 | 12 | 12 | 20 | 0.016/0.005 | 60 | 18 | 0.590 | 20 | 20 | 3.5 | 0.263 | \$8.62 |
| LOTZE Siiflex*MC TPE | | | | | | | | | | | | |  | | | |
| A3171004-1 | 4 | 10 | 0.206 | 105/30 | 10 | 10 | 20 | 0.021/0.005 | 80 | 18 | 0.716 | 30 | 30 | 4.3 | 0.380 | \$12.34 |
| LOTZE Siiflex*MC TPE | | | | | | | | | | | | |  | | | |
| A3170804-1 | 4 | 8 | 0.274 | 168/30 | 8 | 8 | 20 | 0.031/0.005 | 80 | 18 | 0.890 | 40 | 55 | 5.3 | 0.568 | \$19.08 |
| LOTZE Siiflex*MC TPE | | | | | | | | | | | | |  | | | |
| A3170604-1 | 4 | 6 | 0.314 | 266/30 | 6 | 6 | 10 | 0.031/0.005 | 80 | 18 | 1.003 | 55 | 75 | 6.0 | 0.786 | \$26.84 |
| LOTZE Siiflex*MC TPE | | | | | | | | | | | | |  | | | |
| A3170404-1 | 4 | 4 | 0.394 | 413/30 | 4 | 4 | 10 | 0.041/0.005 | 80 | 16 | 1.162 | 70 | 95 | 7.0 | 1.119 | \$34.89 |
| LOTZE Siiflex*MC TPE | | | | | | | | | | | | |  | | | |
| A3170204-1 | 4 | 2 | 0.466 | 655/30 | 2 | 2 | 10 | 0.041/0.005 | 80 | 16 | 1.340 | 95 | 130 | 8.0 | 1.543 | \$50.16 |

* Ampacity based on NEC 310.16 up to and including 2000 volts, not more than 3 current-carrying conductors, ambient 86°F (30°C)

** Signal Pair Ampacity: 18AWG = 7 amps, 16AWG = 10 amps

All dimensions are nominal and subject to normal manufacturing tolerances.



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Servo Cable

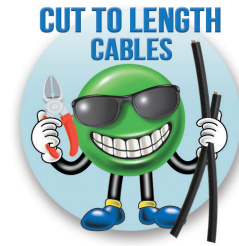
LUTZE Servo Cable Specifications Continued

| Part Number | Nom. Capacitance Conductor to Shield (pF/ft.) | Nom. Capacitance Conductor to Conductor (pF/ft.) | Nom. Conductor DC Resistance @ 20°C (Ohm/1000 ft.) | Nominal Outer Shield DC Resistance @ 20°C (Ohm/1000 ft.) | Impedance (ohms) | Max. Operating Voltage - UL |
|-----------------------------------|---|--|--|--|------------------|-----------------------------|
| <u>A3161604-1</u> | 78.2 | 27.7 | 4.1 | 11.7 | 59.1 | 1000V |
| <u>A3161404-1</u> | 86 | 29.5 | 2.57 | 10.9 | 55.7 | 1000V |
| <u>A3161204-1</u> | 118 | 34.5 | 1.62 | 7.8 | 47.6 | 1000V |
| <u>A3161004-1</u> | 127.7 | 35.74 | 1.17 | 7 | 46 | 1000V |
| <u>A3160804-1</u> | 122.2 | 35 | 0.638 | 6.4 | 46.9 | 1000V |
| <u>A3171604-1</u> | 62.4 | 21.7 | 4.1 | 11.7 | 45.9 | 1000V |
| <u>A3171404-1</u> | 79.5 | 26 | 2.57 | 10.9 | 45.3 | 1000V |
| <u>A3171204-1</u> | 96.6 | 29.8 | 1.62 | 7.8 | 52.5 | 1000V |
| <u>A3171004-1</u> | 123.4 | 33.5 | 1.17 | 7 | 51.9 | 1000V |
| <u>A3170804-1</u> | 134.4 | 36.7 | 0.638 | 6.4 | 43.9 | 1000V |
| <u>A3170604-1</u> | 142.9 | 37.7 | 0.403 | 5.8 | 43.6 | 1000V |
| <u>A3170404-1</u> | 137.3 | 37.1 | 0.253 | 5.2 | 44.3 | 1000V |
| <u>A3170204-1</u> | 170.3 | 40.3 | 0.159 | 4.7 | 40.7 | 1000V |



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Flexible Portable Cord - Type SOOW, SJOOW, SEOOW & SJEOWW Type W



Overview

Use AutomationDirect's Flexible Portable Cord for temporary or portable power applications in industrial, OEM, utility, and commercial environments. Portable cord is a great solution for ceiling drops, mobile machinery power supplies, pendants, and lighting. Applications include factory floor, mining, and heavy construction. Our cord is highly flexible and suitable for harsh conditions, including temperature extremes, and is resistant to oil and chemicals that are common in the industrial environment.

AutomationDirect offers a wide range of portable cord types with jacket materials like CPE (chlorinated polyethylene elastomers), thermoset rubber or TPE (thermoplastic elastomer), and insulation types of Ethylene propylene rubber (EPR) or Ethylene Propylene Diene Monomer (EPDM) rubber. The combinations of these jackets and insulation types meet the requirement for "Extra-Hard Use" (SOOW & SEOOW) or "Hard Use" (SJOOW & SJEOWW) applications and carry the appropriate UL, CSA or MSHA ratings so they can be trusted to work in the harshest environments.

You should feel confident that AutomationDirect's Portable Cord meets or exceeds all the requirements to make it UL & CSA Listed and complies with NFPA 70 Articles 400 & 501.140 (Haz-Loc) and the Mine Safety and Health Administration.

Features

- 18AWG to 6AWG
- 2, 3, 4 & 5 conductors
- Cut to length in 1-foot increments
- As low as 10-foot minimum length
- 600V & 300V versions, Type W 2000V
- Multiple ratings and approvals
- Wide operating temperature range
- Thermoset rubber or thermoplastic jackets
- Suitable for outdoor use
- Excellent abrasion resistance



Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable

Portable Cord Letter Codes Definitions:

- S** = Service cord - 600 Volt
J = Junior service - 300 Volt
E = Elastomer - thermoplastic elastomer that looks and feels like rubber
OO = Oil-resistant outer jacket and oil-resistant interior insulation
W = Moisture and sunlight resistant (approved for indoor and outdoor use)

Conductor Colors:

- 2 Conductor** ● ○
3 Conductor ● ○ ●
4 Conductor ● ○ ● ●
5 Conductor ● ○ ● ● ●

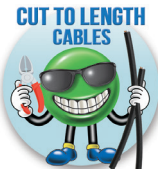
HELUKABEL®

18AWG SOOW Portable Cord

600 Volt

| 18AWG SOOW Portable Cord Specifications | | | |
|--|---|----------------------|---|
| Conductor Gauge | 18 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 16-stranded | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | | 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Thickness | See table below | Temperature Rating | 90°C (194°F) |
| Overall Diameter | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) | | |
| | Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Approvals* | UL (E192384), CSA (LL602586) |
| Conductor Nominal Insulation Thickness | 0.030 in [0.76 mm] | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 18AWG (0.824MM2) SOOW E192384 (UL) 600V -40C TO 90C -- CSA LL602586 SOOW 600V -40C TO 90C FT2 SUN & WATER RESISTANT P-07-KA14001 MSHA CE 03046MTR <CH 11 86 PGR12909 A1> |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 18AWG SOOW Portable Cord | | | | | | | |
|--|----------------------|------------------------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter (in [mm]) | Outer Jacket Thickness (in [mm]) | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| H11161802-1 | 18/2 | 0.346 [8.79] | 0.060 [1.52] | 10 | 20 | 0.08 | \$0.38 |
| H11161803-1 | 18/3 | 0.365 [9.27] | | 10 | 20 | 0.09 | \$0.51 |
| H11161804-1 | 18/4 | 0.390 [9.91] | | 7 | 20 | 0.10 | \$0.56 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | |



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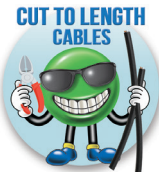
HELUKABEL®

16AWG SOOW Portable Cord

600 Volt

| 16AWG SOOW Portable Cord Specifications | | | |
|--|---|----------------------|---|
| Conductor Gauge | 16 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 26-stranded | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | | 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Thickness | See table below | Temperature Rating | 90°C (194°F) |
| Overall Diameter | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) | | |
| | Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Approvals* | UL (E192384), CSA (LL602586) |
| Conductor Nominal Insulation Thickness | 0.030 in [0.76 mm] | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 16AWG (0.824MM2) SOOW E192384 (UL) 600V -40C TO 90C -- CSA LL602586 SOOW 600V -40C TO 90C FT2 SUN & WATER RESISTANT P-07-KA14001 MSHA CE 03046MTR <CH 11 86 PGR12909 A1> |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 16AWG SOOW Portable Cord | | | | | | | |
|--|----------------------|------------------------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter (in [mm]) | Outer Jacket Thickness (in [mm]) | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| H11161602-1 | 16/2 | 0.370 [9.40] | 0.060 [1.52] | 13 | 20 | 0.09 | \$0.49 |
| H11161603-1 | 16/3 | 0.390 [9.91] | | 13 | 20 | 0.10 | \$0.63 |
| H11161604-1 | 16/4 | 0.415 [10.54] | | 10 | 20 | 0.12 | \$0.80 |
| H11161605-1 | 16/5 | 0.500 [12.57] | | 10 | 20 | 0.16 | \$1.02 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | |



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HELUKABEL®

14AWG SOOW Portable Cord

600 Volt

| 14AWG SOOW Portable Cord Specifications | | | |
|--|---|----------------------|---|
| Conductor Gauge | 14 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 41-stranded | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | | 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Thickness | See table below | Temperature Rating | 90°C (194°F) |
| Overall Diameter | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) | | |
| | Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Approvals* | UL (E192384), CSA (LL602586) |
| Conductor Nominal Insulation Thickness | 0.045 in [1.14 mm] | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 14AWG (0.824MM2) SOOW E192384 (UL) 600V -40C TO 90C -- CSA LL602586 SOOW 600V -40C TO 90C FT2 SUN & WATER RESISTANT P-07-KA14001 MSHA CE 03046MTR <CH 11 86 PGR12909 A1> |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 14AWG SOOW Portable Cord | | | | | | | |
|--|----------------------|------------------------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter (in [mm]) | Outer Jacket Thickness (in [mm]) | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| H11161402-1 | 14/2 | 0.500 [12.70] | 0.080 [2.03] | 18 | 20 | 0.16 | \$0.79 |
| H11161403-1 | 14/3 | 0.525 [13.34] | | 18 | 20 | 0.19 | \$1.05 |
| H11161404-1 | 14/4 | 0.570 [14.48] | | 15 | 20 | 0.22 | \$1.33 |
| H11161405-1 | 14/5 | 0.670 [16.97] | 0.095 [2.41] | 12 | 20 | 0.27 | \$1.71 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

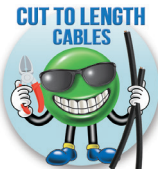
HELUKABEL®

12AWG SOOW Portable Cord

600 Volt

| 12AWG SOOW Portable Cord Specifications | | | |
|--|---|----------------------|---|
| Conductor Gauge | 12 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 65-stranded | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | | 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Thickness | See table below | Temperature Rating | 90°C (194°F) |
| Overall Diameter | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) | | |
| | Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Approvals* | UL (E192384), CSA (LL602586) |
| Conductor Nominal Insulation Thickness | 0.045 in [1.14 mm] | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 12AWG (0.824MM2) SOOW E192384 (UL) 600V -40C TO 90C -- CSA LL602586 SOOW 600V -40C TO 90C FT2 SUN & WATER RESISTANT P-07-KA14001 MSHA CE 03046MTR <CH 11 86 PGR12909 A1> |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 12AWG SOOW Portable Cord | | | | | | | |
|--|----------------------|------------------------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter (in [mm]) | Outer Jacket Thickness (in [mm]) | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| H11161202-1 | 12/2 | 0.570 [14.48] | 0.095 [2.41] | 25 | 20 | 0.22 | \$1.13 |
| H11161203-1 | 12/3 | 0.595 [15.11] | | 25 | 20 | 0.24 | \$1.51 |
| H11161204-1 | 12/4 | 0.645 [16.51] | | 20 | 20 | 0.27 | \$1.90 |
| H11161205-1 | 12/5 | 0.710 [18.11] | | 16 | 20 | 0.35 | \$2.40 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

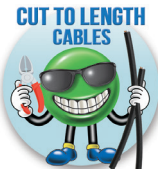
HELUKABEL®

10AWG SOOW Portable Cord

600 Volt

| 10AWG SOOW Portable Cord Specifications | | | |
|--|---|----------------------|---|
| Conductor Gauge | 10 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 105-stranded | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | | 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Thickness | See table below | Temperature Rating | 90°C (194°F) |
| Overall Diameter | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) | | |
| | Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Approvals* | UL (E192384), CSA (LL602586) |
| Conductor Nominal Insulation Thickness | 0.045 in [1.14 mm] | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 10AWG (0.824MM2) SOOW E192384 (UL) 600V -40C TO 90C -- CSA LL602586 SOOW 600V -40C TO 90C FT2 SUN & WATER RESISTANT P-07-KA14001 MSHA CE 03046MTR <CH 11 86 PGR12909 A1> |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 10AWG SOOW Portable Cord | | | | | | | |
|--|----------------------|------------------------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter (in [mm]) | Outer Jacket Thickness (in [mm]) | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| H11161002-1 | 10/2 | 0.620 [15.75] | 0.095 [2.41] | 30 | 20 | 0.26 | \$1.62 |
| H11161003-1 | 10/3 | 0.660 [16.76] | | 30 | 20 | 0.32 | \$2.23 |
| H11161004-1 | 10/4 | 0.710 [18.03] | | 25 | 20 | 0.38 | \$2.88 |
| H11161005-1 | 10/5 | 0.770 [19.56] | | 20 | 20 | 0.44 | \$3.52 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®

8AWG SOOW Portable Cord

600 Volt

8AWG SOOW Portable Cord Specifications

| | | | |
|---|--|-----------------------------|--|
| Conductor Gauge | 8 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 168-stranded | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | | 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Thickness | See table below | Temperature Rating | 90°C (194°F) |
| Overall Diameter | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Approvals* | UL (E192384), CSA (LL602586) |
| Conductor Nominal Insulation Thickness | 0.060 in [1.52 mm] | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 8AWG (0.824MM2) SOOW E192384 (UL) 600V -40C TO 90C -- CSA LL602586 SOOW 600V -40C TO 90C FT2 SUN & WATER RESISTANT P-07-KA14001 MSHA CE 03046MTR <CH 11 86 PGR12909 A1> |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |

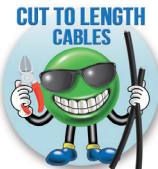
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

8AWG SOOW Portable Cord

| Part Number | AWG/ # of Conductors | Nominal Overall Diameter (in [mm]) | Outer Jacket Thickness (in [mm]) | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|-----------------------------|----------------------|------------------------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| H11160803-1 | 8/3 | 0.874 [17.86] | 0.110 [2.79] | 40 | 10 | 0.47 | \$3.33 |
| H11160804-1 | 8/4 | 0.976 [19.56] | 0.125 [3.18] | 35 | 10 | 0.61 | \$4.40 |

* Per NFPA 70 NEC Table 400.5 (A)(1)

** See web store for maximum cut lengths



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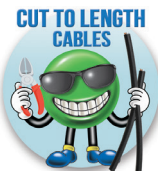
HELUKABEL®

6AWG SOOW Portable Cord

600 Volt

| 6AWG SOOW Portable Cord Specifications | | | |
|--|---|----------------------|--|
| Conductor Gauge | 6 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 266-stranded | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | | 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Thickness | See table below | Temperature Rating | 90°C (194°F) |
| Overall Diameter | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) | | |
| | Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Approvals* | UL (E192384), CSA (LL602586) |
| Conductor Nominal Insulation Thickness | 0.060 in [1.52 mm] | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 6AWG (0.824MM2) SOOW E192384 (UL) 600V -40C TO 90C -- CSA LL602586 SOOW 600V -40C TO 90C FT2 SUN & WATER RESISTANT P-07-KA14001 MSHA CE 03046MTR <CH 11 86 PGR12909 A1> |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 6AWG SOOW Portable Cord | | | | | | | |
|--|----------------------|------------------------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter (in [mm]) | Outer Jacket Thickness (in [mm]) | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| H11160603-1 | 6/3 | 0.988 [19.32] | 0.125 [3.18] | 55 | 10 | 0.64 | \$4.91 |
| H11160604-1 | 6/4 | 1.106 [21.21] | 0.140 [3.56] | 45 | 10 | 0.82 | \$6.49 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 18AWG SOOW Portable Cord

| 18AWG SOOW Portable Cord Specifications | | | |
|--|---|-----------------------------|---|
| Conductor Gauge | 18AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 16/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers)thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry |
| Outer Jacket Thickness | 0.060" [1.52 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals* | MSHA |
| Conductor Insulation | EPDM (ethylene propylene diene monomer) thermoset rubber | | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.030" [0.76 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SOOW E46194 (UL) 600V -40C TO 90C -- CSA LL90458 SOOW 600V -40C TO 90C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 18AWG SOOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SOOW-18-2BK-1</u> | 18/2 | 0.346 [8.79] | 10 | 20 | 0.07 | \$0.50 |
| <u>SOOW-18-3BK-1</u> | 18/3 | 0.365 [9.27] | 10 | 20 | 0.08 | Retired |
| <u>SOOW-18-4BK-1</u> | 18/4 | 0.390 [9.91] | 7 | 20 | 0.10 | \$0.75 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



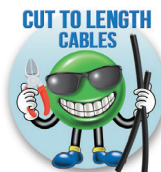
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Southwire® 16AWG SOOW Portable Cord

| 16AWG SOOW Portable Cord Specifications | | | |
|--|---|-----------------------------|---|
| Conductor Gauge | 16AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 26/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers)thermoset rubber | Temperature Rating | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | | 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Thickness | 0.060" [1.52 mm] Nominal | | 75°C (167°F) Wet, 90°C (194°F) Dry |
| Overall Diameter | See table below | Applicable Standards | UL 62, FT2 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | CSA 22.2 No. 49 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) Article 400 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals* | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Conductor Insulation | EPDM (ethylene propylene diene monomer) thermoset rubber | | MSHA |
| Conductor Nominal Insulation Thickness | 0.030" [0.76 mm] | | UL (E46194), CSA (90458) |
| | | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SOOW E46194 (UL) 600V -40C TO 90C -- CSA LL90458 SOOW 600V -40C TO 90C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 16AWG SOOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SOOW-16-2BK-1</u> | 16/2 | 0.370 [9.40] | 13 | 20 | 0.08 | Retired |
| <u>SOOW-16-3BK-1</u> | 16/3 | 0.390 [9.91] | 13 | 20 | 0.09 | Retired |
| <u>SOOW-16-4BK-1</u> | 16/4 | 0.415 [10.54] | 10 | 20 | 0.12 | Retired |
| <u>SOOW-16-5BK-1</u> | 16/5 | 0.500 [12.57] | 10 | 20 | 0.14 | \$1.23 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



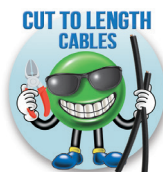
Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 14AWG SOOW Portable Cord

| 14AWG SOOW Portable Cord Specifications | | | |
|--|---|-----------------------------|---|
| Conductor Gauge | 14AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 41/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers)thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry |
| Outer Jacket Thickness | 0.080" [2.03 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals* | MSHA |
| Conductor Insulation | EPDM (ethylene propylene diene monomer) thermoset rubber | | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.045" [1.14 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SOOW E46194 (UL) 600V -40C TO 90C -- CSA LL90458 SOOW 600V -40C TO 90C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 14AWG SOOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SOOW-14-2BK-1</u> | 14/2 | 0.500 [12.70] | 18 | 20 | 0.13 | \$0.90 |
| <u>SOOW-14-3BK-1</u> | 14/3 | 0.525 [13.34] | 18 | 20 | 0.17 | Retired |
| <u>SOOW-14-4BK-1</u> | 14/4 | 0.570 [14.48] | 15 | 20 | 0.20 | Retired |
| <u>SOOW-14-5BK-1</u> | 14/5 | 0.670 [16.97] | 15 | 20 | 0.27 | Retired |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 12AWG SOOW Portable Cord

| 12AWG SOOW Portable Cord Specifications | | | |
|--|---|-----------------------------|---|
| Conductor Gauge | 12AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 65/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers)thermoset rubber | Temperature Rating | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | | 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Thickness | 0.095" [2.41 mm] Nominal | | 75°C (167°F) Wet, 90°C (194°F) Dry |
| Overall Diameter | See table below | Applicable Standards | UL 62, FT2 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | CSA 22.2 No. 49 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) Article 400 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals* | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Conductor Insulation | EPDM (ethylene propylene diene monomer) thermoset rubber | | MSHA |
| Conductor Nominal Insulation Thickness | 0.045" [1.14 mm] | | UL (E46194), CSA (90458) |
| | | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SOOW E46194 (UL) 600V -40C TO 90C -- CSA LL90458 SOOW 600V -40C TO 90C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 12AWG SOOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SOOW-12-2BK-1</u> | 12/2 | 0.570 [14.48] | 25 | 20 | 0.18 | \$1.34 |
| <u>SOOW-12-3BK-1</u> | 12/3 | 0.595 [15.11] | 25 | 20 | 0.22 | \$1.67 |
| <u>SOOW-12-4BK-1</u> | 12/4 | 0.650 [16.51] | 20 | 20 | 0.28 | Retired |
| <u>SOOW-12-5BK-1</u> | 12/5 | 0.710 [18.11] | 20 | 20 | 0.34 | Retired |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 10AWG SOOW Portable Cord

| 10AWG SOOW Portable Cord Specifications | | | |
|--|---|-----------------------------|---|
| Conductor Gauge | 10AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 104/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers)thermoset rubber | Temperature Rating | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | | 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Thickness | 0.095" [2.41 mm] Nominal | | 75°C (167°F) Wet, 90°C (194°F) Dry |
| Overall Diameter | See table below | Applicable Standards | UL 62, FT2 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | CSA 22.2 No. 49 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) Article 400 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals* | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Conductor Insulation | EPDM (ethylene propylene diene monomer) thermoset rubber | | MSHA |
| Conductor Nominal Insulation Thickness | 0.045" [1.14 mm] | | UL (E46194), CSA (90458) |
| | | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SOOW E46194 (UL) 600V -40C TO 90C -- CSA LL90458 SOOW 600V -40C TO 90C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 10AWG SOOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| SOOW-10-2BK-1 | 10/2 | 0.620 [15.75] | 30 | 20 | 0.23 | Retired |
| SOOW-10-3BK-1 | 10/3 | 0.660 [16.76] | 30 | 20 | 0.30 | Retired |
| SOOW-10-4BK-1 | 10/4 | 0.710 [18.03] | 25 | 20 | 0.36 | Retired |
| SOOW-10-5BK-1 | 10/5 | 0.770 [19.56] | 25 | 20 | 0.44 | Retired |
| * Per NFPA 70 NEC Table 400.5 (A)(1) ** See web store for maximum cut lengths | | | | | | |

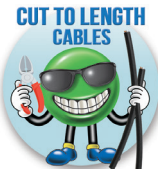


Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

DiRECT WIRE 8AWG SOOW Portable Cord

| 8AWG SOOW Portable Cord Specifications | | | |
|--|--|------------------------------|--|
| Conductor Gauge | 8AWG | Conductor Color | 3 conductor - Black, White, Green |
| Conductor Stranding | 182/30 bare copper | | |
| Voltage Rating | 600V | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers) thermoset rubber | Temperature Rating | -40°C (-40°F) to 90°C (194 °F) |
| Outer Jacket Color | Black with white print | Applicable Standards* | FT5 Flame Tested |
| Outer Jacket Thickness | 0.060 in [1.52 mm] nominal | | NEC (NFPA 70) Article 400 |
| Overall Diameter | See table below | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | MSHA |
| Minimum Bend Radius | 4x diameter | Sample Print Legend | Direct Wire [AWG]/[COND] SOOW 600V FT5 -40°C - 90°C P-07-KA190007- MSHA 30-CFR-S-7.407 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Conductor Insulation | Low-smoke, halogen-free EPDM compound | | |
| Conductor Nominal Insulation Thickness | 0.030 in [0.76 mm] | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 8AWG SOOW Portable Cord | | | | | | |
|--|---------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/# of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SOOW-8-3BK-1</u> | 8/3 | 17.86 | 40A | 10ft | 0.314 | Retired |
| <u>SOOW-8-4BK-1</u> | 8/4 | 19.56 | 35A | | 0.406 | Retired |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



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DiRECT WIRE 6AWG SOOW Portable Cord

| 6AWG SOOW Portable Cord Specifications | | | |
|--|--|-----------------------------|--|
| Conductor Gauge | 6AWG | Conductor Color | 3 conductor - Black, White, Green |
| Conductor Stranding | 260/30 bare copper | | |
| Voltage Rating | 600V | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers) thermoset rubber | Temperature Rating | -40°C (-40°F) to 90°C (194 °F) |
| Outer Jacket Color | Black with white print | Applicable Standards | FT5 Flame Tested |
| Outer Jacket Thickness | 0.060 in [1.52 mm] nominal | | NEC (NFPA 70) Article 400 |
| Overall Diameter | See table below | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | MSHA |
| Minimum Bend Radius | 4x diameter | Sample Print Legend | Direct Wire [AWG]/[COND] SOOW 600V |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | FT5 -40°C - 90°C P-07-KA190007- |
| Conductor Insulation | Low-smoke, halogen-free EPDM compound | | MSHA 30-CFR-S-7.407 |
| Conductor Nominal Insulation Thickness | 0.030 in [0.76 mm] | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 6AWG SOOW Portable Cord | | | | | | |
|--|---------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/# of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SOOW-6-3BK-1</u> | 6/3 | 19.33 | 55A | 10ft | 0.398 | \$5.61 |
| <u>SOOW-6-4BK-1</u> | 6/4 | 21.21 | 45A | | 0.519 | Retired |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®

18AWG SJOOW Portable Cord

300 Volt

18AWG SJOOW Portable Cord Specifications

| | | | |
|---|---|-----------------------------|---|
| Conductor Gauge | 18 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 16-stranded | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | Temperature Rating | 90°C (194°F) |
| Outer Jacket Thickness | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Overall Diameter | See table below | | |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) | Approvals* | UL (E192384), CSA (LL602586) |
| | Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 18AWG (0.824MM2) SJOOW E192384 (UL) 300V -40C TO 90C -- CSA LL602586 SJOOW 300V -40C TO 90C FT2 SUN & WATER RESISTANT P-07 KA14001 MSHA CE 00574MTR <CH 11 86 PGR1878 FH> |
| Conductor Nominal Insulation Thickness | 0.030 in [0.76 mm] | | |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |

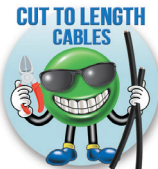
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

18AWG SJOOW Portable Cord

| Part Number | AWG/ # of Conductors | Nominal Overall Diameter (in [mm]) | Outer Jacket Thickness (in [mm]) | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|-----------------------------|----------------------|------------------------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| H11131802-1 | 18/2 | 0.285 [7.24] | 0.030 [0.76] | 10 | 20 | 0.06 | \$0.33 |
| H11131803-1 | 18/3 | 0.310 [7.87] | | 10 | 20 | 0.07 | \$0.46 |
| H11131804-1 | 18/4 | 0.330 [8.38] | | 7 | 20 | 0.07 | \$0.50 |

* Per NFPA 70 NEC Table 400.5 (A)(1)

** See web store for maximum cut lengths



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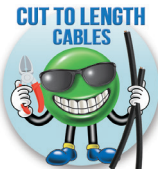
HELUKABEL®

16AWG SJOOW Portable Cord

300 Volt

| 16AWG SJOOW Portable Cord Specifications | | | |
|--|---|----------------------|---|
| Conductor Gauge | 16 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 26-stranded | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | Temperature Rating | 90°C (194°F) |
| Outer Jacket Thickness | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Overall Diameter | See table below | | |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) | Approvals* | UL (E192384), CSA (LL602586) |
| | Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 16AWG (XXMM2) SJOOW E192384 (UL) 300V -40C TO 90C -- CSA LL602586 SJOOW 300V -40C TO 90C FT2 SUN & WATER RESISTANT P-07 KA14001 MSHA CE 00574MTR <CH 11 86 PGR1878 FH> |
| Conductor Nominal Insulation Thickness | 0.030 in [0.76 mm] | | |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 16AWG SJOOW Portable Cord | | | | | | | |
|--|----------------------|------------------------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter (in [mm]) | Outer Jacket Thickness (in [mm]) | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| H11131602-1 | 16/2 | 0.310 [7.87] | 0.030 [0.76] | 13 | 20 | 0.07 | \$0.41 |
| H11131603-1 | 16/3 | 0.330 [8.38] | | 13 | 20 | 0.08 | \$0.57 |
| H11131604-1 | 16/4 | 0.357 [9.07] | | 10 | 20 | 0.09 | \$0.74 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®

14AWG SJOOW Portable Cord

300 Volt

14AWG SJOOW Portable Cord Specifications

| | | | |
|---|---|-----------------------------|---|
| Conductor Gauge | 14 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 41-stranded | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | Temperature Rating | 90°C (194°F) |
| Outer Jacket Thickness | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Overall Diameter | See table below | | |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) | Approvals* | UL (E192384), CSA (LL602586) |
| | Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 14AWG (XXMM2) SJOOW E192384 (UL) 300V -40C TO 90C -- CSA LL602586 SJOOW 300V -40C TO 90C FT2 SUN & WATER RESISTANT P-07 KA14001 MSHA CE 00574MTR <CH 11 86 PGR1878 FH> |
| Conductor Nominal Insulation Thickness | 0.045 in [1.14 mm] | | |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |

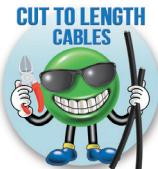
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

14AWG SJOOW Portable Cord

| Part Number | AWG/ # of Conductors | Nominal Overall Diameter (in [mm]) | Outer Jacket Thickness (in [mm]) | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|-----------------------------|----------------------|------------------------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| H11131402-1 | 14/2 | 0.340 [8.64] | 0.030 [0.76] | 18 | 20 | 0.08 | \$0.60 |
| H11131403-1 | 14/3 | 0.365 [9.27] | | 18 | 20 | 0.10 | \$0.85 |
| H11131404-1 | 14/4 | 0.395 [10.03] | | 15 | 20 | 0.13 | \$1.11 |

* Per NFPA 70 NEC Table 400.5 (A)(1)

** See web store for maximum cut lengths



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HELUKABEL®

12AWG SJOOW Portable Cord

300 Volt

12AWG SJOOW Portable Cord Specifications

| | | | |
|---|---|-----------------------------|---|
| Conductor Gauge | 12 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 65-stranded | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | Temperature Rating | 90°C (194°F) |
| Outer Jacket Thickness | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Overall Diameter | See table below | | |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) | Approvals* | UL (E192384), CSA (LL602586) |
| | Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 12AWG (XXMM2) SJOOW E192384 (UL) 300V -40C TO 90C -- CSA LL602586 SJOOW 300V -40C TO 90C FT2 SUN & WATER RESISTANT P-07 KA14001 MSHA CE 00574MTR <CH 11 86 PGR1878 FH> |
| Conductor Nominal Insulation Thickness | 0.045 in [1.14 mm] | | |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

12AWG SJOOW Portable Cord

| <i>Part Number</i> | <i>AWG/ # of Conductors</i> | <i>Nominal Overall Diameter (in [mm])</i> | <i>Outer Jacket Thickness (in [mm])</i> | <i>Ampacity*</i> | <i>Minimum Cut Length (ft)**</i> | <i>Approximate Weight (lb/ft)</i> | <i>Price per foot</i> |
|---|-----------------------------|---|---|------------------|----------------------------------|-----------------------------------|-----------------------|
| <i>H11131202-1</i> | 12/2 | 0.410 [10.41] | 0.045 [1.14] | 25 | 20 | 0.12 | \$0.91 |
| <i>H11131203-1</i> | 12/3 | 0.430 [10.92] | | 25 | 20 | 0.15 | \$1.28 |
| <i>H11131204-1</i> | 12/4 | 0.470 [11.94] | | 20 | 20 | 0.18 | \$1.67 |
| <i>* Per NFPA 70 NEC Table 400.5 (A)(1)</i> | | | | | | | |
| <i>** See web store for maximum cut lengths</i> | | | | | | | |



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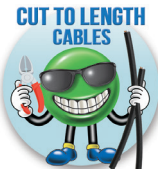
HELUKABEL®

10AWG SJOOW Portable Cord

300 Volt

| 10AWG SJOOW Portable Cord Specifications | | | |
|--|---|----------------------|---|
| Conductor Gauge | 10 AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 105-stranded | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black | Temperature Rating | 90°C (194°F) |
| Outer Jacket Thickness | See table below | Applicable Standards | UL 62 CSA Std. C22.2 No. 49 MSHA Class 1 Div. 2 acc. to NEC Art. 501 |
| Overall Diameter | See table below | | |
| Min. Bend Radius | Flexing: 10x OD, Static: 6x OD | | |
| Operating Temperature | Flexing: -40°C to 90°C (-40°F to 194°F) | Approvals* | UL (E192384), CSA (LL602586) |
| | Static: -20°C to 90°C (-4°F to 194°F) | | |
| Conductor Insulation | EPDM thermoset rubber | Sample Print Legend | HELUKABEL P/N XXXXXXXX CORD XC 10AWG (XXMM2) SJOOW E192384 (UL) 300V -40C TO 90C -- CSA LL602586 SJOOW 300V -40C TO 90C FT2 SUN & WATER RESISTANT P-07 KA14001 MSHA CE 00574MTR <CH 11 86 PGR1878 FH> |
| Conductor Nominal Insulation Thickness | 0.045 in [1.14 mm] | | |
| Outdoor Rated | Yes | | |
| Sunlight Resistant | Yes | | |
| Flame Retardant | Yes (CSA FT2) | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 10AWG SJOOW Portable Cord | | | | | | | |
|--|----------------------|------------------------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter (in [mm]) | Outer Jacket Thickness (in [mm]) | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| H11131003-1 | 10/3 | 0.569 [14.45] | 0.060 [1.52] | 30 | 20 | 0.26 | \$2.10 |
| H11131004-1 | 10/4 | 0.635 [16.13] | | 25 | 20 | 0.36 | \$2.83 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | |



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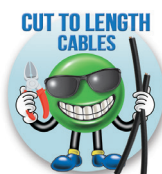


Southwire®

18AWG SJOOW Portable Cord

| 18AWG SJOOW Portable Cord Specifications | | | |
|--|---|-----------------------------|---|
| Conductor Gauge | 18AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 16/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers)thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry |
| Outer Jacket Thickness | 0.030" [0.76 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | MSHA |
| Conductor Insulation | EPDM (ethylene propylene diene monomer) thermoset rubber | Approvals* | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.030" [0.76 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SJOOW E46194 (UL) 300V -40C TO 90C -- CSA LL90458 SJOOW 300V -40C TO 90C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 18AWG SJOOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SJOOW-18-2BK-1</u> | 18/2 | 0.285 [7.24] | 10 | 20 | 0.05 | Retired |
| <u>SJOOW-18-3BK-1</u> | 18/3 | 0.310 [7.87] | 10 | 20 | 0.06 | \$0.56 |
| <u>SJOOW-18-4BK-1</u> | 18/4 | 0.330 [8.38] | 7 | 20 | 0.07 | \$0.70 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



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Southwire®

16AWG SJOOW Portable Cord

| 16AWG SJOOW Portable Cord Specifications | | | |
|--|---|-----------------------------|---|
| Conductor Gauge | 16AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 26/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers)thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry |
| Outer Jacket Thickness | 0.030" [0.76 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | MSHA |
| Conductor Insulation | EPDM (ethylene propylene diene monomer) thermoset rubber | Approvals* | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.030" [0.76 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SJOOW E46194 (UL) 300V -40C TO 90C -- CSA LL90458 SJOOW 300V -40C TO 90C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 16AWG SJOOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SJOOW-16-2BK-1</u> | 16/2 | 0.310 [7.87] | 13 | 20 | 0.06 | Retired |
| <u>SJOOW-16-3BK-1</u> | 16/3 | 0.330 [8.38] | 13 | 20 | 0.07 | Retired |
| <u>SJOOW-16-4BK-1</u> | 16/4 | 0.357 [9.07] | 10 | 20 | 0.09 | \$0.81 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



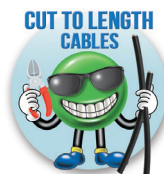
Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 14AWG SJOOW Portable Cord

| 14AWG SJOOW Portable Cord Specifications | | | |
|--|---|-----------------------------|---|
| Conductor Gauge | 14AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 41/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers)thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry |
| Outer Jacket Thickness | 0.030" [0.76 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals* | MSHA |
| Conductor Insulation | EPDM (ethylene propylene diene monomer) thermoset rubber | | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.030" [0.76 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SJOOW E46194 (UL) 300V -40C TO 90C -- CSA LL90458 SJOOW 300V -40C TO 90C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 14AWG SJOOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SJOOW-14-2BK-1</u> | 14/2 | 0.340 [8.64] | 18 | 20 | 0.06 | \$0.66 |
| <u>SJOOW-14-3BK-1</u> | 14/3 | 0.365 [9.27] | 18 | 20 | 0.08 | Retired |
| <u>SJOOW-14-4BK-1</u> | 14/4 | 0.395 [10.03] | 15 | 20 | 0.10 | \$1.12 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



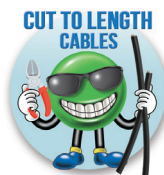
Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 12AWG SJOOW Portable Cord

| 12AWG SJOOW Portable Cord Specifications | | | |
|--|---|-----------------------------|---|
| Conductor Gauge | 12AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 65/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers)thermoset rubber | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry |
| Outer Jacket Thickness | 0.045" [1.14 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | MSHA |
| Conductor Insulation | EPDM (ethylene propylene diene monomer) thermoset rubber | Approvals* | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.030" [0.76 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SJOOW E46194 (UL) 300V -40C TO 90C -- CSA LL90458 SJOOW 300V -40C TO 90C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 12AWG SJOOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SJOOW-12-2BK-1</u> | 12/2 | 0.410 [10.41] | 25 | 20 | 0.09 | \$1.13 |
| <u>SJOOW-12-3BK-1</u> | 12/3 | 0.430 [10.92] | 25 | 20 | 0.12 | Retired |
| <u>SJOOW-12-4BK-1</u> | 12/4 | 0.470 [11.94] | 20 | 20 | 0.15 | Retired |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



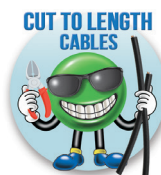
Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 10AWG SJOOW Portable Cord

| 10AWG SJOOW Portable Cord Specifications | | | |
|---|---|----------------------|---|
| Conductor Gauge | 10AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 104/30 bare copper, Class K stranding ASTM B 174 | | 3 conductor - Black, White, Green |
| Voltage Rating | 300V | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers)thermoset rubber | | |
| Outer Jacket Color | Black with white print | Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry |
| Outer Jacket Thickness | 0.060" [1.52 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | MSHA |
| Conductor Insulation | EPDM (ethylene propylene diene monomer) thermoset rubber | Approvals* | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.045" [1.14 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SJOOW E46194 (UL) 300V -40C TO 90C -- CSA LL90458 SJOOW 300V -40C TO 90C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 10AWG SJOOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| SJOOW-10-3BK-1 | 10/3 | 0.569 [14.45] | 30 | 20 | 0.25 | \$2.20 |
| SJOOW-10-4BK-1 | 10/4 | 0.635 [16.13] | 25 | 20 | 0.26 | Retired |
| * Per NFPA 70 NEC Table 400.5 (A)(1) ** See web store for maximum cut lengths | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire®

18AWG SEOW Portable Cord

| 18AWG SEOW Portable Cord Specifications | | | |
|--|--|-----------------------------|--|
| Conductor Gauge | 18AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 16/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 600V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | TPE (thermoplastic elastomer) | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | Temperature Rating | 60°C (140°F) Wet, 105°C (221°F) Dry |
| Outer Jacket Thickness | 0.085" [2.16 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -50°C (-58°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -50°C to 105°C (-58°F to 221°F) | | MSHA |
| Conductor Insulation | TPE (thermoplastic elastomer) | Approvals* | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.030" [0.76 mm] | Sample Print Legend | SOUTHWIRE® SEOPRENE® CORD X/C XX AWG (X.XXmm2) SEOW E46194 (UL) 600V -50C TO 105C -- CSA LL90458 STOW(TPE) 600V -50C TO 105C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 18AWG SEOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SEOW-18-2BK-1</u> | 18/2 | 0.346 [8.79] | 10 | 20 | 0.06 | \$0.53 |
| <u>SEOW-18-3BK-1</u> | 18/3 | 0.365 [9.27] | 10 | 20 | 0.07 | \$0.66 |
| <u>SEOW-18-4BK-1</u> | 18/4 | 0.395 [10.03] | 7 | 20 | 0.08 | \$0.82 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



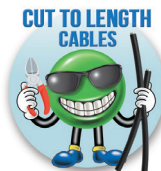
Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 16AWG SEOW Portable Cord

| 16AWG SEOW Portable Cord Specifications | | | |
|---|--|----------------------|--|
| Conductor Gauge | 16AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 26/30 bare copper, Class K stranding ASTM B 174 | | 3 conductor - Black, White, Green |
| Voltage Rating | 600V | | 4 conductor - Black, White, Red, Green 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Material | TPE (thermoplastic elastomer) | | |
| Outer Jacket Color | Black with white print | Temperature Rating | 60°C (140°F) Wet, 105°C (221°F) Dry |
| Outer Jacket Thickness | 0.083" [2.09 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -50°C (-58°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -50°C to 105°C (-58°F to 221°F) | | MSHA |
| Conductor Insulation | TPE (thermoplastic elastomer) | Approvals* | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.030" [0.76 mm] | Sample Print Legend | SOUTHWIRE® SEOPRENE® CORD X/C XX AWG (X.XXmm2) SEOW E46194 (UL) 600V -50C TO 105C -- CSA LL90458 SEOW(TPE) 600V -50C TO 105C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 16AWG SEOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SEOW-16-3BK-1</u> | 16/3 | 0.390 [9.91] | 13 | 20 | 0.08 | \$0.74 |
| <u>SEOW-16-4BK-1</u> | 16/4 | 0.420 [10.67] | 10 | 20 | 0.10 | \$0.98 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 14AWG SEOW Portable Cord

| 14AWG SEOW Portable Cord Specifications | | | |
|---|--|----------------------|--|
| Conductor Gauge | 14AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 41/30 bare copper, Class K stranding ASTM B 174 | | 3 conductor - Black, White, Green |
| Voltage Rating | 600V | | 4 conductor - Black, White, Red, Green 5 conductor - Black, White, Red, Green, Orange |
| Outer Jacket Material | TPE (thermoplastic elastomer) | | |
| Outer Jacket Color | Black with white print | Temperature Rating | 60°C (140°F) Wet, 105°C (221°F) Dry |
| Outer Jacket Thickness | 0.097" [2.45 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -50°C (-58°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -50°C to 105°C (-58°F to 221°F) | | MSHA |
| Conductor Insulation | TPE (thermoplastic elastomer) | Approvals* | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.045" [1.14 mm] | Sample Print Legend | SOUTHWIRE® SEOPRENE® CORD X/C XX AWG (X.XXmm2) SEOW E46194 (UL) 600V -50C TO 105C -- CSA LL90458 SEOW(TPE) 600V -50C TO 105C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 14AWG SEOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SEOW-14-3BK-1</u> | 14/3 | 0.525 [13.34] | 18 | 20 | 0.17 | \$1.20 |
| <u>SEOW-14-4BK-1</u> | 14/4 | 0.575 [14.61] | 15 | 20 | 0.18 | \$1.51 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) ** See web store for maximum cut lengths | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

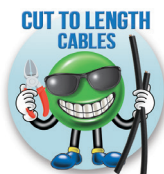


Southwire®

12AWG SEOW Portable Cord

| 12AWG SEOW Portable Cord Specifications | | | |
|--|--|-----------------------------|---|
| Conductor Gauge | 12AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 65/30 bare copper, Class K stranding ASTM B 174 | | 3 conductor - Black, White, Green |
| Voltage Rating | 600V | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Material | TPE (thermoplastic elastomer) | Temperature Rating | 60°C (140°F) Wet, 105°C (221°F) Dry |
| Outer Jacket Color | Black with white print | Applicable Standards | UL 62, FT2 |
| Outer Jacket Thickness | 0.106" [2.68 mm] Nominal | | CSA 22.2 No. 49 |
| Overall Diameter | See table below | | NEC (NFPA 70) Article 400 |
| Cold Bend | -50°C (-58°F) per UL 1277 | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Min. Bend Radius | 4x diameter | Approvals* | MSHA |
| Operating Temperature | -50°C to 105°C (-58°F to 221°F) | | UL (E46194), CSA (90458) |
| Conductor Insulation | TPE (thermoplastic elastomer) | Sample Print Legend | SOUTHWIRE® SEOPRENE® CORD X/C XX AWG (X.XXmm2) SEOW E46194 (UL) 600V -50C TO 105C - CSA LL90458 SEOW(TPE) 600V -50C TO 105C FT2 WATER RESISTANT |
| Conductor Nominal Insulation Thickness | 0.045" [1.14 mm] | | |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 12AWG SEOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SEOW-12-3BK-1</u> | 12/3 | 0.595 [15.11] | 25 | 20 | 0.20 | \$1.69 |
| <u>SEOW-12-4BK-1</u> | 12/4 | 0.645 [16.38] | 20 | 20 | 0.24 | \$2.28 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



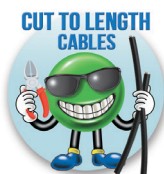
Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 10AWG SEOW Portable Cord

| 10AWG SEOW Portable Cord Specifications | | | |
|--|---|-----------------------------|--|
| Conductor Gauge | 10AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 104/30 bare copper, Class K stranding ASTM B 174 | | 4 conductor - Black, White, Red, Green |
| Voltage Rating | 600V | | |
| Outer Jacket Material | TPE (thermoplastic elastomer) | | |
| Outer Jacket Color | Black with white print | Temperature Rating | 60°C (140°F) Wet, 105°C (221°F) Dry |
| Outer Jacket Thickness | 0.106" [2.68 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -50°C (-58°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -50°C to 105°C (-58°F to 221°F) | | MSHA |
| Conductor Insulation | TPE (thermoplastic elastomer) | Approvals* | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.045" [1.14 mm] | Sample Print Legend | SOUTHWIRE® SEOPRENE® CORD X/C XX AWG (X.XXmm2) SEOW E46194 (UL) 600V -50C TO 105C -- CSA LL90458 SEOW(TPE) 600V -50C TO 105C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 10AWG SEOW Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SEOW-10-4BK-1</u> | 10/4 | 0.705 [17.91] | 25 | 20 | 0.32 | \$3.04 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire®

18AWG SJE00W Portable Cord

| 18AWG SJE00W Portable Cord Specifications | | | |
|--|--|-----------------------------|---|
| Conductor Gauge | 18AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 16/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | TPE (thermoplastic elastomer) | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | Temperature Rating | 60°C (140°F) Wet, 105°C (221°F) Dry |
| Outer Jacket Thickness | 0.030" [0.76 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -50°C (-58°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -50°C to 105°C (-58°F to 221°F) | Approvals* | MSHA |
| Conductor Insulation | TPE (thermoplastic elastomer) | | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.030" [0.76 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SJE00W E46194 (UL) 300V -50C TO 105C -- CSA LL90458 SJE00W 300V -50C TO 105C FT2 WATER RESISTANT |
| * To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com | | | |

| 18AWG SJE00W Portable Cord | | | | | | |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| <u>SJE00W-18-2BK-1</u> | 18/2 | 0.290 [7.36] | 10 | 20 | 0.04 | \$0.43 |
| <u>SJE00W-18-3BK-1</u> | 18/3 | 0.310 [7.87] | 10 | 20 | 0.06 | \$0.51 |
| <u>SJE00W-18-4BK-1</u> | 18/4 | 0.335 [8.51] | 7 | 20 | 0.07 | \$0.64 |
| * Per NFPA 70 NEC Table 400.5 (A)(1) | | | | | | |
| ** See web store for maximum cut lengths | | | | | | |



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 16AWG SJE00W Portable Cord

16AWG SJE00W Portable Cord Specifications

| | | | |
|---|--|-----------------------------|---|
| Conductor Gauge | 16AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 26/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | TPE (thermoplastic elastomer) | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | Temperature Rating | 60°C (140°F) Wet, 105°C (221°F) Dry |
| Outer Jacket Thickness | 0.030" [0.76 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -50°C (-58°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -50°C to 105°C (-58°F to 221°F) | Approvals* | MSHA |
| Conductor Insulation | TPE (thermoplastic elastomer) | | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.030" [0.76 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SJE00W E46194 (UL) 300V -50C TO 105C -- CSA LL90458 SJE00W 300V -50C TO 105C FT2 WATER RESISTANT |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

16AWG SJE00W Portable Cord

| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| <u>SJE00W-16-2BK-1</u> | 16/2 | 0.315 [8.00] | 13 | 20 | 0.05 | \$0.51 |
| <u>SJE00W-16-3BK-1</u> | 16/3 | 0.330 [8.32] | 13 | 20 | 0.07 | \$0.62 |
| <u>SJE00W-16-4BK-1</u> | 16/4 | 0.360 [9.14] | 10 | 20 | 0.08 | \$0.83 |

* Per NFPA 70 NEC Table 400.5 (A)(1)

** See web store for maximum cut lengths



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire®

14AWG SJE00W Portable Cord

14AWG SJE00W Portable Cord Specifications

| | | | |
|---|--|-----------------------------|---|
| Conductor Gauge | 14AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 41/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | TPE (thermoplastic elastomer) | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | Temperature Rating | 60°C (140°F) Wet, 105°C (221°F) Dry |
| Outer Jacket Thickness | 0.030" [0.76 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -50°C (-58°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -50°C to 105°C (-58°F to 221°F) | Approvals* | MSHA |
| Conductor Insulation | TPE (thermoplastic elastomer) | | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.030" [0.76 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SJE00W E46194 (UL) 300V -50C TO 105C -- CSA LL90458 SJE00W 300V -50C TO 105C FT2 WATER RESISTANT |

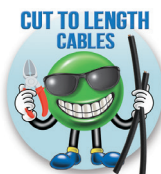
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

14AWG SJE00W Portable Cord

| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| <u>SJE00W-14-2BK-1</u> | 14/2 | 0.345 [8.76] | 18 | 20 | 0.60 | \$0.70 |
| <u>SJE00W-14-3BK-1</u> | 14/3 | 0.370 [9.14] | 18 | 20 | 0.80 | \$0.95 |
| <u>SJE00W-14-4BK-1</u> | 14/4 | 0.400 [10.16] | 15 | 20 | 0.10 | \$1.23 |

* Per NFPA 70 NEC Table 400.5 (A)(1)

** See web store for maximum cut lengths



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire® 12AWG SJE00W Portable Cord

12AWG SJE00W Portable Cord Specifications

| | | | |
|---|--|-----------------------------|---|
| Conductor Gauge | 12AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 65/30 bare copper, Class K stranding ASTM B 174 | | 2 conductor - Black, White |
| Voltage Rating | 300V | | 3 conductor - Black, White, Green |
| Outer Jacket Material | TPE (thermoplastic elastomer) | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Color | Black with white print | Temperature Rating | 60°C (140°F) Wet, 105°C (221°F) Dry |
| Outer Jacket Thickness | 0.045" [1.14 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -50°C (-58°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -50°C to 105°C (-58°F to 221°F) | Approvals* | MSHA |
| Conductor Insulation | TPE (thermoplastic elastomer) | | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.045" [1.14 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm2) SJE00W E46194 (UL) 300V -50C TO 105C -- CSA LL90458 SJE00W 300V -50C TO 105C FT2 WATER RESISTANT |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

12AWG SJE00W Portable Cord

| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---------------------------------|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| SJE00W-12-2BK-1 | 12/2 | 0.415 [10.54] | 25 | 20 | 0.10 | \$1.12 |
| SJE00W-12-3BK-1 | 12/3 | 0.435 [11.05] | 25 | 20 | 0.12 | \$1.36 |
| SJE00W-12-4BK-1 | 12/4 | 0.480 [12.19] | 20 | 20 | 0.16 | \$1.81 |

* Per NFPA 70 NEC Table 400.5 (A)(1)
 ** See web store for maximum cut lengths



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Southwire®

10AWG SJE00W Portable Cord

10AWG SJE00W Portable Cord Specifications

| | | | |
|---|---|-----------------------------|--|
| Conductor Gauge | 10AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 104/30 bare copper, Class K stranding ASTM B 174 | | 3 conductor - Black, White, Green |
| Voltage Rating | 300V | | 4 conductor - Black, White, Red, Green |
| Outer Jacket Material | TPE (thermoplastic elastomer) | | |
| Outer Jacket Color | Black with white print | Temperature Rating | 60°C (140°F) Wet, 105°C (221°F) Dry |
| Outer Jacket Thickness | 0.060" [1.52 mm] Nominal | Applicable Standards | UL 62, FT2 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -50°C (-58°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -50°C to 105°C (-58°F to 221°F) | Approvals* | MSHA |
| Conductor Insulation | TPE (thermoplastic elastomer) | | UL (E46194), CSA (90458) |
| Conductor Nominal Insulation Thickness | 0.045" [1.14 mm] | Sample Print Legend | SOUTHWIRE® ROYAL® CORD XX/C XX AWG (XXmm ²) SJE00W E46194 (UL) 300V -50C TO 105C -- CSA LL90458 SJE00W 300V -50C TO 105C FT2 WATER RESISTANT |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

10AWG SJE00W Portable Cord

| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---------------------------------|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| SJE00W-10-3BK-1 | 10/3 | 0.580 [14.73] | 30 | 20 | 0.22 | \$2.15 |
| SJE00W-10-4BK-1 | 10/4 | 0.640 [16.26] | 25 | 20 | 0.28 | \$2.81 |

* Per NFPA 70 NEC Table 400.5 (A)(1)

** See web store for maximum cut lengths



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Southwire® 8AWG Type W Portable Cord

8AWG Type W Portable Cord Specifications

| | | | |
|---|--|-----------------------------|---|
| Conductor Gauge | 8AWG | Conductor Color | Per UL 62 Annex B |
| Conductor Stranding | 133/30 bare copper, Class K stranding ASTM B 174 | | 4 conductor - Black, White, Red, Green |
| Voltage Rating | 2000V | | |
| Outer Jacket Material | CPE (chlorinated polyethylene elastomers) thermoset rubber | | |
| Outer Jacket Color | Black with white print | Temperature Rating | 90°C (194°F) Wet, 90°C (194°F) Dry |
| Outer Jacket Thickness | 0.060" [1.52 mm] Nominal | Applicable Standards | UL Type W per 1650, Type RHH or RHW-2, FT-5 |
| Overall Diameter | See table below | | CSA 22.2 No. 49 |
| Cold Bend | -40°C (-40°F) per UL 1277 | | NEC (NFPA 70) Article 400 |
| Min. Bend Radius | 4x diameter | | NEC (NFPA 70) 501.140 Class 1 Div 2 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | MSHA |
| Conductor Insulation | EPDM (ethylene propylene diene monomer) thermoset rubber | Approvals* | UL (E172226), CSA (236844) |
| Conductor Nominal Insulation Thickness | 0.06" [1.52 mm] | Sample Print Legend | SOUTHWIRE® X AWG X/C TYPE W PORTABLE POWER CABLE 90°C WET OR DRY 2000V OIL AND SUN RES (UL) P-136- 35-MSHA AIW™ c(UL) FT1/FT5 (-40°C) |

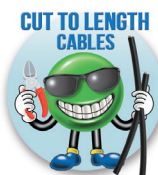
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

8AWG Type W Portable Cord

| Part Number | AWG/ # of Conductors | Nominal Overall Diameter in [mm] | Ampacity* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|------------------|----------------------|----------------------------------|-----------|---------------------------|----------------------------|----------------|
| W-8-4BK-1 | 8/4 | 1.01 [25.65] | 65 | 20 | 0.92 | \$5.77 |

* Per NFPA 70 NEC Table 400.5 (A)(1)

** See web store for maximum cut lengths



Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



DRIVEFLEX® XLPE VFD Cable



LUTZE DRIVEFLEX® is ideal for use with any Variable Frequency Drives and servo drive and motor combination for stationary applications. AutomationDirect is proud to offer the full line of DRIVEFLEX® cable from 18AWG up to 8AWG. This cable is available in bulk lengths starting as low as 10ft up to over 1000 feet for most part numbers.

DRIVEFLEX® is rated Tray Cable - Exposed Run (TCER-JP) meaning that it can be used with or without conduit, making the installations more cost-effective by reducing the cost of labor and materials. The XHHW-2 jacket is oil and sunlight resistant and suitable for dry, damp, wet and direct burial locations. Carrying multiple approvals and ratings, LUTZE DRIVEFLEX® cable can be used for most all stationary drive and motor application.

Features

- Flexible fine wire stranded tinned copper conductors for improved electrical characteristics and reduced oxidation
- Black with white numbers and one green/yellow ground
- Thermoset XLPE insulation type XHHW-2, Wet/Dry
- Shielded with tinned copper braid with 85% optical coverage, and drain wire
- Type XHHW-2 insulation offering smaller ODs for general VFD applications
- TC-ER-JP for use with cable trays without conduit, which can reduce installation costs in industrial environments
- Sunlight resistant
- Direct burial
- Talc and silicone free
- Black jacket similar to RAL 9005
- Cut to length in 1 foot increments
- Minimum cut lengths as low as 10 feet*
- Made in USA



Please Note: Our prices on Servo Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable



DRIVEFLEX® XLPE VFD Cable Specifications







| | | | |
|---|---|----------------------------|---|
| Conductors Gauge & Stranding | 18AWG (19 Strands) to 8AWG (168 Strands), tinned Copper | Approvals** | UL Type Flexible Motor Supply Flexible VFD Servo Cable, TC-ER-JP WTTC DP-1 Meets NEC 336, 392 Class I & 11, Div. 2 and Class I Zone 2 per NEC 501, 502, 505 AWM 20886 Submersible Pump (≥AWG14) c(UL)TTC CIC FT4 UL 1277 |
| Shield | Foil tape, tinned copper braid with 80% optical coverage, and drain wire | | |
| Voltage Rating | 600V UL TC ER JP 600V UL MTW 1000V WTTC 1000V Flexible Motor Supply 1000V UL AWM 105C | | |
| Outer Jacket Material | Thermoset XLPE | | |
| Outer Jacket Color | Black with white print | | |
| Temperature Ratings | -40°F to +221°F (-40°C to +105°C) | Sample Print Legend | WWW.LUTZE.COM PART# A106XXXX DRIVEFLEX® AWGXX-XX XHHW-2 -- E352875 FLEXIBLE VFD SERVO CABLE 90C WET OR DRY 1000V OR WTTC 1000V 90C DRY OR (UL) TYPE TC-ER-JP 90C 600V SUN RES DIR BUR OIL RES II OR DP-1 OR SUBMERISBLE PUMP CABLE OR AWM 105C 1000V OR c(UL) TYPE CIC CONTROL XLPE FT4 SHIELDED -- CE ROHS CE-46 1421 MADE IN USA xxxxxxFT |
| Conductor Insulation | Black with white numbers and one green/yellow ground Thermoset XLPE insulation | | |

* See web store for minimum and maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

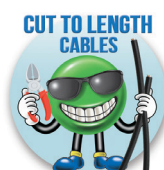


DRIVEFLEX® XLPE VFD Cable

| VFD 4-Conductor Cable Selection | | | | | | | | | | | | | | | |
|--|--|-----|---------------------|--------|------------------------|--------------|-------------------------|--|---------------------------------|-------------------|---------------------------|------|-------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Conductor OD inches | Strand | Power Conductors (AWG) | Ground (AWG) | Minimum Cut Length (ft) | Nom. Insulation Thickness PVC/Nylon (mils) | Nominal Jacket Thickness (mils) | Nominal OD inches | *Ampacity NEC 310.16 Amps | | Min. Bend Radius inches | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | | 75°C | 90°C | | | |
|  | | | | | | | | | | | | | | | |
| A1061804-1 | 4 | 18 | 0.112 | 19/30 | 18 | 18 | 20 | 0.032 | 45 | 0.415 | 7 | 14 | 2.5 | 0.124 | \$3.33 |
|  | | | | | | | | | | | | | | | |
| A1061604-1 | 4 | 16 | 0.123 | 26/30 | 16 | 16 | 20 | 0.032 | 60 | 0.425 | 10 | 18 | 2.6 | 0.159 | \$3.73 |
|  | | | | | | | | | | | | | | | |
| A1061404-1 | 4 | 14 | 0.138 | 41/30 | 14 | 14 | 20 | 0.032 | 60 | 0.456 | 15 | 20 | 2.7 | 0.214 | \$4.40 |
|  | | | | | | | | | | | | | | | |
| A1061204-1 | 4 | 12 | 0.160 | 65/30 | 12 | 12 | 20 | 0.032 | 60 | 0.510 | 25 | 30 | 3.1 | 0.321 | \$5.69 |
|  | | | | | | | | | | | | | | | |
| A1061004-1 | 4 | 10 | 0.194 | 105/30 | 10 | 10 | 20 | 0.032 | 80 | 0.650 | 35 | 40 | 3.9 | 0.490 | \$9.22 |
|  | | | | | | | | | | | | | | | |
| A1060804-1 | 4 | 8 | 0.268 | 168/30 | 8 | 8 | 20 | 0.032 | 80 | 0.810 | 50 | 55 | 4.9 | 0.490 | \$14.03 |

* Ampacity based on NFPA 79 12.5.1 up to and including 2000 volts, not more than 3 current-carrying conductors, ambient 86°F (30°C)

All dimensions are nominal and subject to normal manufacturing tolerances.

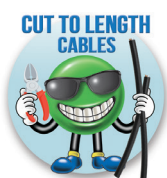


Please Note: Our prices on Servo Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



DRIVEFLEX® XLPE VFD Cable

| DRIVEFLEX® XLPE VFD Cable Specifications Continued | | | | | | |
|--|---|--|--|--|------------------|-----------------------------|
| Part Number | Nom. Capacitance Conductor to Shield (pF/ft.) | Nom. Capacitance Conductor to Conductor (pF/ft.) | Nom. Conductor DC Resistance @ 20°C (Ohm/1000 ft.) | Nominal Outer Shield DC Resistance @ 20°C (Ohm/1000 ft.) | Impedance (ohms) | Max. Operating Voltage - UL |
| <u>A1061804-1</u> | 21.9 | 38.4 | 6.2 | 2.6 | 90.2 | 1000V |
| <u>A1061604-1</u> | 24.0 | 43.3 | 4.16 | 2.4 | 81.6 | 1000V |
| <u>A1061404-1</u> | 26.0 | 42.7 | 2.82 | 1.8 | 69.1 | 1000V |
| <u>A1061204-1</u> | 29.0 | 52.50 | 1.77 | 1.0 | 49.0 | 1000V |
| <u>A1061004-1</u> | 29.2 | 48.0 | 1.110 | 0.8 | 40.9 | 1000V |
| <u>A1060804-1</u> | 26.2 | 45.0 | 0.7 | 0.8 | 52.4 | 1000V |



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MOTIONFLEX® Series Cable



LUTZE MOTIONFLEX® is ideal for use with any Variable Frequency Drive and motor combination for the continuous motion applications. Designed for torisional, linear motion and cable tray applications. AutomationDirect is proud to offer the full line of MOTIONFLEX® cable from 18AWG up to 8AWG. This cable is available in bulk lengths starting as low as 10 feet up to over 1000 feet on most part numbers.

MOTIONFLEX® is rated Tray Cable- Exposed Run (TC-ER) meaning that it can be used with or without conduit, making the installations more cost effective by reducing the cost of labor and materials.

The XHHW-2 jacket is oil and sunlight resistant and suitable for dry, damp, wet, and direct burial locations.

Carrying multiple approvals and ratings, LUTZE MOTIONFLEX® cable can be used for most all motion drive and motor application.

Features

- Flexible fine wire stranded tinned copper conductors for improved electrical characteristics and reduced oxidation
- Black with white numbers and one green/yellow ground
- Thermoset XLPE insulation type XHHW-2, Wet/Dry
- Shielded with tinned copper braid with 85% optical coverage
- Type XHHW-2 insulation offering smaller ODs for general VFD applications
- TC-ER for use with cable trays without conduit, which can reduce installation costs in industrial environments
- Sunlight resistant
- Direct burial
- Talc and silicone free
- Oil resistant jacket
- Black jacket similar to RAL 9005
- Cut to length in 1 foot increments
- Minimum cut lengths as low as 10 feet*
- Made in USA



Please Note: Our prices on Servo Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable









MOTIONFLEX® Cable Specifications

| | | | |
|---|--|----------------------------|--|
| Conductors Gauge & Stranding | 18AWG (41 Strands) to 8AWG (336 Strands), tinned Copper | Approvals** | UL Type Flexible Motor Supply Flexible VFD Servo Cable, TC-ER WTTC Meets NEC 336, 392 Class I & 11, Div. 2 and Class I Zone 2 per NEC 501, 502, 505 AWM 21270 c(UL)TC CIC FT4 UL 1277 |
| Shield | Tinned copper braid with 85% optical coverage | | |
| Voltage Rating | 600V UL TC ER 1000V WTTC 1000V Flexible Motor Supply 600V UL AWM 105C | | |
| Outer Jacket Material | Thermoset XLPE | | |
| Outer Jacket Color | Black with white print | | |
| Temperature Ratings | -40°F to +221°F (-40°C to +105°C) | Sample Print Legend | WWW.LUTZE.COM PART# AXXXXXXX MOTIONFLEX® M (C) TPE CONSTANT FLEXING CABLE SERVO AWG16/4C XHHW-2 E352875 -46 FLEXIBLE MOTOR SUPPLY 90°C 1000V WET OR DRY OR WTTC 1000V 90C DRY OR UL TYPE TC-ER 600V SUN RES OIL RES I & II -40C OR AWM 21270 105C 600V |
| Conductor Insulation | Black with white numbers and one green/yellow ground Thermoset XLPE insulation | | |

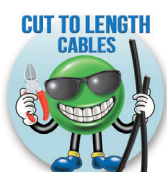
* See web store for minimum and maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

MOTIONFLEX® Series Cable

| MOTIONFLEX® Cable Selection | | | | | | | | | | | | | | | | |
|--|--|-----|---------------------|--------|------------------------|--------------|-------------------------|--|---------------------------------|-------------------|---------------------------|------|-------------------------|--------|----------------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Conductor OD inches | Strand | Power Conductors (AWG) | Ground (AWG) | Minimum Cut Length (ft) | Nom. Insulation Thickness PVC/Nylon (mils) | Nominal Jacket Thickness (mils) | Nominal OD inches | *Ampacity NEC 310.16 Amps | | Min. Bend Radius inches | | Approximate Weight (lb/1000 ft.) | Price per foot |
| | | | | | | | | | | | 75°C | 90°C | Fixed | Moving | | |
|  | | | | | | | | | | | | | | | | |
| A4061804-1 | 4 | 18 | 0.103 | 41/34 | 18 | 18 | 20 | 32 | 32 | 0.38 | 7 | 14 | 2.28 | 4.56 | 40 | \$4.83 |
|  | | | | | | | | | | | | | | | | |
| A4061604-1 | 4 | 16 | 0.12 | 65/34 | 16 | 16 | 20 | 32 | 32 | 0.425 | 10 | 18 | 2.55 | 5.1 | 55 | \$5.32 |
|  | | | | | | | | | | | | | | | | |
| A4061404-1 | 4 | 14 | 0.131 | 104/34 | 14 | 14 | 20 | 32 | 32 | 0.45 | 20 | 25 | 2.7 | 5.4 | 76 | \$5.94 |
|  | | | | | | | | | | | | | | | | |
| A4061204-1 | 4 | 12 | 0.167 | 168/34 | 12 | 12 | 20 | 32 | 32 | 0.535 | 25 | 30 | 3.21 | 6.42 | 115 | \$7.65 |
|  | | | | | | | | | | | | | | | | |
| A4061004-1 | 4 | 10 | 0.192 | 259/34 | 10 | 10 | 20 | 32 | 32 | 0.625 | 35 | 40 | 3.75 | 7.5 | 165 | \$10.06 |
|  | | | | | | | | | | | | | | | | |
| A4060804-1 | 4 | 8 | 0.254 | 336/34 | 8 | 8 | 20 | 46 | 46 | 0.775 | 50 | 55 | 4.65 | 9.3 | 259 | \$15.48 |

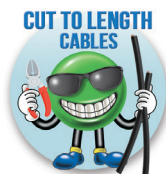
* Ampacity based on NFPA 79 12.5.1 Conductor Ampacity Based on Copper Conductors



Please Note: Our prices on Servo Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

MOTIONFLEX® Series Cable

| MOTIONFLEX® Cable Specifications Continued | | | | | | |
|--|---|--|--|--|------------------|-----------------------------|
| Part Number | Nom. Capacitance Conductor to Shield (pF/ft.) | Nom. Capacitance Conductor to Conductor (pF/ft.) | Nom. Conductor DC Resistance @ 20°C (Ohm/1000 ft.) | Nominal Outer Shield DC Resistance @ 20°C (Ohm/1000 ft.) | Impedance (ohms) | Max. Operating Voltage - UL |
| <u>A4061804-1</u> | 32.99 | 17.72 | 6.71 | 5.067 | 89.55 | 1000V |
| <u>A4061604-1</u> | 36.94 | 19.03 | 4.23 | 3.092 | 73.6 | 1000V |
| <u>A4061404-1</u> | 46.58 | 21.76 | 2.62 | 3.165 | 66.0 | 1000V |
| <u>A4061204-1</u> | 57.99 | 24.41 | 1.7 | 2.345 | 51.7 | 1000V |
| <u>A4061004-1</u> | 69.27 | 26.65 | 1.1 | 2.11 | 45.7 | 1000V |
| <u>A4060804-1</u> | 59.93 | 24.81 | 0.7 | 1.853 | 49.1 | 1000V |



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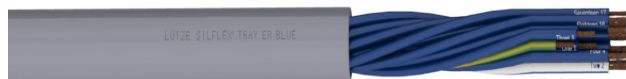
SYSTEMATIC TECHNOLOGY

SILFLEX® 24vdc Control Cable



Overview

LUTZE SILFLEX® 24VDC control cable from AutomationDirect is available with sizes in 18AWG and 16AWG unshielded conductors. Individual conductors are bare copper and stranded for flexibility, with blue PVC/Nylon insulation and marked with white numbers. One conductor has white and blue insulation for easy identification as a common wire. A convenient ground conductor is included in the conductor count of each cable and has insulation that is green with a yellow stripe. The cable's outer jacket is PVC that is resistant to sunlight, oil, and moisture penetration, making these cables suitable for wet and dry locations as well as outdoors. Although not suitable for continuous flexing applications, these cables are ideal for both stationary and flexible applications with limited mechanical stress and free movement without any tensile stress, loads or forced movements. With multiple ratings and approvals, LUTZE SILFLEX® 24VDC multi-conductor control cable has the versatility to meet a wide range of industrial applications. Given its UL Type TC-ER Tray Cable Exposed Run rating, our cable can be installed between a cable tray and the utilization equipment or device without the need for metal conduit and/or armor resulting in installation and maintenance savings. With their UL Type MTW Machine Tool Wire rating, these cables meet NFPA 79, Electrical Standard for Industrial Machinery. Other ratings and approvals include Class 1 Division 2 Hazardous Locations and Direct Burial. When combined with AutomationDirect ZIPport multi-wire connectors, our flexible multi-conductor cables provide an economical way to organize and simplify control wiring in facilities and during assembly of machinery. Cut to length in 1-foot increments with a 20-foot minimum length.



* Cables shown using AutomationDirect's ZIPport multi-wire connectors. See Terminal Blocks & Wiring Solutions section for further information.

Features

- 16AWG to 18AWG, including an equal size ground
- Unshielded constructions
- Individual conductors have blue PVC/Nylon insulation and are marked with identification numbers
- Blue conductors for 24VDC circuit per NFPA 79 and UL508A
- Oil resistant PVC outer jacket
- Equal size green/yellow ground wire included
- Multiple ratings and approvals include Type TC-ER (eliminates need for conduit/armor), Type MTW (meets NFPA 79), Class 1 Division 2, Direct Burial, wet and dry location, oil resistant, sunlight resistant
- Flexibility for easy installation
- Cut to length in 1-foot increments
- Low 20-foot minimum length
- Made in the USA
- Ideal for use with ZIPport multi-wire connectors (as shown below)





18AWG SILFLEX® Control Cable (Unshielded)

| 18-Gauge SILFLEX® Control Cable Specifications (Unshielded) | | | |
|---|---|-----------------------------|--|
| Conductor Gauge & Stranding | 18AWG 16/30 bare copper, Class K | Applicable Standards | UL 1277 - Type TC-ER |
| Voltage Rating | 600V 90C Tray Cable Exposed Run | | UL 1063 - Machine Tool Wiring (MTW) |
| | 600V MTW | | UL 1690 - Data Processing Cable (DP-1) |
| Operating Temperature | -40°C to 90°C [-40°F to 194°F] | | Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant | | |
| Conductor Colors* | Blue with white numbers and green/yellow ground, the number 2 conductor is white/blue | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | Approvals** | UL (E197091) CSA (LL41103) |
| Conductor Markings | "1-ONE", "2-TWO", "3-THREE", etc... @ 4.5-inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C [167°F] Wet, 90°C [194°F] Dry | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX LUTZE Silflex® TRAY-ER AWGXX-XC - - (UL) TYPE TC-ER 90C DRY 75C WET 600V SUN RES DIR BUR OIL E197091 or MTW OR DP-1 ORC(UL) CIC-TC PVC/N FT4 -- LL41103 CSA AWWN I/II A/B 90C 600V FT4-----CE ROHS CE-45 2133 MADE IN USA XXXXXX FT |
| Minimum Bend Radius | 4x diameter | | |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | | |

* 3-conductor is two Blue with white numbers and green/yellow ground

**To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 18-Gauge SILFLEX® Control Cable (Unshielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | |
| A3251803-1 | 3 | 18 | 16 | 20 | 45 | 0.29 | 1.12 | 20 | 0.05 | \$1.20 |
| A3251805-1 | 5 | | | | | 0.34 | 1.32 | 20 | 0.07 | \$1.67 |
| A3251807-1 | 7 | | | | | 0.37 | 1.44 | 20 | 0.09 | \$2.33 |
| A3251812-1 | 12 | | | | | 0.47 | 1.84 | 20 | 0.14 | \$3.63 |
| A3251819-1 | 19 | | | | | 0.59 | 2.36 | 20 | 0.22 | \$5.53 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths



Please Note: Our prices on Servo Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



16AWG SILFLEX® Control Cable (Unshielded)

| 16-Gauge SILFLEX® Control Cable Specifications (Unshielded) | | | |
|---|---|-----------------------------|---|
| Conductor Gauge & Stranding | 18AWG 26/30 bare copper, Class K | Applicable Standards | UL 1277 - Type TC-ER |
| Voltage Rating | 600V 90C Tray Cable Exposed Run | | UL 1063 - Machine Tool Wiring (MTW) |
| | 600V MTW | | UL 1690 - Data Processing Cable (DP-1) |
| Operating Temperature | -40°C to 90°C [-40°F to 194°F] | | Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant | | |
| Conductor Colors* | Blue with white numbers and green/yellow ground, the number 2 conductor is white/blue | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | Approvals** | UL (E197091) CSA (LL41103) |
| Conductor Markings | '1-ONE', '2-TWO', '3-THREE', etc... @ 4.5-inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C [167°F] Wet, 90°C [194°F] Dry | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX LUTZE Silflex® TRAY-ER AWGXX-XC - - (UL) TYPE TC-ER 90C DRY 75C WET 600V SUN RES DIR BUR OIL E197091 or MTW OR DP-1 ORC(UL) CIC-TC PVC/N FT4 -- LL41103 CSA AWWN I/II A/B 90C 600V FT4----CE ROHS CE-45 2133 MADE IN USA XXXXXX FT |
| Minimum Bend Radius | 4x diameter | | |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | | |

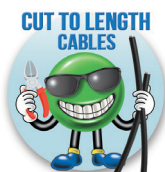
* 3-conductor is two Blue with white numbers and green/yellow ground

**To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 16-Gauge SILFLEX® Control Cable (Unshielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | |
| A3251603-1 | 3 | 16 | 26 | 20 | 50 | 0.31 | 1.24 | 20 | 0.06 | \$1.49 |
| A3251605-1 | 5 | | | | | 0.37 | 1.48 | 20 | 0.09 | \$2.26 |
| A3251607-1 | 7 | | | | | 0.40 | 1.60 | 20 | 0.11 | \$2.94 |
| A3251612-1 | 12 | | | | | 0.54 | 2.16 | 20 | 0.20 | \$4.94 |
| A3251619-1 | 19 | | | | | 0.64 | 2.56 | 20 | 0.27 | \$6.97 |

* Installed bend radius $\geq 4 \times$ diameter

** See web store for maximum cut lengths



Please Note: Our prices on Servo Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

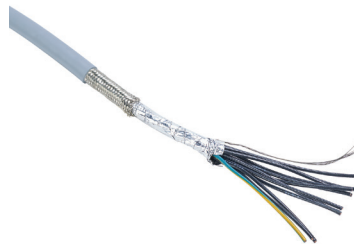


SYSTEMATIC TECHNOLOGY

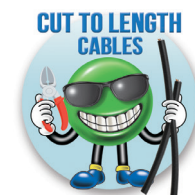
SILFLEX® Control Cable



Unshielded Flexible Control Cable



Shielded Flexible Control Cable



LUTZE SILFLEX® control cable from AutomationDirect is available in sizes from 20AWG to 10AWG with 3 to 41 unshielded and shielded conductors. Individual conductors are bare copper and stranded for flexibility, with black PVC/Nylon insulation and marked with numbers for easy identification. A convenient ground conductor is included in the conductor count of each cable and has insulation that is green with a yellow stripe. Shielded versions include both an overall aluminum mylar foil tape with drain wire and tinned copper braid for maximum effectiveness against external electrical noise interference. The cable's outer jacket is PVC that is resistant to sunlight, oil, and moisture penetration, making these cables suitable for wet and dry locations as well as outdoors. Although not suitable for continuous flexing applications, these cables are ideal for both stationary and flexible applications with limited mechanical stress and free movement without any tensile stress, loads or forced movements.

With multiple ratings and approvals, LUTZE SILFLEX® multi-conductor control cable has the versatility to meet a wide range of industrial applications. Given its Tray Cable Exposed Run rating, UL Type TC-ER or Power Limited Tray Cable, UL Type PLTC-ER, our cable can be installed between a cable tray and the utilization equipment or device without the need for metal conduit and/or armor resulting in installation and maintenance savings. With the Machine Tool Wire rating, UL Type MTW, these cables meet NFPA 79, Electrical Standard for Industrial Machinery. Other ratings and approvals include Wind Turbine Tray Cable UL Type WTTC, Class 1 Division 2 Hazardous Locations and Direct Burial.

When combined with AutomationDirect ZIPport multi-wire connectors, our flexible multi-conductor cables provide an economical way to organize and simplify control wiring in facilities and during assembly of machinery. Cut to length in 1 foot increments with a 20 foot minimum length.

Features

- 20AWG to 10AWG, 3 to 41 conductors including an equal size ground
- Unshielded and shielded constructions
- Individual conductors have black PVC/Nylon insulation and are marked with identification numbers
- Oil resistant PVC outer jacket
- Equal size green/yellow ground wire included
- Multiple ratings and approvals include Type TC-ER or PLTC-ER (eliminates need for conduit/armor), Type MTW (meets NFPA 79), WTTC, Class 1 Division 2, Direct Burial for 18AWG and larger, wet and dry location, oil resistant, sunlight resistant
- Flexibility for easy installation
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- Made in the USA
- Ideal for use with ZIPport multi-wire connectors (as shown below)

Cable Use Examples*:




* Cables shown using AutomationDirect's ZIPport multi-wire connectors. See Terminal Blocks & Wiring Solutions section for further information.



20 Gauge SILFLEX® Control Cable (Unshielded)

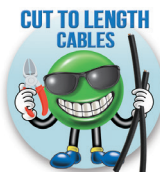
| 20 Gauge SILFLEX® Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 20AWG 10/30 bare copper, Class K | Applicable Standards | MSHA Flame Rating |
| Voltage Rating | 300V Power Limited Tray Cable - Exposed Run (PLTC-ER) | | UL 13 Standard for Power-Limited Circuit Cables |
| | 300V Instrumentation Tray Cable - Exposed Run (ITC-ER) | | UL 2250 Standard for Instrumentation Tray Cable |
| | 600V MTW Flexing | | UL 1063 - Machine Tool Wiring (MTW) |
| | 1000V 80C AWM | | UL 758 - AWM Style 20886 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals** | UL (E324458), CSA (91737) |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex PLTC-ER AWGXX-XC - (UL)TYPE MTW "FLEXING" E324458 90C 600V OR PLTC-ER SUN RES OIL RES II -40C FT4 OR AMW 20886 80C 1000V - LL91737 CSA AWM I/II A/B 90C 600V FT4 - P-07- KA090006-MSHA CE ROHS CE-46 2123 MADE IN USA XXXXXX FT |
| Conductor Colors | Black with white numbers and green/ yellow ground | | |
| Conductor Insulation | 0.011 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | | |

* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 20 Gauge SILFLEX® Control Cable (Unshielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A3082003-1 | 3 | 20 | 10 | 16 | 47 | 0.27 | 1.08 | 20 | 0.04 | \$1.14 |
| A3082004-1 | 4 | | | | | 0.29 | 1.16 | 20 | 0.05 | \$1.36 |
| A3082005-1 | 5 | | | | | 0.31 | 1.24 | 20 | 0.06 | \$1.60 |
| A3082007-1 | 7 | | | | 62 | 0.34 | 1.36 | 20 | 0.07 | \$2.07 |
| A3082012-1 | 12 | | | | | 0.43 | 1.72 | 20 | 0.11 | \$3.17 |
| A3082025-1 | 25 | | | | | 0.67 | 2.68 | 20 | 0.22 | \$6.30 |

* Installed bend radius $\geq 4x$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

18 Gauge SILFLEX® Control Cable (Unshielded)

| 18 Gauge SILFLEX® Control Cable Specifications (Unshielded) | | | |
|---|---|-----------------------------|---|
| Conductor Gauge & Stranding | 18AWG 16/30 bare copper, Class K | Applicable Standards | MSHA Flame Rating |
| Voltage Rating | 600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP) | | UL 1277 - Type TC-ER |
| | 1000 V 90C Wind Turbine Tray Cable (WTTC) | | UL 2277 - Type WTTC |
| | 600V MTW Flexing | | UL 1063 - Machine Tool Wiring (MTW) |
| | 1000V 80C AWM | | UL 1690 - Data Processing Cable (DP-1) |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | UL 758 - AWM Style 20886 |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Conductor Colors | Black with white numbers and green/yellow ground | Approvals** | Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | UL (E324630) |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | Sample Print Legend WWW.LUTZE.COM PART# XXXXXXXX Silflex AWGXX-XC - - (UL) TYPE TC-ER-JP 90C 600V SUN RES DIR BUR OIL RES II OR DP-1 OR MTW "FLEXING" OR WTTC E324630 1000V 90C DRY OR DP-1 OR ITC-ER OR PLTC-ER OR c(UL) TYPE CIC PVC/N CONTROL FT4 OR AWM 20886 80C 1000V - P07-KA090006-MSHA CE ROHS CE-46 2124 MADE IN USA XXXXXX FT |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | | |

* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 18 Gauge SILFLEX® Control Cable (Unshielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A3081803-1 | 3 | 18 | 16 | 20 | 45 | 0.28 | 1.12 | 20 | 0.05 | \$1.21 |
| A3081804-1 | 4 | | | | | 0.31 | 1.24 | 20 | 0.06 | \$1.47 |
| A3081805-1 | 5 | | | | | 0.33 | 1.32 | 20 | 0.07 | \$1.86 |
| A3081807-1 | 7 | | | | | 0.36 | 1.44 | 20 | 0.09 | \$2.41 |
| A3081809-1 | 9 | | | | | 0.41 | 1.64 | 20 | 0.11 | \$3.10 |
| A3081812-1 | 12 | | | | | 0.46 | 1.84 | 20 | 0.14 | \$3.86 |
| A3081818-1 | 18 | | | | 45 | 0.55 | 2.20 | 20 | 0.21 | \$5.73 |
| A3081825-1 | 25 | | | | 60 | 0.64 | 2.56 | 20 | 0.25 | \$7.68 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16 Gauge SILFLEX® Control Cable (Unshielded)

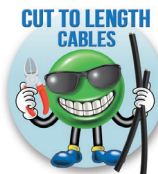
| 16 Gauge SILFLEX® Control Cable Specifications (Unshielded) | | | |
|---|---|-----------------------------|--|
| Conductor Gauge & Stranding | 16AWG 26/30 bare copper, Class K | Applicable Standards | MSHA Flame Rating |
| Voltage Rating | 600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP) | | UL 1277 - Type TC-ER |
| | 1000 V 90C Wind Turbine Tray Cable (WTTC) | | UL 2277 - Type WTTC |
| | 600V MTW Flexing | | UL 1063 - Machine Tool Wiring (MTW) |
| | 1000V 80C AWM | | UL 1690 - Data Processing Cable (DP-1) |
| | | | UL 758 - AWM Style 20886 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant | Approvals** | Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| Conductor Colors | Black with white numbers and green/yellow ground | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | UL (E324630) |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Min. Bend Radius | 4x diameter | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex AWGXX-XC -- (UL) TYPE TC-ER-JP 90C 600V SUN RES DIR BUR OIL RES II OR MTW "CLASS K" OR WTTC E324630 1000V 90C DRY OR DP-1 OR ITC-ER OR PLTC-ER OR c(UL) TYPE CIC PVC/N CONTROL FT4 OR AWM 20886 80C 10000V - P07-KA090006-MSHA CE ROHS CE-46 2124 MADE IN USA XXXXXX FT |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | | |

* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 16 Gauge SILFLEX® Control Cable (Unshielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A3081603-1 | 3 | 16 | 26 | 20 | 50 | 0.31 | 1.24 | 20 | 0.06 | \$1.58 |
| A3081604-1 | 4 | | | | | 0.34 | 1.36 | 20 | 0.08 | \$1.78 |
| A3081605-1 | 5 | | | | | 0.37 | 1.48 | 20 | 0.09 | \$2.27 |
| A3081607-1 | 7 | | | | | 0.40 | 1.60 | 20 | 0.11 | \$2.92 |
| A3081612-1 | 12 | | | | 50 | 0.51 | 2.04 | 20 | 0.20 | \$4.79 |
| A3081618-1 | 18 | | | | 65 | 0.62 | 2.48 | 20 | 0.28 | \$7.27 |
| A3081625-1 | 25 | | | | | 0.72 | 2.88 | 20 | 0.35 | \$9.59 |
| A3081641-1 | 41 | | | | 85 | 0.91 | 3.64 | 20 | 0.56 | \$16.19 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

14 Gauge SILFLEX® Control Cable (Unshielded)

| 14 Gauge SILFLEX® Control Cable Specifications (Unshielded) | | | |
|---|---|-----------------------------|---|
| Conductor Gauge & Stranding | 14AWG 41/30 bare copper, Class K | Applicable Standards | MSHA Flame Rating |
| Voltage Rating | 600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP) | | UL 1277 - Type TC-ER |
| | 1000 V 90C Wind Turbine Tray Cable (WTTC) | | UL 2277 - Type WTTC |
| | 600V MTW Flexing | | UL 1063 - Machine Tool Wiring (MTW) |
| | 1000V 80C AWM | | UL 1690 - Data Processing Cable (DP-1) |
| | | | UL 758 - AWM Style 20886 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals** | C22.2 NO. 230 - c(UL) Type TC |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant | | Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| Conductor Colors | Black with white numbers and green/yellow ground | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex TRAY-ER AWGXX-XC - - (UL) TYPE TC-ER-JP 90C 600V THHN-THWN SUN RES DIR BUR OIL RES II OR MTW "CLASS K" OR WTTC E324630 1000V 90C DRY OR DP-1 OR ITC-ER OR PLTC-ER OR c(UL) TYPE CIC PVC/N CONTROL FT4 OR AWM 20886 80C 10000V - P07-KA090006-MSHA CE ROHS CE-46 2124 MADE IN USA XXXXXX FT |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | | |

* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 14 Gauge SILFLEX® Control Cable (Unshielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A3081403-1 | 3 | 14 | 41 | 20 | 50 | 0.34 | 1.36 | 20 | 0.82 | \$2.01 |
| A3081404-1 | 4 | | | | | 0.37 | 1.48 | 20 | 0.11 | \$2.43 |
| A3081405-1 | 5 | | | | | 0.41 | 1.64 | 20 | 0.13 | \$3.09 |
| A3081425-1 | 25 | | | | 65 | 0.81 | 3.24 | 20 | 0.57 | \$14.01 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

12 Gauge SILFLEX® Control Cable (Unshielded)

| 12 Gauge SILFLEX® Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|---|
| Conductor Gauge & Stranding | 12AWG 65/30 bare copper, Class K | Applicable Standards | MSHA Flame Rating |
| Voltage Rating | 600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP) | | UL 1277 - Type TC-ER |
| | 1000 V 90C Wind Turbine Tray Cable (WTTC) | | UL 2277 - Type WTTC |
| | 600V MTW Flexing | | UL 1063 - Machine Tool Wiring (MTW) |
| | 1000V 80C AWM | | UL 1690 - Data Processing Cable (DP-1) |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals** | UL 758 - AWM Style 20886 |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant " | | C22.2 NO. 230 - c(UL) Type TC |
| Conductor Colors | Black with white numbers and green/ yellow ground | | Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | UL (E324630) |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex TRAY-ER AWGXX-XC - - (UL) TYPE TC-ER-JP 90C 600V THHN-THWN SUN RES DIR BUR OIL RES II OR MTW "CLASS K" OR WTTC E324630 1000V 90C DRY OR DP-1 OR ITC-ER OR PLTC-ER OR c(UL) TYPE CIC PVC/N CONTROL FT4 OR AWM 20886 80C 10000V - P07-KA090006-MSHA CE ROHS CE-46 2124 MADE IN USA XXXXXX FT |
| Cold Impact | -40°C (-40°F) per UL 1277 | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | | |

* To obtain the most current agency approval information, see Agency Approval Checklist section on the specifict part number's web page at www.AutomationDirect.com

| 12 Gauge SILFLEX® Control Cable (Unshielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A3081204-1 | 4 | 12 | 65 | 20 | 50 | 0.43 | 1.72 | 20 | 0.15 | \$3.49 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

10 Gauge SILFLEX® Control Cable (Unshielded)

| 10 Gauge SILFLEX® Control Cable Specifications (Unshielded) | | | |
|---|---|-----------------------------|--|
| Conductor Gauge & Stranding | 10 AWG 105/30 bare copper, Class K | Applicable Standards | MSHA Flame Rating |
| Voltage Rating | 600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP) | | UL 1277 - Type TC-ER |
| | 1000 V 90C Wind Turbine Tray Cable (WTTTC) | | UL 2277 - Type WTTTC |
| | 600V MTW Flexing | | UL 1063 - Machine Tool Wiring (MTW) |
| | 1000V 80C AWM | | UL 1690 - Data Processing Cable (DP-1) |
| | | | UL 758 - AWM Style 20886 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | C22.2 NO. 230 - c(UL) Type TC |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant | Approvals** | Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| Conductor Colors | Black with white numbers and green/yellow ground | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | UL (E324630) |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4 | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex TRAY-ER AWGXX-XC - - (UL) TYPE TC-ER-JP 90C 600V THHN-THWN SUN RES DIR BUR OIL RES II OR MTW "CLASS K" OR WTTTC E324630 1000V 90C DRY OR DP-1 OR ITC-ER OR PLTC-ER OR c(UL) TYPE CIC PVC/N CONTROL FT4 OR AWM 20886 80C 10000V - P07-KA090006-MSHA CE ROHS CE-46 2124 MADE IN USA XXXXXX FT |
| Oil Resistance | Oil Res I & II | | |

* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 10 Gauge SILFLEX® Control Cable (Unshielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A3081004-1 | 4 | 10 | 105 | 25 | 50 | 0.50 | 2.00 | 20 | 0.21 | \$5.54 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

20 Gauge SILFLEX® Control Cable (Shielded)

| 20 Gauge SILFLEX® Control Cable Specifications (Shielded) | | | |
|---|---|-----------------------------|--|
| Conductor Gauge & Stranding | 20AWG 10/30 bare copper, Class K | Applicable Standards | MSHA Flame Rating |
| Voltage Rating | 300V Power Limited Tray Cable - Exposed Run (PLTC-ER) | | UL 1277 - Type TC-ER |
| | 300V Instrumentation Tray Cable - Exposed Run (ITC-ER) | | UL 2277 - Type WTTTC |
| | 600V MTW Flexing | | UL 1063 - Machine Tool Wiring (MTW) |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | UL 1690 - Data Processing Cable (DP-1) |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant " | | UL 758 - AWM Style 20886 |
| Conductor Colors | Black with white numbers and green/ yellow ground | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 85% coverage with 20 AWG drain | Approvals** | Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | WWW.LUTZE.COM PART# XXXXXXXX CONTROL PLTC-ER (C) AWGXX-XC - (UL) TYPE MTW "FLEXING" E324458 90C 600V OR PLTC-ER SUN RES OIL RES II -40C FT4 OR AMW 20886 80C 1000V - LL91737 CSA AWM I/II A/B 90C 600V FT4 - P-07-KA090006-MSHA CE ROHS CE-46 2123 MADE IN USA XXXXXX FT |
| Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | Sample Print Legend | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 20 Gauge SILFLEX® Control Cable (Shielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | |
| A3092003-1 | 3 | 20 | 10 | 16 | 47 | 0.26 | 1.12 | 20 | 0.04 | \$2.01 |
| A3092004-1 | 4 | | | | | 0.28 | 1.24 | 20 | 0.04 | \$2.08 |
| A3092005-1 | 5 | | | | | 0.30 | 1.32 | 20 | 0.05 | \$2.40 |
| A3092007-1 | 7 | | | | 62 | 0.33 | 1.44 | 20 | 0.06 | \$2.76 |
| A3092012-1 | 12 | | | | | 0.45 | 1.84 | 20 | 0.11 | \$4.05 |
| A3092025-1 | 25 | | | | | 0.60 | 2.56 | 20 | 0.20 | \$7.60 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

18 Gauge SILFLEX® Control Cable (Shielded)

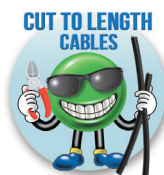
| 18 Gauge SILFLEX® Control Cable Specifications (Shielded) | | | |
|---|---|-----------------------------|---|
| Conductor Gauge & Stranding | 18AWG 16/30 bare copper, Class K | Applicable Standards | MSHA Flame Rating |
| Voltage Rating | 600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP) | | UL 1277 - Type TC-ER |
| | 1000 V 90C Wind Turbine Tray Cable (WTTC) | | UL 2277 - Type WTTC |
| | 600V MTW Flexing | | UL 1063 - Machine Tool Wiring (MTW) |
| | 1000V (UL AWM) | | |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant | Approvals** | Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| Conductor Colors | Black with white numbers and green/yellow ground | | |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 85% coverage with 20 AWG drain | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex (C) AWGXX-XC - - (UL) TYPE TC-ER-JP 90C 600V SUN RES DIR BUR OIL RES II OR DP-1 OR MTW "FLEXING" OR WTTC E324630 1000V 90C DRY ITC-ER OR PLTC-ER OR c(UL) TYPE CIC CONTROL PVC/N FT4 SHIELDED OR AWM 20886 80C 10000V - P07-KA090006-MSHA CE ROHS CE-46 2124 MADE IN USA XXXXXX FT |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Min. Bend Radius | 6x diameter | | |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | | |

* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 18 Gauge SILFLEX® Control Cable (Shielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A3091803-1 | 3 | 18 | 16 | 20 | 47 | 0.30 | 3.60 | 20 | 0.06 | \$2.11 |
| A3091804-1 | 4 | | | | | 0.33 | 3.96 | 20 | 0.07 | \$2.43 |
| A3091805-1 | 5 | | | | | 0.35 | 4.20 | 20 | 0.08 | \$3.01 |
| A3091807-1 | 7 | | | | | 0.38 | 4.56 | 20 | 0.10 | \$3.59 |
| A3091812-1 | 12 | | | | | 0.47 | 5.64 | 20 | 0.16 | \$5.16 |
| A3091825-1 | 25 | | | | 62 | 0.66 | 7.92 | 20 | 0.31 | \$9.56 |

* Installed bend radius $\geq 6 \times$ diameter

** See web store for maximum cut lengths



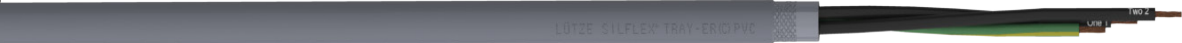
Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16 Gauge SILFLEX® Control Cable (Shielded)

| 16 Gauge SILFLEX® Control Cable Specifications (Shielded) | | | |
|---|---|-----------------------------|---|
| Conductor Gauge & Stranding | 16AWG 26/30 bare copper, Class K | Applicable Standards | MSHA Flame Rating |
| Voltage Rating | 600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP) | | UL 1277 - Type TC-ER |
| | 1000 V 90C Wind Turbine Tray Cable (WTTC) | | UL 2277 - Type WTTC |
| | 600V MTW Flexing | | UL 1063 - Machine Tool Wiring (MTW) |
| | 1000V UL AWM | | UL 1690 - Data Processing Cable (DP-1) |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals** | UL 758 - AWM Style 20886 |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant | | C22.2 NO. 230 - c(UL) Type TC |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 85% coverage with 18 AWG drain | Sample Print Legend | Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| Conductor Colors | Black with white numbers and green/yellow ground | | UL (E324630) |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | WWW.LUTZE.COM PART# XXXXXXXX Silflex (C) AWGXX-XC - - (UL) TYPE TC-ER-JP 90C 600V SUN RES DIR BUR OIL RES II OR DP-1 OR MTW "CLASS K" OR WTTC E324630 1000V 90C DRY ITC-ER OR PLTC-ER OR c(UL) TYPE C1C CONTROL PVC/N FT4 SHIELDED OR AWM 20886 80C 10000V - P07-KA090006-MSHA CE ROHS CE-46 2124 MADE IN USA XXXXXX FT |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Min. Bend Radius | 6x diameter | | |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 16 Gauge SILFLEX® Control Cable (Shielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A3091603-1 | 3 | 16 | 26 | 20 | 47 | 0.33 | 3.96 | 20 | 0.08 | \$2.66 |
| A3091604-1 | 4 | | | | | 0.36 | 4.32 | 20 | 0.10 | \$3.12 |
| A3091605-1 | 5 | | | | | 0.39 | 4.68 | 20 | 0.11 | \$3.33 |
| A3091607-1 | 7 | | | | | 0.42 | 5.04 | 20 | 0.14 | \$4.38 |
| A3091625-1 | 25 | | | | 76 | 0.75 | 9.00 | 20 | 0.41 | \$11.91 |

* Installed bend radius ≥ 6x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

14 Gauge SILFLEX® Control Cable (Shielded)

| 14 Gauge SILFLEX® Control Cable Specifications (Shielded) | | | |
|---|---|----------------------|---|
| Conductor Gauge & Stranding | 14AWG 41/30 bare copper, Class K | Applicable Standards | MSHA Flame Rating |
| Voltage Rating | 600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP) | | UL 1277 - Type TC-ER |
| | 1000 V 90C Wind Turbine Tray Cable (WTTC) | | UL 2277 - Type WTTC |
| | 600V MTW Flexing | | UL 1063 - Machine Tool Wiring (MTW) |
| | 1000V UL AWM | | UL 1690 - Data Processing Cable (DP-1) |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals** | UL 758 - AWM Style 20886 |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant | | C22.2 NO. 230 - c(UL) Type TC |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 85% coverage with 16 AWG drain | | Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| | | | UL (E324630) |
| | | | |
| Conductor Colors | Black with white numbers and green/ yellow ground | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex (C) AWGXX-XC - - (UL) TYPE TC-ER-JP 90C 600V THHN-THWN SUN RES DIR BUR OIL RES II OR DP-1 OR MTW "CLASS K" OR WTTC E324630 1000V 90C DRY ITC-ER OR PLTC-ER OR c(UL) TYPE CIC CONTROL PVC/N FT4 SHIELDED OR AWM 20886 80C 10000V - P07-KA090006-MSHA CE ROHS CE-46 2124 MADE IN USA XXXXXX FT |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Min. Bend Radius | 6x diameter | | |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 14 Gauge SILFLEX® Control Cable (Shielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A3091403-1 | 3 | 14 | 41 | 20 | 47 | 0.36 | 4.32 | 20 | 0.10 | \$3.73 |
| A3091404-1 | 4 | | | | | 0.40 | 4.80 | 20 | 0.13 | \$4.13 |

* Installed bend radius ≥ 6x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

12 Gauge SILFLEX® Control Cable (Shielded)

| 12 Gauge SILFLEX® Control Cable Specifications (Shielded) | | | |
|---|---|-----------------------------|---|
| Conductor Gauge & Stranding | 12AWG 65/30 bare copper, Class K | Applicable Standards | MSHA Flame Rating |
| Voltage Rating | 600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP) | | UL 1277 - Type TC-ER |
| | 1000 V 90C Wind Turbine Tray Cable (WTTC) | | UL 2277 - Type WTTC |
| | 600V MTW Flexing | | |
| | 1000V UL AWM | | UL 1063 - Machine Tool Wiring (MTW) UL 1690 - Data Processing Cable (DP-1) UL 758 - AWM Style 20886 C22.2 NO. 230 - c(UL) Type TC Class I & II, Div. 2 336, 392, 725, 727 and Class I Zone 2 per NEC 501, 502, 505 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals** | UL (E324630) |
| Jacket Material | Flexible Gray (PVC) - sunlight & oil resistant | | |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 85% coverage with 14 AWG drain | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex (C) AWGXX-XC - - (UL) TYPE TC-ER-JP 90C 600V THHN-THWN SUN RES DIR BUR OIL RES II OR DP-1 OR MTW "CLASS K" OR WTTC E324630 1000V 90C DRY ITC-ER OR PLTC-ER OR c(UL) TYPE CIC CONTROL PVC/N FT4 SHIELDED OR AWM 20886 80C 10000V - P07-KA090006-MSHA CE ROHS CE-46 2124 MADE IN USA XXXXXX FT |
| Conductor Colors | Black with white numbers and green/yellow ground | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Min. Bend Radius | 6x diameter | | |
| Flame Rating | FT4 | | |
| Oil Resistance | Oil Res I & II | | |

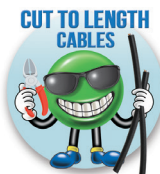
* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 12 Gauge SILFLEX® Control Cable (Shielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A3091204-1 | 4 | 12 | 65 | 25 | 47 | 0.44 | 5.28 | 20 | 0.18 | \$5.95 |

* Installed bend radius ≥ 6x diameter

** See web store for maximum cut lengths



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



SILFLEX® FBP Control Cable for Food & Beverage Applications



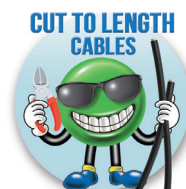
Overview

LUTZE SILFLEX® FBP control cable from AutomationDirect is available with 20AWG to 12AWG size conductors in shielded or unshielded versions. LUTZE SILFLEX® FBP cables are the ultimate solution to the challenges that today's food and beverage machine builders and processing companies face. All LUTZE SILFLEX® FBP cables meet both UL and FDA requirements, streamlining inspections and reducing the need for exceptions to 21 CFR. LUTZE's patent-pending food safe design reduces cabling as a contamination risk. The resistance to commonly used cleaning agents was third party evaluated by Ecolab. Reduced cable diameters allow for easy routing and installation in conduit. Cables may be run without conduit in some areas due to the external wiring approval, washdown certification, and food-contact rating. Cut to length in 1-foot increments with a 20-foot minimum length.



Features


- 20AWG to 12AWG, including an equal size ground
- Unshielded or shielded constructions
- Safe for food contact per 21 CFR
- Used in contact and splash zones for food and beverage applications per FDA guidelines
- Phthalate free jacket
- Certified by Ecolab for resistance to the most common cleaning agents
- Resistant to oils and fats that are common to food processing
- Reduced diameter design allows for easy routing and installation in conduit
- Flexible stranding makes installation and routing easy
- Low capacitance insulation for control cables
- Compliant with California Proposition 65
- Cut to length in 1-foot increments
- Low 20-foot minimum length
- Made in the USA

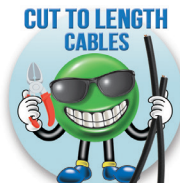




20 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Unshielded)

| 20 Gauge SILFLEX® FBP Control Cable Specifications (Unshielded) | | | |
|---|--|----------------------|--|
| Conductor Gauge & Stranding | 20AWG 10/30 bare copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| | | | UL 758 - AWM Style 20886 |
| | | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Static Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals* | UL (E197090) |
| Jacket Material | Black Phthalate free proprietary thermoplastic polymer | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex FBP E197090 cRUus AWM 90C 1000V AMW I/II A/B 90C 1000V FT1 CE ROHS PHTHALATE FREE JACKET CE-46 2027 MADE IN USA XXXXXX FT |
| Conductor Colors | Black with white numbers and green/ yellow ground | | |
| Conductor Insulation | Polypropylene | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | UL 1581 | | |
| * To obtain the most current agency approval information, see Agency Approval Checklist section on the specifict part number's web page at www.AutomationDirect.com | | | |

| 20 Gauge SILFLEX® FBP Control Cable (Unshielded) | | | | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|--|--|--|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot | | | |
|  | | | | | | | | | | | | | |
| A6012003-1 | 3 | 20 | 10 | 13 | 32 | 0.203 | 0.812 | 20 | 0.03 | \$1.15 | | | |
| A6012004-1 | 4 | | | | | 0.219 | 0.876 | 20 | 0.03 | \$1.35 | | | |
| A6012005-1 | 5 | | | | | 0.237 | 0.948 | 20 | 0.04 | \$1.59 | | | |
| A6012007-1 | 7 | | | | | 0.255 | 1.020 | 20 | 0.05 | \$1.96 | | | |
| A6012012-1 | 12 | | | | 38 | 0.339 | 1.356 | 20 | 0.08 | \$3.01 | | | |
| A6012018-1 | 18 | | | | | 0.391 | 1.564 | 20 | 0.11 | \$4.35 | | | |
| A6012025-1 | 25 | | | | | 0.448 | 1.792 | 20 | 0.14 | \$5.83 | | | |
| * Installed bend radius ≥ 4x diameter | | | | | | | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | | | | | | | |



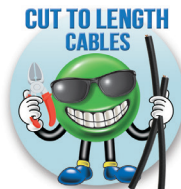


18 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Unshielded)

| 18 Gauge SILFLEX® FBP Control Cable Specifications (Unshielded) | | | |
|---|---|----------------------|---|
| Conductor Gauge & Stranding | 18AWG 16/30 bare copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| Static Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | UL 758 - AWM Style 20886 |
| Jacket Material | Black Phthalate free proprietary thermoplastic polymer | Approvals** | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Conductor Colors | Black with white numbers and green/ yellow ground | Sample Print Legend | UL (E197090) |
| Conductor Insulation | Polypropylene | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | UL 1581 | | WWW.LUTZE.COM PART# XXXXXXXX Silflex FBP E197090 cRUus AWM 90C 1000V AMW I/II A/B 90C 1000V FT1 CE ROHS PHTHALATE FREE JACKET CE-46 2027 MADE IN USA XXXXXX FT |

| 18 Gauge SILFLEX® FBP Control Cable (Unshielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------|---|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | |
| A6011803-1 | 3 | 18 | 16 | 13 | 32 | 0.229 | 0.916 | 20 | 0.04 | \$1.31 |
| A6011804-1 | 4 | | | | | 0.248 | 0.992 | 20 | 0.05 | \$1.57 |
| A6011805-1 | 5 | | | | | 0.269 | 1.076 | 20 | 0.06 | \$2.17 |
| A6011807-1 | 7 | | | | 38 | 0.303 | 1.212 | 20 | 0.08 | \$2.67 |
| A6011809-1 | 9 | | | | | 0.349 | 1.396 | 20 | 0.10 | \$3.39 |
| A6011812-1 | 12 | | | | | 0.389 | 1.556 | 20 | 0.12 | \$3.94 |
| A6011818-1 | 18 | | | | | 0.448 | 1.792 | 20 | 0.18 | \$5.70 |
| A6011825-1 | 25 | | | | | 0.539 | 2.156 | 20 | 0.24 | \$7.73 |

*See webstore for maximum cut lengths





16 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Unshielded)

| 16 Gauge SILFLEX® FBP Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|---|
| Conductor Gauge & Stranding | 16AWG 26/30 bare copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| | | | UL 758 - AWM Style 20886 |
| Static Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals** | UL (E197090) |
| Jacket Material | Black Phthalate free proprietary thermoplastic polymer | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex FBP E197090 cRUus AWM 90C 1000V AMW I/II A/B 90C 1000V FT1 CE ROHS PHTHALATE FREE JACKET CE-46 2027 MADE IN USA XXXXXX FT |
| Conductor Colors | Black with white numbers and green/yellow ground | | |
| Conductor Insulation | Polypropylene | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | UL 1581 | | |

| 16 Gauge SILFLEX® FBP Control Cable (Unshielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------|---|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | |
| A6011603-1 | 3 | 16 | 26 | 13 | 32 | 0.253 | 1.012 | 20 | 0.05 | \$1.54 |
| A6011604-1 | 4 | | | | | 0.274 | 1.096 | 20 | 0.06 | \$2.17 |
| A6011605-1 | 5 | | | | | 0.298 | 1.192 | 20 | 0.07 | \$2.57 |
| A6011607-1 | 7 | | | | 38 | 0.336 | 1.344 | 20 | 0.1 | \$3.39 |
| A6011612-1 | 12 | | | | 42 | 0.443 | 1.772 | 20 | 0.16 | \$5.49 |
| A6011618-1 | 18 | | | | | 0.514 | 2.056 | 20 | 0.22 | \$7.66 |
| A6011625-1 | 25 | | | | 48 | 0.604 | 2.416 | 20 | 0.31 | \$10.53 |

*See webstore for maximum cut lengths



14 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Unshielded)


| 14 Gauge SILFLEX® FBP Control Cable Specifications (Unshielded) | | | |
|--|--|----------------------|--|
| Conductor Gauge & Stranding | 14AWG 41/30 bare copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| | | | UL 758 - AWM Style 20886 |
| | | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Static Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals* | UL (E197090) |
| Jacket Material | Black Phthalate free proprietary thermoplastic polymer | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex FBP E197090 cRUus AWM 90C 1000V AMW I/II A/B 90C 1000V FT1 CE ROHS PHTHALATE FREE JACKET CE-46 2027 MADE IN USA XXXXXX FT |
| Conductor Colors | Black with white numbers and green/ yellow ground | | |
| Conductor Insulation | Polypropylene | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | UL 1581 | | |
| * To obtain the most current agency approval information, see Agency Approval Checklist section on the specifict part number's web page at www. AutomationDirect.com | | | |

| 14 Gauge SILFLEX® FBP Control Cable (Unshielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | |
| A6011403-1 | 3 | 14 | 41 | 16 | 38 | 0.310 | 1.240 | 20 | 0.07 | \$2.54 |
| A6011404-1 | 4 | | | | | 0.336 | 1.344 | 20 | 0.09 | \$2.78 |
| A6011405-1 | 5 | | | | 42 | 0.367 | 1.468 | 20 | 0.11 | \$3.84 |
| A6011407-1 | 7 | | | | | 0.419 | 1.676 | 20 | 0.15 | \$5.04 |
| A6011412-1 | 12 | | | | | 0.542 | 2.168 | 20 | 0.24 | \$8.05 |
| * Installed bend radius ≥ 4x diameter | | | | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | | | | |



12 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Unshielded)


| 12 Gauge SILFLEX® FBP Control Cable Specifications (Unshielded) | | | |
|--|--|----------------------|--|
| Conductor Gauge & Stranding | 12AWG 65/30 bare copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| | | | UL 758 - AWM Style 20886 |
| | | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Static Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals* | UL (E197090) |
| Jacket Material | Black Phthalate free proprietary thermoplastic polymer | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex FBP E197090 cRUus AWM 90C 1000V AMW I/II A/B 90C 1000V FT1 CE ROHS PHTHALATE FREE JACKET CE-46 2027 MADE IN USA XXXXXX FT |
| Conductor Colors | Black with white numbers and green/ yellow ground | | |
| Conductor Insulation | Polypropylene | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | UI 1581 | | |
| * To obtain the most current agency approval information, see Agency Approval Checklist section on the specifict part number's web page at www. AutomationDirect.com | | | |

| 12 Gauge SILFLEX® FBP Control Cable (Unshielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A6011204-1 | 4 | 12 | 65 | 16 | 48 | 0.410 | 1.640 | 20 | 0.14 | \$4.37 |
| A6011205-1 | 5 | | | | | 0.447 | 1.788 | 20 | 0.17 | \$5.82 |
| * Installed bend radius ≥ 4x diameter | | | | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | | | | |



20 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Shielded)


| 20 Gauge SILFLEX® FBP Control Cable Specifications (Shielded) | | | |
|--|---|----------------------|---|
| Conductor Gauge & Stranding | 20AWG 10/30 bare copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| | | | UL 758 - AWM Style 20886 |
| Static Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Jacket Material | Black Phthalate free proprietary thermoplastic polymer | Approvals* | UL (E197090) |
| Conductor Colors | Black with white numbers and green/ yellow ground | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex FBP E197090 cRUus AWM 90C 1000V AMW I/II A/B 90C 1000V FT1 CE ROHS PHTHALATE FREE JACKET CE-46 2027 MADE IN USA XXXXXX FT |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 75% coverage with 20 AWG drain | | |
| Conductor Insulation | Polypropylene | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 6x diameter | | |
| Flame Rating | UL 1581 | | |
| * To obtain the most current agency approval information, see Agency Approval Checklist section on the specifict part number's web page at www. AutomationDirect.com | | | |

| 20 Gauge SILFLEX® FBP Control Cable (Shielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A6022003-1 | 3 | 20 | 10 | 13 | 32 | 0.233 | 0.932 | 20 | 0.04 | \$2.04 |
| A6022004-1 | 4 | | | | | 0.248 | 0.992 | 20 | 0.05 | \$2.19 |
| A6022005-1 | 5 | | | | | 0.266 | 1.064 | 20 | 0.05 | \$2.50 |
| A6022007-1 | 7 | | | | 38 | 0.285 | 1.14 | 20 | 0.06 | \$2.85 |
| A6022012-1 | 12 | | | | | 0.369 | 1.476 | 20 | 0.1 | \$4.21 |
| A6022018-1 | 18 | | | | | 0.421 | 1.684 | 20 | 0.13 | \$5.41 |
| A6022025-1 | 25 | | | | | 0.486 | 1.944 | 20 | 0.17 | \$6.82 |
| * Installed bend radius ≥ 4x diameter ** See web store for maximum cut lengths | | | | | | | | | | |



18 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Shielded)

| 18 Gauge SILFLEX® FBP Control Cable Specifications (Shielded) | | | |
|--|---|----------------------|---|
| Conductor Gauge & Stranding | 18AWG 16/30 bare copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| | | | UL 758 - AWM Style 20886 |
| Static Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Jacket Material | Black Phthalate free proprietary thermoplastic polymer | Approvals* | UL (E197090) |
| Conductor Colors | Black with white numbers and green/ yellow ground | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex FBP E197090 cRUus AWM 90C 1000V AMW I/II A/B 90C 1000V FT1 CE ROHS PHTHALATE FREE JACKET CE-46 2027 MADE IN USA XXXXXX FT |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 75% coverage with 20 AWG drain | | |
| Conductor Insulation | Polypropylene | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 6x diameter | | |
| Flame Rating | UL 1581 | | |
| * To obtain the most current agency approval information, see Agency Approval Checklist section on the specifict part number's web page at www. AutomationDirect.com | | | |

| 18 Gauge SILFLEX® FBP Control Cable (Shielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A6021803-1 | 3 | 18 | 16 | 13 | 32 | 0.259 | 1.036 | 20 | 0.05 | \$2.45 |
| A6021804-1 | 4 | | | | | 0.289 | 1.156 | 20 | 0.07 | \$2.75 |
| A6021805-1 | 5 | | | | | 0.310 | 1.240 | 20 | 0.08 | \$3.08 |
| A6021807-1 | 7 | | | | 38 | 0.333 | 1.332 | 20 | 0.10 | \$3.75 |
| A6021812-1 | 12 | | | | | 0.427 | 1.708 | 20 | 0.15 | \$5.74 |
| A6021818-1 | 18 | | | | | 0.489 | 1.956 | 20 | 0.20 | \$7.59 |
| A6021825-1 | 25 | | | | | 0.569 | 2.276 | 20 | 0.27 | \$9.96 |
| * Installed bend radius ≥ 4x diameter ** See web store for maximum cut lengths | | | | | | | | | | |



16 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Shielded)


| 16 Gauge SILFLEX® FBP Control Cable Specifications (Shielded) | | | |
|--|---|----------------------|---|
| Conductor Gauge & Stranding | 16AWG 26/30 bare copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| | | | UL 758 - AWM Style 20886 |
| Static Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Jacket Material | Black Phthalate free proprietary thermoplastic polymer | Approvals* | UL (E197090) |
| Conductor Colors | Black with white numbers and green/ yellow ground | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex FBP E197090 cRUus AWM 90C 1000V AMW I/II A/B 90C 1000V FT1 CE ROHS PHTHALATE FREE JACKET CE-46 2027 MADE IN USA XXXXXX FT |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 75% coverage with 18 AWG drain | | |
| Conductor Insulation | Polypropylene | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 6x diameter | | |
| Flame Rating | UL 1581 | | |
| * To obtain the most current agency approval information, see Agency Approval Checklist section on the specifict part number's web page at www. AutomationDirect.com | | | |

| 16 Gauge SILFLEX® FBP Control Cable (Shielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | |
| A6021603-1 | 3 | 16 | 26 | 13 | 32 | 0.282 | 1.128 | 20 | 0.07 | \$2.80 |
| A6021604-1 | 4 | | | | | 0.316 | 1.264 | 20 | 0.08 | \$3.26 |
| A6021605-1 | 5 | | | | | 0.340 | 1.360 | 20 | 0.10 | \$3.73 |
| A6021607-1 | 7 | | | | 38 | 0.366 | 1.464 | 20 | 0.12 | \$4.65 |
| A6021612-1 | 12 | | | | 42 | 0.472 | 1.888 | 20 | 0.19 | \$6.93 |
| A6021618-1 | 18 | | | | | 0.556 | 2.224 | 20 | 0.26 | \$9.37 |
| A6021625-1 | 25 | | | | 48 | 0.639 | 2.556 | 20 | 0.35 | \$12.46 |
| * Installed bend radius ≥ 4x diameter | | | | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | | | | |



14 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Shielded)


| 14 Gauge SILFLEX® FBP Control Cable Specifications (Shielded) | | | |
|--|---|----------------------|---|
| Conductor Gauge & Stranding | 14AWG 41/30 bare copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| | | | UL 758 - AWM Style 20886 |
| Static Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Jacket Material | Black Phthalate free proprietary thermoplastic polymer | Approvals* | UL (E197090) |
| Conductor Colors | Black with white numbers and green/ yellow ground | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex FBP E197090 cRUus AWM 90C 1000V AMW I/II A/B 90C 1000V FT1 CE ROHS PHTHALATE FREE JACKET CE-46 2027 MADE IN USA XXXXXX FT |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 75% coverage with 16 AWG drain | | |
| Conductor Insulation | Polypropylene | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 6x diameter | | |
| Flame Rating | UL 1581 | | |
| * To obtain the most current agency approval information, see Agency Approval Checklist section on the specifict part number's web page at www. AutomationDirect.com | | | |

| 14 Gauge SILFLEX® FBP Control Cable (Shielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A6021403-1 | 3 | 14 | 41 | 16 | 38 | 0.348 | 1.392 | 20 | 0.10 | \$3.87 |
| A6021404-1 | 4 | | | | | 0.374 | 1.496 | 20 | 0.12 | \$4.68 |
| A6021405-1 | 5 | | | | 42 | 0.405 | 1.620 | 20 | 0.14 | \$5.30 |
| A6021407-1 | 7 | | | | | 0.449 | 1.796 | 20 | 0.18 | \$6.76 |
| A6021412-1 | 12 | | | | | 0.572 | 2.288 | 20 | 0.28 | \$9.93 |
| * Installed bend radius ≥ 4x diameter ** See web store for maximum cut lengths | | | | | | | | | | |



12 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Shielded)

| 12 Gauge SILFLEX® FBP Control Cable Specifications (Shielded) | | | |
|--|---|----------------------|---|
| Conductor Gauge & Stranding | 12AWG /30 bare copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| Static Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | UL 758 - AWM Style 20886 |
| | | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Jacket Material | Black Phthalate free proprietary thermoplastic polymer | Approvals* | UL (E197090) |
| Conductor Colors | Black with white numbers and green/ yellow ground | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex FBP E197090 cRUus AWM 90C 1000V AMW I/II A/B 90C 1000V FT1 CE ROHS PHTHALATE FREE JACKET CE-46 2027 MADE IN USA XXXXXX FT |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 75% coverage with 14 AWG drain | | |
| Conductor Insulation | Polypropylene | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 6x diameter | | |
| Flame Rating | UL 1581 | | |
| * To obtain the most current agency approval information, see Agency Approval Checklist section on the specifict part number's web page at www. AutomationDirect.com | | | |

| 12 Gauge SILFLEX® FBP Control Cable (Shielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| A6021204-1 | 4 | 12 | 65 | 16 | 48 | 0.439 | 1.756 | 20 | 0.17 | \$6.58 |
| A6021205-1 | 5 | | | | | 0.476 | 1.904 | 20 | 0.20 | \$7.68 |
| * Installed bend radius ≥ 4x diameter | | | | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | | | | |



10 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Shielded)

| 10 Gauge SILFLEX® FBP Control Cable Specifications (Shielded) | | | |
|---|---|-----------------------------|---|
| Conductor Gauge & Stranding | 10AWG 105/30 bare copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| | | | UL 758 - AWM Style 20886 |
| | | | CSA C22.2 No. 210 - CSA AWM I/II A/B |
| Static Operating Temperature | -40°C to 90°C (-40°F to 194°F) | Approvals* | UL (E197090) |
| Jacket Material | Black Phthalate free proprietary thermoplastic polymer | Sample Print Legend | WWW.LUTZE.COM PART# XXXXXXXX Silflex FBP E197090 cRUus AWM 90C 1000V AMW I/II A/B 90C 1000V FT1 CE ROHS PHTHALATE FREE JACKET CE-46 2027 MADE IN USA XXXXXX FT |
| Conductor Colors | Black with white numbers and green/yellow ground | | |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 75% coverage with 12 AWG drain | | |
| Conductor Insulation | Polypropylene | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 6x diameter | | |
| Flame Rating | UL 1581 | | |
| * To obtain the most current agency approval information, see Agency Approval Checklist section on the specifict part number's web page at www.AutomationDirect.com | | | |

| 10 Gauge SILFLEX® FBP Control Cable (Shielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | |
| A6021004-1 | 4 | 10 | 105 | 16 | 48 | 0.54 | 2.16 | 20 | 0.38 | \$9.18 |
| * Installed bend radius ≥ 4x diameter | | | | | | | | | | |
| ** See web store for maximum cut lengths | | | | | | | | | | |



SILFLEX® M FBP Motor Cable for Food & Beverage Applications



Overview

LUTZE® SILFLEX FBP motor cable from AutomationDirect is available with 18 AWG to 10 AWG size shielded conductors. LUTZE SILFLEX® FBP M cables are the ultimate solution to the challenges that today's food and beverage machine builders and processing companies face. All LUTZE SILFLEX® FBP M cables meet both UL and FDA requirements, streamlining inspections and reducing the need for exceptions to 21 CFR. LUTZE's patented food-safe design reduces cabling as a contamination risk. The resistance to commonly used cleaning agents was third-party evaluated by ECOLAB. Reduced cable diameters allow for easy routing and installation in conduit. Cables may be run without conduit in some areas due to the external wiring approval, washdown certification, and food contact rating. Cut to length in 1ft increments with a 20ft minimum length.



Features

- 18 AWG to 10 AWG, including an equal size ground
- REACH 1907/2006/EC compliant
- Safe for food contact per 21 CFR 175.300
- Used in contact and splash zones for food and beverage applications per FDA guidelines
- Flame retardant
- Phthalate-free jacket
- Talc- and silicone-free
- Non-wicking fillers
- Certified by Ecolab for resistance to the most common cleaning agents
- Resistant to oils and fats that are common to food processing
- Reduced diameter design allows for easy routing and installation in conduit
- Flexible stranding makes installation and routing easy
- Easy stripping for fast installation
- Low capacitance insulation for motor cables
- High protection against electromagnetic interferences (EMI)
- Cut to length in 1-foot increments
- Low 20-foot minimum length
- Made in the USA

SILFLEX® FBP M Motor Cable Specifications

| Part Number | Nom. Capacitance Conductor to Conductor (pF/ft.) | Nom. Capacitance Conductor to Shield (pF/ft.) | Nom. Conductor DC Resistance @ 20°C (Ohm/1000 ft.) | Nominal Outer Shield DC Resistance @ 20°C (Ohm/1000 ft.) | Impedance (ohms) | Max Operating Voltage |
|-------------------|--|---|--|--|------------------|--------------------------|
| A6061804-1 | 21.9 | 38.4 | 5.7 | 3.2 | 90.2 | 1000V |
| A6061604-1 | 23.8 | 43.3 | 4.1 | 3.51 | 81.6 | 1000V |
| A6061404-1 | 25.7 | 42.7 | 2.6 | 2.61 | 69.1 | 1000V |
| A6061204-1 | 29 | 52.5 | 1.6 | 2.44 | 48.6 | 1000V |
| A6061004-1 | 29.2 | 48.32 | 1.1 | 1.23 | 40.9 | 1000V |



SILFLEX® M FBP Motor Cable for Food & Beverage Applications

SILFLEX® FBP M Motor Cable Specifications (Cont'd.)

| | | | |
|-------------------------------------|---|-----------------------------|--|
| Conductor Stranding | 30AWG tinned copper, Class K | Applicable Standards | FDA 21 CFR 175.300 |
| Voltage Rating | 1000V 90°C UL AWM 20886 | | NFPA 79 12.9 Compliant |
| Static Operating Temperature | -40 to 90°C (-40 to 194°F) | | UL 758 - AWM Style 20886 |
| Jacket Material | TPE | Approvals* | URus, CE, RoHs, REACH, TSCA |
| Conductor Insulation Colors | Black with white numbers and green/yellow ground | Sample Print Legend | WWW.LUTZE.COM PART# A606XXXX SILFLEX® FBP SHIELDED AWGXX-4C - E197090 cURus AWM 20886 90°C 600V AWM I/II A/B 90°C 1000V CE ROHS PHTHALATE FREE JACKET CE-46 1522 xxxxFT |
| Shield | Overall foil and braid shielded | | |
| Conductor Insulation | Cross-linked polyethylene (XLPE) | | |
| Conductor Markings | #"1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| UL Temperature Rating | 90°C (194°F) | | |
| Min. Bend Radius | 6x diameter | | |
| Flame Rating | UL 1581 | | |

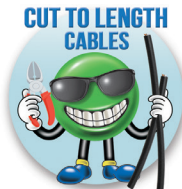
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

SILFLEX® FBP M Motor Cable Specifications (Cont'd)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|----------------------------|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| | | | | | | | | | | |
| A6061804-1 | 4 | 18 | 19 | 32 | 50 | 0.112 | 0.67 | 20 | 0.042 | \$4.00 |
| A6061604-1 | | 16 | 26 | | | 0.123 | 0.74 | | 0.054 | \$4.60 |
| A6061404-1 | | 14 | 41 | | | 0.138 | 0.83 | | 0.076 | \$5.80 |
| A6061204-1 | | 12 | 65 | | | 0.160 | 0.96 | | 0.118 | \$7.70 |
| A6061004-1 | | 10 | 105 | | 60 | 0.194 | 1.164 | | 0.183 | \$11.30 |

* Installed bend radius ≥ 6x diameter

** See web store for maximum cut lengths



HELUKABEL® Traycontrol® 600



Helukabel Traycontrol® 600V from AutomationDirect is available in sizes from 20AWG to 4AWG with 2 to 41 unshielded conductors. Individual conductors are bare copper and stranded for flexibility, with black PVC/Nylon insulation and marked with numbers for easy identification. A convenient insulated ground conductor, green with a yellow stripe, is included in the conductor count of each cable with conductor counts higher than two.

Helukabel Traycontrol 600V PVC is offered with a specially formulated PVC jacket. The PVC outer jacket has been designed to resist oil (Oil Res I/II), chemicals, and cleaning and disinfecting agents (based on ECOLAB tests) making this cable suitable installation in dry, humid, and damp environments, outdoors, and pipes. Additionally, they can be installed in the ground (direct burial rated) and for open, unprotected installation from the cable tray (TC-ER) to machines throughout industrial plants.

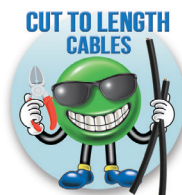
With multiple ratings and approvals, Helukabel Traycontrol 600V multi-conductor control cable has the versatility to meet a wide range of industrial control, power and instrumentation applications. These flexible multi-conductor cables provide an economical way to organize and simplify control wiring in machines and facilities. With UL 1277 or UL 2277 approvals and TC-ER, PLTC-ER and/or ITC-ER these cable can to be installed up to 6 feet outside of the tray or conduit makes using these a economical solution for any industrial automation project.

Features

- Finely stranded (Class K), bare copper according to AWG standards
- Special PVC conductor insulation with transparent nylon coating, 3 conductors and above include a green/yellow ground
- Conductor identification to DIN VDE 0293 black conductors with continuous white numbering
- Conductors stranded in layers with optimal lay length
- Special PVC outer jacket Self-extinguishing and flame retardant according to CSA FT4
- UV-resistant
- Direct burial rating available
- Resistant to cleaning and disinfecting agents according to Ecolab
- TC-ER, PLTC-ER, and/or ITC-ER Tray Cable Exposed Run
- Outstanding flexibility
- Torsion resistant for wind power application
- UL 1277 and/or UL2277 approvals

Application

- NFPA 79 conformant flexible control and power cable up to 600 V (WTTC 1000 V), for all machinery in new plant construction.
- Torsion resistant, exceptional flexibility and abrasion resistance. Suitable for installation in dry, humid and damp environments, outdoors and pipes.
- For underground installation and for open, unprotected installation from the cable tray to machines in industrial plants.



HELUKABEL®






0.5 mm² (20AWG) Unshielded Flexible Control Cable

0.5 mm² (20AWG) Flexible Control Cable Specifications (Unshielded)

| | | | |
|---|--|----------------------------|---|
| Conductors Gauge & Stranding | 0.5 mm ² (20AWG) 10/30 bare copper | Outer Jacket | Black PVC |
| Voltage Ratings | 600V (Types ITC-ER, PLTC-ER, MTW) | UV Resistance | Yes |
| | Tested to 3000V | Oil Resistance | Yes |
| Minimum Bend Radius | Moving, 5.0 x diameter | Flame Retardant | Yes, per CSA FT4 |
| | | Silicone-free | Yes |
| Temperature Ratings | UL/CSA TC, -40°C to +90°C | Approvals* | UL ITC-ER & PLTC-ER, MTW 600V |
| | Moving, +5°C to +50°C | | CSA 22.2 No. 210 - AWM I/II A/B |
| | Fixed, -40°C to +105°C | | CE Low-Voltage Directive 2006/95/EC. |
| Conductor Insulation | Special PVC with transparent nylon coating and green/yellow ground | Sample Print Legend | HELUKABEL® TRAYCONTROL 600 P/N XXXXX 20 AWG (0.50mm ²)/XC (UL) MTW 600V "FLEXING" E330431 OR ITC-ER OR PLTC-ER --- 605853 CSA AWM I/II A/B 105C 1000V FT4 --- CE BATCH CODE + SEQUENTIAL FOOTAGE MARKING |
| Conductor Markings | Black with white numbers | | |

* Note -ER not available for 2 conductor cables

0.5 mm² (20AWG) Flexible Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|--|--|-----|--------|----------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | |
| <u>H62020-1</u> | 2 | 20 | 10 | 0.264 | 20 | 0.04 | \$0.51 |
|  | | | | | | | |
| <u>H62021-1</u> | 3 | 20 | 10 | 0.276 | 20 | 0.04 | \$0.63 |
|  | | | | | | | |
| <u>H62022-1</u> | 4 | 20 | 10 | 0.295 | 20 | 0.05 | \$0.73 |
|  | | | | | | | |
| <u>H62023-1</u> | 5 | 20 | 10 | 0.319 | 20 | 0.06 | \$0.85 |
|  | | | | | | | |
| <u>H62024-1</u> | 7 | 20 | 10 | 0.343 | 20 | 0.07 | \$1.31 |




* See web store for maximum cut lengths



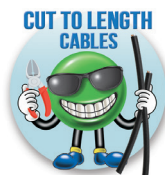
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®

0.5 mm² (20AWG) Unshielded Flexible Control Cable

| 0.5 mm ² (20AWG) Flexible Control Cable (Unshielded) | | | | | | | |
|--|--|-----|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>H62026-1</u> | 12 | 20 | 10 | 0.437 | 20 | 0.11 | \$1.83 |
|  | | | | | | | |
| <u>H62027-1</u> | 18 | 20 | 10 | 0.508 | 20 | 0.16 | \$2.53 |
|  | | | | | | | |
| <u>H62028-1</u> | 25 | 20 | 10 | 0.618 | 20 | 0.23 | \$3.45 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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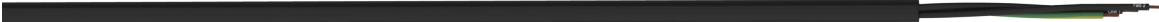



1.0 mm² (18AWG) Unshielded Flexible Control Cable

1.0 mm² (18AWG) Flexible Control Cable Specifications (Unshielded)

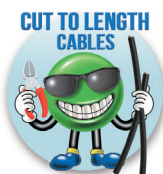
| | | | |
|---|--|----------------------------|---|
| Conductors Gauge & Stranding | 1.0mm ² (18AWG) 19/30 bare copper | Outer Jacket | Black PVC |
| Voltage Ratings | 600V (Types ITC-ER, PLTC-ER, MTW) 1000V (Type WTTC) Tested to 3000V | UV Resistance | Yes |
| Minimum Bend Radius | Moving, 5.0 x diameter | Oil Resistance | Yes |
| Temperature Ratings | UL/CSA TC, -40°C to +90°C Moving, +5°C to +50°C Fixed, -40°C to +105°C | Flame Retardant | Yes, per CSA FT4 |
| Conductor Insulation | Special PVC with transparent nylon coating and green/yellow ground | Silicone-free | Yes |
| Conductor Markings | Black with white numbers | Approvals* | UL - TC-ER (1277), WTTC (2277), MTW, DP-1, ITC-ER, PLTC-ER CSA - C22.2 No. 230 TC, C22.2 No. 239 CIC, 22.2 No. 210 - AWM I/II A/B CE Low-Voltage Directive 2006/95/EC. |
| | | Sample Print Legend | HELUKABEL® TRAYCONTROL 600 P/N XXXXX 18 AWG (1.00mm ²)/XC (UL) TC-ER 90C DRY / WET 600V SUN RES DIR BUR OIL RES I/II E330430 OR MTW "FLEXING" OR WTTC 1000V OR DP-1 OR ITC-ER OR PLTC-ER OR C(UL) CIC-TC 90C DRY 75C WET SR PVC/N FT4 --- 605853 CSA AWM I/II A/B 105C 1000V FT4 --- CE BATCH CODE + SEQUENTIAL FOOTAGE MARKING |

* Note -ER not available for 2 conductor cables

1.0 mm² (18AWG) Flexible Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|--|--|-----|--------|----------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | |
| <u>H62902-1</u> | 2 | 18 | 19 | 0.287 | 20 | 0.05 | \$0.67 |
|  | | | | | | | |
| <u>H62903-1</u> | 3 | 18 | 19 | 0.299 | 20 | 0.06 | \$0.80 |
|  | | | | | | | |
| <u>H62904-1</u> | 4 | 18 | 19 | 0.323 | 20 | 0.07 | \$0.98 |
|  | | | | | | | |
| <u>H62905-1</u> | 5 | 18 | 19 | 0.350 | 20 | 0.08 | \$1.16 |
|  | | | | | | | |
| <u>H62906-1</u> | 7 | 18 | 19 | 0.378 | 20 | 0.10 | \$1.77 |





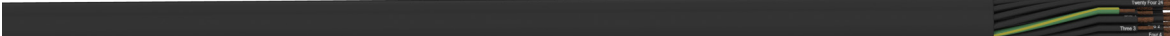
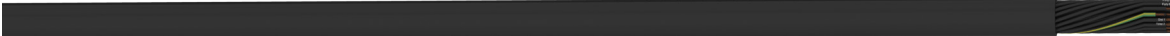
* See web store for maximum cut lengths



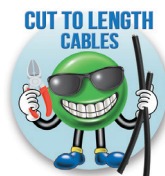
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®

1.0 mm² (18AWG) Unshielded Flexible Control Cable

| 1.0 mm ² (18AWG) Flexible Control Cable (Unshielded) | | | | | | | |
|--|--|-----|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>H62907-1</u> | 9 | 18 | 19 | 0.433 | 20 | 0.13 | \$2.12 |
|  | | | | | | | |
| <u>H62908-1</u> | 10 | 18 | 19 | 0.465 | 20 | 0.14 | \$2.31 |
|  | | | | | | | |
| <u>H62909-1</u> | 12 | 18 | 19 | 0.480 | 20 | 0.15 | \$2.65 |
|  | | | | | | | |
| <u>H62912-1</u> | 18 | 18 | 19 | 0.594 | 20 | 0.24 | \$3.82 |
|  | | | | | | | |
| <u>H62914-1</u> | 25 | 18 | 19 | 0.685 | 20 | 0.25 | \$5.16 |
|  | | | | | | | |
| <u>H62918-1</u> | 41 | 18 | 19 | 0.827 | 20 | 0.48 | \$7.66 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®



1.5 mm² (16AWG) Unshielded Flexible Control Cable

1.5 mm² (16AWG) Flexible Control Cable Specifications (Unshielded)

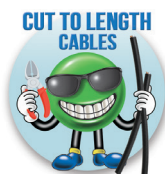
| | | | |
|---|--|-----------------------------|---|
| Conductors Gauge & Stranding | 1.5 mm ² (16AWG) 26/30 bare copper | Outer Jacket | Black PVC |
| Voltage Ratings | 600V (Types ITC-ER, PLTC-ER, TC-ER-JP, MTW) 1000V (Type WTTC) | UV Resistance | Yes |
| | Tested to 3000V | Oil Resistance | Yes |
| Minimum Bend Radius | Moving, 5.0 x diameter | Flame Retardant | Yes, per CSA FT4 |
| | | Silicone-free | Yes |
| Temperature Ratings | UL/CSA TC, -40°C to +90°C | Approvals* | UL - TC-ER (1277), WTTC (2277), MTW, DP-1, ITC-ER, PLTC-ER, TC-ER-JP |
| | Moving, +5°C to +50°C | | CSA - C22.2 No. 230 TC, C22.2 No. 239 CIC, 22.2 No. 210 - AWM I/II A/B |
| | Fixed, -40°C to +105°C | | CE Low-Voltage Directive 2006/95/EC. |
| Conductor Insulation | Special PVC with transparent nylon coating and green/yellow ground | Sample Print Legend* | HELUKABEL® TRAYCONTROL 600 P/N XXXXX 16 AWG (1.50mm2)/XC (UL) TC-ER-JP* 90C DRY / WET 600V SUN RES DIR BUR OIL RES I/II E330430 OR MTW "FLEXING" OR WTTC 1000V OR DP-1 OR ITC-ER OR PLTC-ER OR C(UL) CIC-TC 90C DRY 75C WET SR PVC/N FT4 --- 605853 CSA AWM I/II A/B 105C 1000V FT4 --- CE BATCH CODE + SEQUENTIAL FOOTAGE MARKING |
| Conductor Markings | Black with white numbers | | |

NOTE: -JP in sample print legend only applies to 16 AWG, 3 to 5/C constructions, -ER not available for 2 conductor cables

1.5 mm² (16AWG) Continuous Flexing Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|--|-----|--------|----------------------------|---------------------------|----------------------------|----------------|
|  | | | | | | | |
| H62921-1 | 2 | 16 | 26 | 0.307 | 20 | 0.05 | \$0.80 |
|  | | | | | | | |
| H62922-1 | 3 | 16 | 26 | 0.323 | 20 | 0.07 | \$0.99 |
|  | | | | | | | |
| H62923-1 | 4 | 16 | 26 | 0.346 | 20 | 0.08 | \$1.21 |
|  | | | | | | | |
| H62924-1 | 5 | 16 | 26 | 0.378 | 20 | 0.10 | \$1.45 |
|  | | | | | | | |
| H62926-1 | 7 | 16 | 26 | 0.413 | 20 | 0.12 | \$2.06 |





** See web store for maximum cut lengths



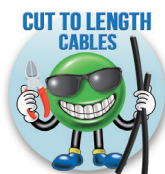
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®

1.5mm² (16AWG) Unshielded Flexible Control Cable

| 1.5mm ² (16AWG) Flexible Control Cable (Unshielded) | | | | | | | |
|---|--|-----|--------|-----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>H62928-1</u> | 9 | 16 | 26 | 0.472 | 20 | 0.16 | \$2.70 |
|  | | | | | | | |
| <u>H62930-1</u> | 12 | 16 | 26 | 0.528 | 20 | 0.19 | \$3.25 |
|  | | | | | | | |
| <u>H62934-1</u> | 18 | 16 | 26 | 0.646 | 20 | 0.30 | \$4.69 |
|  | | | | | | | |
| <u>H62939-1</u> | 30 | 16 | 26 | 0.787 | 20 | 0.46 | \$7.39 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®





2.0mm² (14AWG) Unshielded Flexible Control Cable

2.0mm² (14AWG) Flexible Control Cable Specifications (Unshielded)

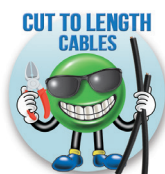
| | | | |
|---|---|------------------------------|---|
| Conductors Gauge & Stranding | 2.0mm ² (14AWG) 41/30 bare copper | Outer Jacket | Black PVC |
| Voltage Ratings | 600V (Types ITC-ER, PLTC-ER, TC-ER-JP, MTW) 1000V (Type WTTC) Tested to 3000V | UV Resistance | Yes |
| Minimum Bend Radius | Moving, 5.0 x diameter | Oil Resistance | Yes |
| Temperature Ratings | UL/CSA TC, -40°C to +90°C Moving, +5°C to +50°C Fixed, -40°C to +105°C | Flame Retardant | Yes, per CSA FT4 |
| Conductor Insulation | Special PVC with transparent nylon coating and green/yellow ground | Silicone-free | Yes |
| Conductor Markings | Black with white numbers | Approvals* | UL - TC-ER (1277), WTTC (2277), MTW, DP-1, ITC-ER, PLTC-ER, TC-ER-JP CSA - C22.2 No. 230 TC, C22.2 No. 239 CIC, 22.2 No. 210 - AWM I/II A/B CE Low-Voltage Directive 2006/95/EC. |
| | | Sample Print Legend * | HELUKABEL® TRAYCONTROL 600 P/N XXXXX 14 AWG (2.00mm2)/XC (UL) TC-ER-JP* 90C DRY / WET 600V SUN RES DIR BUR OIL RES I/II E330430 OR MTW "FLEXING" OR WTTC 1000V OR DP-1 OR SUBMERSIBLE PUMP CABLE OR ITC-ER OR PLTC-ER OR C(UL) CIC-TC 90C DRY 75C WET SR PVC/N FT4 --- 605853 CSA AWM I/II A/B 105C 1000V FT4 --- CE BATCH CODE + SEQUENTIAL FOOTAGE MARKING |

NOTE: -JP in sample print legend only applies to 14 AWG, 3 to 5/C constructions - Submersible Pump Cable to appear in legend for 14 AWG, 3 - 7/C constructions only

2.0 mm² (14AWG) Flexible Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|--|-----|--------|----------------------------|---------------------------|----------------------------|----------------|
|  | | | | | | | |
| H62946-1 | 3 | 14 | 41 | 0.362 | 20 | 0.09 | \$1.34 |
|  | | | | | | | |
| H62947-1 | 4 | 14 | 41 | 0.398 | 20 | 0.09 | \$1.61 |
|  | | | | | | | |
| H62948-1 | 5 | 14 | 41 | 0.429 | 20 | 0.13 | \$1.98 |
|  | | | | | | | |
| H62950-1 | 7 | 14 | 41 | 0.472 | 20 | 0.17 | \$2.87 |




** See web store for maximum cut lengths



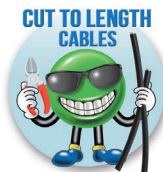
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®

2.0mm² (14AWG) Unshielded Flexible Control Cable

| 2.0mm ² (14AWG) Flexible Control Cable (Unshielded) | | | | | | | |
|--|--|-----|--------|-----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>H62951-1</u> | 9 | 14 | 41 | 0.579 | 20 | 0.24 | \$3.83 |
|  | | | | | | | |
| <u>H62953-1</u> | 12 | 14 | 41 | 0.646 | 20 | 0.30 | \$4.88 |
|  | | | | | | | |
| <u>H62955-1</u> | 18 | 14 | 41 | 0.744 | 20 | 0.41 | \$6.79 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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3.5mm² (12AWG) Unshielded Flexible Control Cable

3.5mm² (12AWG) Flexible Control Cable Specifications (Unshielded)

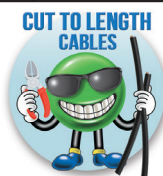
| | | | |
|---|---|-----------------------------|--|
| Conductors Gauge & Stranding | 3.5mm ² (12AWG) 65/30 bare copper | Outer Jacket | Black PVC |
| Voltage Ratings | 600V (Types ITC-ER, PLTC-ER, TC-ER-JP, MTW) 1000V (Type WTTC) Tested to 3000V | UV Resistance | Yes |
| Minimum Bend Radius | Moving, 5.0 x diameter | Oil Resistance | Yes |
| Temperature Ratings | UL/CSA TC, -40°C to +90°C Moving, +5°C to +50°C Fixed, -40°C to +105°C | Flame Retardant | Yes, per CSA FT4 |
| Conductor Insulation | Special PVC with transparent nylon coating and green/yellow ground | Silicone-free | Yes |
| Conductor Markings | Black with white numbers | Approvals* | UL - TC-ER (1277), WTTC (2277), MTW, DP-1, ITC-ER, PLTC-ER, TC-ER-JP CSA - C22.2 No. 230 TC, C22.2 No. 239 CIC, 22.2 No. 210 - AWM I/II A/B CE Low-Voltage Directive 2006/95/EC. |
| | | Sample Print Legend* | HELUKABEL® TRAYCONTROL 600 P/N XXXXX 12 AWG (3.50mm2)/XC (UL) TC-ER-JP* 90C DRY / WET 600V SUN RES DIR BUR OIL RES I/II E330430 OR MTW "FLEXING" OR WTTC 1000V OR DP-1 OR SUBMERSIBLE PUMP CABLE OR ITC-ER OR PLTC-ER OR C(UL) CIC-TC 90C DRY 75C WET SR PVC/N FT4 --- 605853 CSA AWM I/II A/B 105C 1000V FT4 --- CE BATCH CODE + SEQUENTIAL FOOTAGE MARKING |

NOTE: -JP in sample print legend only applies to 12 AWG, 3 to 5/C constructions. Submersible Pump Cable to appear in legend for 12 AWG, 3 - 7/C constructions only

3.5mm² (12AWG) Continuous Flexing Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|--|-----|--------|----------------------------|---------------------------|----------------------------|----------------|
|  | | | | | | | |
| <u>H62959-1</u> | 3 | 12 | 65 | 0.402 | 20 | 0.12 | \$1.75 |
|  | | | | | | | |
| <u>H62960-1</u> | 4 | 12 | 65 | 0.441 | 20 | 0.15 | \$2.26 |
|  | | | | | | | |
| <u>H62961-1</u> | 5 | 12 | 65 | 0.480 | 20 | 0.18 | \$2.85 |
|  | | | | | | | |
| <u>H62963-1</u> | 7 | 12 | 65 | 0.528 | 20 | 0.24 | \$3.92 |
|  | | | | | | | |
| <u>H62965-1</u> | 12 | 12 | 65 | 0.720 | 20 | 0.42 | \$6.67 |

** See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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6.0mm² (10AWG) Unshielded Flexible Control Cable

6.0mm² (10AWG) Flexible Control Cable Specifications (Unshielded)

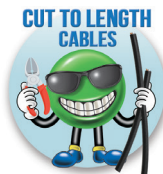
| | | | |
|---|--|-----------------------------|---|
| Conductors Gauge & Stranding | 6.0mm ² (10AWG) 105/30 bare copper | Outer Jacket | Black PVC |
| Voltage Ratings | 600V (Types TC-ER-JP, MTW) 1000V (Type WTTC) | UV Resistance | Yes |
| | Tested to 3000V | Oil Resistance | Yes |
| Minimum Bend Radius | Moving, 5.0 x diameter | Flame Retardant | Yes, per CSA FT4 |
| | | Silicone-free | Yes |
| Temperature Ratings | UL/CSA TC, -40°C to +90°C | Approvals* | UL - TC-ER (1277), WTTC (2277), MTW, DP-1, TC-ER-JP |
| | Moving, +5°C to +50°C | | CSA - C22.2 No. 230 TC, C22.2 No. 239 CIC, 22.2 No. 210 - AWM I/II A/B |
| | Fixed, -40°C to +105°C | | CE Low-Voltage Directive 2006/95/EC. |
| Conductor Insulation | Special PVC with transparent nylon coating and green/yellow ground | Sample Print Legend* | HELUKABEL® TRAYCONTROL 600 P/N XXXXX 10 AWG (6.00mm ²)/XC (UL) TC-ER-JP 90C DRY / WET 600V SUN RES DIR BUR OIL RES I/II E330430 OR MTW "FLEXING" OR WTTC 1000V OR DP-1 OR SUBMERSIBLE PUMP CABLE OR C(UL) CIC-TC 90C DRY 75C WET SR PVC/N FT4 --- 605853 CSA AWM I/II A/B 105C 1000V FT4 --- CE BATCH CODE + SEQUENTIAL FOOTAGE MARKING |
| Conductor Markings | Black with white numbers | | |

*NOTE: -JP in sample print legend only applies to 12 AWG, 3 to 5/C constructions. Submersible Pump Cable to appear in legend for 12 AWG, 3 - 7/C constructions only

6.0mm² (10AWG) Flexible Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|--|--|-----|--------|----------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | |
| <u>H62971-1</u> | 3 | 10 | 105 | 0.492 | 20 | 0.18 | \$2.77 |
|  | | | | | | | |
| <u>H62972-1</u> | 4 | 10 | 105 | 0.567 | 20 | 0.24 | \$3.78 |
|  | | | | | | | |
| <u>H62973-1</u> | 5 | 10 | 105 | 0.622 | 20 | 0.29 | \$4.70 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®


10mm² (8AWG) Unshielded Flexible Control Cable

10mm² (8AWG) Flexible Control Cable Specifications (Unshielded)

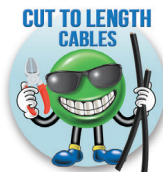
| | | | |
|---|--|----------------------------|--|
| Conductors Gauge & Stranding | 10mm ² (8AWG) 168/30 bare copper | Outer Jacket | Black PVC |
| Voltage Ratings | 600V (Types TC-ER-JP, MTW) 1000V (Type WTTC) | UV Resistance | Yes |
| | Tested to 3000V | Oil Resistance | Yes |
| Minimum Bend Radius | Moving, 5.0 x diameter | Flame Retardant | Yes, per CSA FT4 |
| | | Silicone-free | Yes |
| Temperature Ratings | UL/CSA TC, -40°C to +90°C | Approvals* | UL - TC-ER (1277), WTTC (2277), MTW, DP-1, TC-ER-JP |
| | Moving, +5°C to +50°C | | CSA - C22.2 No. 230 TC, C22.2 No. 239 CIC, 22.2 No. 210 - AWM I/II A/B |
| | Fixed, -40°C to +105°C | | CE Low-Voltage Directive 2006/95/EC. |
| Conductor Insulation | Special PVC with transparent nylon coating and green/yellow ground | Sample Print Legend | HELUKABEL® TRAYCONTROL 600 P/N XXXXX 8 AWG (10mm ²)/XC (UL) TC-ER-JP 90C DRY / WET 600V SUN RES DIR BUR OIL RES I/II E330430 OR MTW OR WTTC 1000V OR DP-1 OR SUBMERSIBLE PUMP CABLE OR C(UL) CIC-TC 90C DRY 75C WET SR PVC/N FT4 --- 605853 CSA AWM I/II A/B 105C 1000V FT4 --- CE BATCH CODE + SEQUENTIAL FOOTAGE MARKING |
| Conductor Markings | Black with white numbers | | |

*NOTE: -JP in sample print legend only applies to 12 AWG, 3 to 5/C constructions. Submersible Pump Cable to appear in legend for 12 AWG, 3 - 7/C constructions only

10mm² (8AWG) Flexible Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
|--|--|-----|--------|----------------------------|---------------------------|----------------------------|----------------|
|  | | | | | | | |
| <u>H62978-1</u> | 4 | 8 | 168 | 0.756 | 20 | 0.39 | \$7.08 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®


16mm² (6AWG) Unshielded Flexible Control Cable

16mm² (6AWG) Flexible Control Cable Specifications (Unshielded)

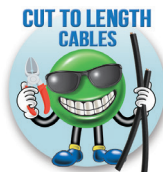
| | | | |
|---|--|-----------------------------|--|
| Conductors Gauge & Stranding | 16mm ² (6AWG) 266/30 bare copper | Outer Jacket | Black PVC |
| Voltage Ratings | 600V (Types TC-ER-JP, MTW) 1000V (Type WTTC) | UV Resistance | Yes |
| | Tested to 3000V | Oil Resistance | Yes |
| Minimum Bend Radius | Moving, 5.0 x diameter | Flame Retardant | Yes, per CSA FT4 |
| | | Silicone-free | Yes |
| Temperature Ratings | UL/CSA TC, -40°C to +90°C | Approvals* | UL - TC-ER (1277), WTTC (2277), MTW, DP-1, TC-ER-JP |
| | Moving, +5°C to +50°C | | CSA - C22.2 No. 230 TC, C22.2 No. 239 CIC, 22.2 No. 210 - AWM I/II A/B |
| | Fixed, -40°C to +105°C | | CE Low-Voltage Directive 2006/95/EC. |
| Conductor Insulation | Special PVC with transparent nylon coating and green/yellow ground | Sample Print Legend* | HELUKABEL® TRAYCONTROL 600 P/N XXXXX 6 AWG (16mm ²)/XC (UL) TC-ER-JP 90C DRY / WET 600V SUN RES DIR BUR OIL RES I/II E330430 OR MTW OR WTTC 1000V OR DP-1 OR SUBMERSIBLE PUMP CABLE OR C(UL) CIC-TC 90C DRY 75C WET SR PVC/N FT4 --- 605853 CSA AWM I/II A/B 105C 1000V FT4 --- CE BATCH CODE + SEQUENTIAL FOOTAGE MARKING |
| Conductor Markings | Black with white numbers | | |

* NOTE: -JP in sample print legend only applies to 12 AWG, 3 to 5/C constructions. Submersible Pump Cable to appear in legend for 12 AWG, 3 - 7/C constructions only

16mm² (6AWG) Flexible Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
|--|--|-----|--------|----------------------------|---------------------------|----------------------------|----------------|
|  | | | | | | | |
| <u>H62981-1</u> | 4 | 6 | 266 | 0.878 | 20 | 0.58 | \$9.35 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

HELUKABEL®


25mm² (4AWG) Unshielded Flexible Control Cable

25mm² (4AWG) Flexible Control Cable Specifications (Unshielded)

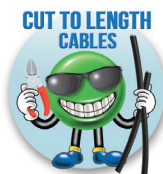
| | | | |
|---|--|-----------------------------|--|
| Conductors Gauge & Stranding | 25mm ² (4AWG) 420/30 bare copper | Outer Jacket | Black PVC |
| Voltage Ratings | 600V (Types TC, TC-ER, MTW), 1000V (Type WTTC) | UV Resistance | Yes |
| | Tested to 3000V | Oil Resistance | Yes |
| Minimum Bend Radius | Moving, 5.0 x diameter | Flame Retardant | Yes, per CSA FT4 |
| | | Silicone-free | Yes |
| Temperature Ratings | UL/CSA TC, -40°C to +90°C | Approvals* | UL - TC-ER (1277), WTTC (2277), MTW, DP-1, TC-ER-JP |
| | Moving, +5°C to +50°C | | CSA - C22.2 No. 230 TC, C22.2 No. 239 CIC, 22.2 No. 210 - AWM I/II A/B |
| | Fixed, -40°C to +105°C | | CE Low-Voltage Directive 2006/95/EC. |
| Conductor Insulation | Special PVC with transparent nylon coating and green/yellow ground | Sample Print Legend* | HELUKABEL® TRAYCONTROL 600 P/N XXXXX 4 AWG (25mm ²)/XC (UL) TC-ER-JP 90C DRY / WET 600V SUN RES DIR BUR OIL RES I/II E330430 OR MTW OR WTTC 1000V OR DP-1 OR SUBMERSIBLE PUMP CABLE OR C(UL) CIC-TC 90C DRY 75C WET SR PVC/N FT4 --- 605853 CSA AWM I/II A/B 105C 1000V FT4 --- CE BATCH CODE + SEQUENTIAL FOOTAGE MARKING |
| Conductor Markings | Black with white numbers | | |

*NOTE: -JP in sample print legend only applies to 12 AWG, 3 to 5/C constructions. Submersible Pump Cable to appear in legend for 12 AWG, 3 - 7/C constructions only

25mm² (4AWG) Flexible Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
|---|--|-----|--------|----------------------------|---------------------------|----------------------------|----------------|
|  | | | | | | | |
| <u>H62984-1</u> | 4 | 4 | 420 | 1.059 | 20 | 0.85 | \$14.46 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


HELUKABEL®

VFD Cable



Variable-frequency drives (VFDs) control the speed and torque of AC motors by varying the frequency of the voltage to the motor; however, the VFD does not send a pure sine-wave frequency to the motor. They more accurately use a series of pulses which varies in frequency in a technique called pulse-width modulation (PWM). While PWM is an excellent way to control a motor, it creates several issues that can affect the motor's life and power quality, as well as create Electromagnetic Interference (EMI) and reduce the life of the cable. By using a cable designed for use with VFDs, it is possible to limit the effect of high frequencies on the surrounding equipment and possibly prevent costly machine downtime. AutomationDirect is pleased to introduce our new line of Variable-frequency drive (VFD) cable manufactured by Helukabel.

Helukabel's TOPFLEX® 600 VFD cable is a Flexible, extremely oil-resistant, thermoset-insulated motor supply cable. The double-shielding with special aluminum foil and tinned copper braid provides effective protection against electrical disturbances. XLPE insulation makes it compliant with the requirements of NFPA 79 Chapter 4. The PVC jacket is extremely resistant to oil, coolants, and solvents, making it the perfect solution for most industrial applications. The TC-ER rating allows for installation in cable trays and from cable trays to the machine saving money on installation cost. TOPFLEX® can also be used in conduit and is direct-burial approved.

Features

- Special Cross-linked Polyethylene (XLPE) conductor insulation
- Class K, flexible stranded tinned copper conductors according to AWG standards
- Green ground conductor with yellow stripe, cross-linked Polyethylene (XLPE) insulation
- Special aluminum foil shield
- 85% coverage tinned copper braid shield
- Separator
- Black special PVC outer jacket
- Self-extinguishing and flame retardant according to CSA FT4
- UV-resistant
- Direct-burial rated
- Resistant to cleaning and disinfecting agents according to ECOLAB
- Minimum cut lengths as low as 10 feet
- Cut to length in 1 foot increments
- Made in USA



Please Note: Our prices on VFD Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable

TOPFLEX® 600 VFD 4-Conductor Cable Specifications

| | | | |
|---|---|----------------------------|--|
| Conductors Gauge & Stranding | tinned copper 4 conductors (includes ground) | Approvals* | UL: TC-ER (1277), WTTC (2277), ITC-ER & PLTC-ER (18-12 AWG), 44 (14-2 AWG), NFPA 79 Ch. 4, Class I Div. 2 per NEC Art. 501, NEC Art. 336 & 392, Oil Res I/II, 90°C Dry/Wet, -40°C Cold Bend CSA: C22.2 No. 230 & 239 - c(UL) CIC-TC FT4 C22.2 No. 210 - AWM I/II A/B FT4 |
| Voltage Rating | 600V (Type TC), 1000V (Type WTTC, Flexible Motor Supply Cable) | | |
| Outer Jacket Material | PVC | | |
| Outer Jacket Color | black with white numbers and green/ yellow ground | Sample Print Legend | HELUKABEL® TOPFLEX® VFD P/N XXXXX XX AWG (X.XXmm2)/4C (UL) TC-ER 90C DRY/WET 600V SUN RES DIR BUR OIL RES I/II E330430 OR WTTC OR FLEXIBLE MOTOR SUPPLY CABLE 1000V OR ITC-ER** OR PLTC-ER** OR c(UL) CIC-TC XLPE FT4 --- 257839 CSA AWM I/II A/B 90C 1000V FT4 --- CE |
| Temperature Ratings | UL/CSA TC -40°C to +90°C flexing +5°C to +50°C static -40°C to +105°C | | |
| Conductor Insulation | XLPE | | |

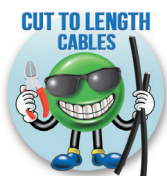
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** ITC-ER and PLTC-ER ratings only appear on 18-12 AWG SKUs

HELUKABEL® VFD Cable

| TOPFLEX® 600 VFD 4-Conductor Cable Selection | | | | | | | | | |
|--|---|--------|--------------|---------------------------------------|-----------------------------------|------------------------|------------------------------|-------------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Insulation Thickness (millimeters) | Jacket Thickness (millimeters) | Nominal OD (inches) | Min. Bend Radius (inches) | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | |
| H63137-1 | 4 conductors (includes ground) | 14 AWG | 41-stranded | 0.045 | 0.053 | 0.579 | 5 | 0.160 | \$3.51 |
| H63140-1 | | 16 AWG | 26-stranded | | 0.070 | 0.492 | 5.8 | 0.220 | \$2.61 |
| H63141-1 | | 12 AWG | 65-stranded | | | 0.618 | 6.2 | 0.280 | \$4.44 |
| H63142-1 | | 10 AWG | 105-stranded | | | 0.697 | 6.95 | 0.360 | \$6.31 |
| H63143-1 | | 8 AWG | 168-stranded | 0.090 | 0.090 | 0.906 | 9.05 | 0.570 | \$10.18 |
| H63144-1 | | 6 AWG | 266-stranded | | | 0.972 | 9.71 | 0.760 | \$17.62 |
| H63145-1 | | 4 AWG | 420-stranded | | | 1.090 | 10.92 | 1.020 | \$24.98 |
| H63146-1 | | 2 AWG | 665-stranded | | | 1.252 | 12.5 | 1.420 | \$40.66 |
| * See web store for maximum cut lengths | | | | | | | | | |

| TOPFLEX® 600 VFD 4-Conductor Cable Specifications Continued | | | | | |
|---|---|--|--|--|------------------|
| Part Number | Nom. Capacitance Conductor to Shield (pF/ft.) | Nom. Capacitance Conductor to Conductor (pF/ft.) | Nom. Conductor DC Resistance @ 20°C (Ohm/1000 ft.) | Nominal Outer Shield DC Resistance @ 20°C (Ohm/1000 ft.) | Impedance (ohms) |
| H63137-1 | 35.7 | 21 | 2.930 | 2.01 | 77 |
| H63140-1 | 30.4 | 16.95 | 4.580 | 3.30 | 90 |
| H63141-1 | 40.3 | 23 | 1.880 | 1.86 | 68 |
| H63142-1 | 47.1 | 27 | 1.140 | 1.58 | 59 |
| H63143-1 | 46.8 | 28 | 0.700 | 1.41 | 56 |
| H63144-1 | 53.7 | 29 | 0.457 | 0.80 | 54 |
| H63145-1 | 57.9 | 32 | 0.233 | 0.10 | 46 |
| H63146-1 | 66 | 38 | 0.183 | 1.05 | 41 |

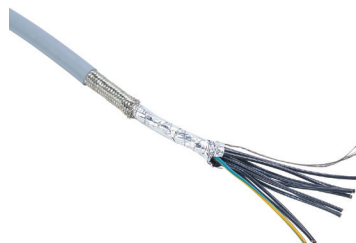


Please Note: Our prices on VFD Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

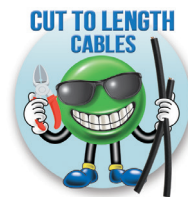
Multi-Conductor Flexible Control Cable



Unshielded Flexible Control Cable



Shielded Flexible Control Cable



Multi-conductor flexible control cable from Southwire is available in sizes from 20AWG to 10AWG with 3 to 41 unshielded and shielded conductors. Individual conductors are bare copper and stranded for flexibility, with black PVC/Nylon insulation and marked with numbers for easy identification. A convenient ground conductor is included in the conductor count of each cable and has insulation that is green with a yellow stripe. Shielded versions include both an overall aluminum mylar foil tape with drain wire and tinned copper braid for maximum effectiveness against external electrical noise interference. The cable's outer jacket is a flexible, premium grade Thermoplastic Elastomer (TPE) that is resistant to sunlight, oil, and moisture penetration, making these cables suitable for wet and dry locations as well as outdoors. Although not suitable for continuous flexing applications, these cables are ideal for both stationary and flexible applications with limited mechanical stress and free movement without any tensile stress, loads or forced movements.

With multiple ratings and approvals, Southwire flexible multi-conductor control cable has the versatility to meet a wide range of industrial applications. Given its Tray Cable Exposed Run rating, UL Type TC-ER or Power Limited Tray Cable Tray Cable, UL Type PLTC-ER, our cable can be installed between a cable tray and the utilization equipment or device without the need for metal conduit and/or armor resulting in installation and maintenance savings. With the Machine Tool Wire rating, UL Type MTW, these cables meet NFPA 79, Electrical Standard for Industrial Machinery. Other ratings and approvals include Wind Turbine Tray Cable UL Type WTTC, Class 1 Division 2 Hazardous Locations, Direct Burial, and have been tested by UL for compliance with ECOLAB's resistance to cleaning chemicals per PM-40-1.

When combined with AutomationDirect ZIPport multi-wire connectors, our flexible multi-conductor cables provide an economical way to organize and simplify control wiring in facilities and during assembly of machinery. Cut to length in 1 foot increments with a 20 foot minimum length

Features

- 20AWG to 10AWG, 3 to 41 conductors including a equal size ground
- Unshielded and shielded constructions
- Individual conductors have black PVC/Nylon insulation and are marked with identification numbers
- Rugged Thermoplastic Elastomer (TPE) outer jacket
- Equal size green/yellow ground wire included
- Multiple ratings and approvals include Type TC-ER or PLTC-ER (eliminates need for conduit/armor), Type MTW (meets NFPA 79), WTTC, Class 1 Division 2, Direct Burial, Wet and Dry Location, Oil Resistant, Sunlight Resistant
- Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862
- Flexibility for easy installation
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- Made in the USA
- Ideal for use with ZIPport multi-wire connectors (as shown below)



Cable Use Examples*:




* Cables shown using AutomationDirect's ZIPport multi-wire connectors. See Terminal Blocks & Wiring Solutions section for further information.

20 Gauge Multi-Conductor Flexible Control Cable (Unshielded)

| 20 Gauge Multi-Conductor Flexible Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|---|
| Conductor Gauge & Stranding | 20AWG 10/30 bare copper, Class K | Applicable Standards | ASTM B3 Soft or Annealed Copper Wire ASTM B174 Standard Specification for Bunch-Stranded Copper UL 13 Power-Limited Circuit Cables UL 758 AWM Style 2587 Standard for Appliance Wiring Material UL 1063 Machine Tool Wiring (MTW) UL 2250 Instrumentation Tray Cable CSA C22.2 No. 210 Appliance wiring material products I/II A/B (Sizes 16 - 8AWG) Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 |
| Voltage Rating | 300V Power Limited Tray Cable - Exposed Run (PLTC-ER) 300V Instrumentation Tray Cable - Exposed Run (ITC-ER) 600V MTW Flexing / AWM 2587 | | |
| Capacitance | 26 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 10.15 Ω /kft* | | |
| Impedance | 61.0 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Gray Thermoplastic Elastomer (TPE) - sunlight & oil resistant | Approvals** | UL (E57497), CSA (90458) |
| Conductor Insulation | 0.011 Inch, PVC + 0.005 Inch, NYLON | Sample Print Legend | Southwire EXXXXX (UL) Type PLTC-ER XXAWG (XXmm ²) XX/C PVC/Nylon 90C Sun Res Oil Res I/II -40C or ITC-ER or MTW Flexing 600V or AWM 2587 or -- LLXXXXXX CSA AWM I/II A/B 105C 600V -40C FT4 -- CE RoHS -2 Made in USA Sequential Footage |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL1685, UL MTW NFPA 79 2007 | | |
| Oil Resistance | Oil Res I & II | | |

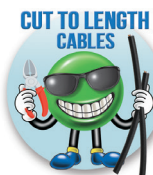
* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 20 Gauge Multi-Conductor Flexible Control Cable (Unshielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| V30156-1 | 3 | 20 | 10 | 16 | 47 | 0.26 | 1.12 | 20 | 0.04 | \$0.63 |
| V30158-1 | 4 | | | | | 0.28 | 1.24 | 20 | 0.04 | \$0.76 |
| V30160-1 | 5 | | | | | 0.30 | 1.32 | 20 | 0.05 | \$0.86 |
| V30162-1 | 7 | | | | 62 | 0.33 | 1.44 | 20 | 0.06 | \$1.05 |
| V30164-1 | 9 | | | | | 0.41 | 1.64 | 20 | 0.09 | \$1.49 |
| V30186-1 | 12 | | | | | 0.45 | 1.84 | 20 | 0.11 | \$1.85 |
| V30188-1 | 18 | | | | | 0.52 | 2.20 | 20 | 0.15 | \$2.54 |
| V30190-1 | 25 | | | | | 0.60 | 2.56 | 20 | 0.20 | \$3.48 |

* Installed bend radius $\geq 4 \times$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

18 Gauge Multi-Conductor Flexible Control Cable (Unshielded)

| 18 Gauge Multi-Conductor Flexible Control Cable Specifications (Unshielded) | | | | | |
|---|---|---------------------|--|--|--|
| Conductor Gauge & Stranding | 18AWG 16/30 bare copper, Class K | | Applicable Standards | ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors ASTM B174 Standard Specification for Bunch-Stranded Copper UL 13 Power-Limited Circuit Cables UL 66 Fixture Wire Type TFFN (for sizes 18 and 16 AWG) UL 758 AWM Style 2587 UL 1063 Machine Tool Wiring (MTW) UL 1277 TC-ER UL 1690 Data Processing Cable (DP-1) UL 2250 Instrumentation Tray Cable UL 2277 Type WTTTC CSA C22.2 No.230 Tray Cables - Rated TC CSA C22.2 No. 239 Control and instrumentation cables ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive NFPA 79 Electrical Standard for Industrial Machinery Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661 | |
| Voltage Rating | 600V (Type TC-ER) | | | | |
| | 1000V (Type WTTTC) | | | | |
| | 1000V (UL/CSA AWM) | | | | |
| Capacitance | 28.2 pF/ft Nom. Conductor to Conductor | | | | |
| Resistance | 6.53 Ω/kft* | | | | |
| Impedance | 55.0 Ω | | | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | | | |
| Jacket Material | Flexible Gray Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | Approvals** | UL (E75755), CSA (90458) | | |
| Min. Bend Radius | 4x diameter | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE | | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 | | | | |
| | UL1685, UL MTW NFPA 79 2007 | | | | |
| Oil Resistance | Oil Res I & II | | | | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 18 Gauge Multi-Conductor Flexible Control Cable (Unshielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| V40166-1 | 3 | 18 | 16 | 20 | 45 | 0.28 | 1.12 | 20 | 0.05 | \$0.72 |
| V40168-1 | 4 | | | | | 0.31 | 1.24 | 20 | 0.06 | \$0.88 |
| V40170-1 | 5 | | | | | 0.33 | 1.32 | 20 | 0.07 | \$1.05 |
| V40172-1 | 7 | | | | | 0.36 | 1.44 | 20 | 0.09 | \$1.40 |
| V40174-1 | 9 | | | | | 0.41 | 1.64 | 20 | 0.11 | \$1.48 |
| V40176-1 | 12 | | | | | 0.46 | 1.84 | 20 | 0.14 | \$2.10 |
| V40178-1 | 18 | | | | 45 | 0.55 | 2.20 | 20 | 0.21 | \$2.92 |
| V40180-1 | 25 | | | | 60 | 0.64 | 2.56 | 20 | 0.25 | \$3.90 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16 Gauge Multi-Conductor Flexible Control Cable (Unshielded)

| 16 Gauge Multi-Conductor Flexible Control Cable Specifications (Unshielded) | | | | |
|---|---|-------------|--------------------------|---|
| Conductor Gauge & Stranding | 16AWG 26/30 bare copper, Class K | | Applicable Standards | ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors ASTM B174 Standard Specification for Bunch-Stranded Copper UL 13 Power-Limited Circuit Cables UL 66 Fixture Wire Type TFFN (for sizes 18 and 16 AWG) UL 758 AWM Style 2587 UL 1063 Machine Tool Wiring (MTW) UL 1277 TC-ER UL 1690 Data Processing Cable (DP-1) UL 2250 Instrumentation Tray Cable UL 2277 Type WTTTC CSA C22.2 No. 210 Appliance wiring material products I/II A/B (Sizes 16 - 8AWG) CSA C22.2 No.230 Tray Cables - Rated TC CSA C22.2 No. 239 Control and instrumentation cables ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive NFPA 79 Electrical Standard for Industrial Machinery Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661 |
| Voltage Rating | 600V (Type TC-ER) | | | |
| | 1000V (Type WTTTC) | | | |
| | 1000V (UL/CSA AWM) | | | |
| Capacitance | 32.78 pF/ft Nom. Conductor to Conductor | | | |
| Resistance | 4.10 Ω/kft* | | | |
| Impedance | 46.3 Ω | | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | | |
| Jacket Material | Flexible Gray Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | | | |
| Min. Bend Radius | 4x diameter | Approvals** | UL (E75755), CSA (90458) | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 | | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| | UL1685, UL MTW NFPA 79 2007 | | | |
| Oil Resistance | Oil Res I & II | | | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 16 Gauge Multi-Conductor Flexible Control Cable (Unshielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | |
| V50196-1 | 3 | 16 | 26 | 20 | 50 | 0.31 | 1.24 | 20 | 0.06 | \$0.85 |
| V50198-1 | 4 | | | | | 0.34 | 1.36 | 20 | 0.08 | \$1.05 |
| V50200-1 | 5 | | | | | 0.37 | 1.48 | 20 | 0.09 | \$1.23 |
| V50202-1 | 7 | | | | | 0.40 | 1.60 | 20 | 0.11 | \$1.67 |
| V50206-1 | 9 | | | | | 0.46 | 1.84 | 20 | 0.14 | \$2.06 |
| V50208-1 | 12 | | | | 50 | 0.51 | 2.04 | 20 | 0.20 | \$2.82 |
| V50212-1 | 18 | | | | 65 | 0.62 | 2.48 | 20 | 0.28 | \$4.06 |
| V50214-1 | 25 | | | | | 0.72 | 2.88 | 20 | 0.35 | \$5.61 |
| V50216-1 | 41 | | | | 85 | 0.91 | 3.64 | 20 | 0.56 | \$9.23 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

14 Gauge Multi-Conductor Flexible Control Cable (Unshielded)

| 14 Gauge Multi-Conductor Flexible Control Cable Specifications (Unshielded) | | | |
|---|---|-----------------------------|--|
| Conductor Gauge & Stranding | 14AWG 41/30 bare copper, Class K | Applicable Standards | ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors ASTM B174 Standard Specification for Bunch-Stranded Copper UL 13 Power-Limited Circuit Cables UL 83 Thermoplastic Insulated Wire and Cables (sizes 14 AWG to 10AWG) UL 758 AWM Style 2587 UL 1063 Machine Tool Wiring (MTW) UL 1277 TC-ER UL 1690 Data Processing Cable (DP-1) UL 2250 Instrumentation Tray Cable UL 2277 Type WTTTC CSA C22.2 No. 210 Appliance wiring material products I/II A/B (Sizes 16 - 8AWG) CSA C22.2 No.230 Tray Cables - Rated TC CSA C22.2 No. 239 Control and instrumentation cables ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive NFPA 79 Electrical Standard for Industrial Machinery Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661 |
| Voltage Rating | 600V (Type TC-ER) 1000V (Type WTTTC) 1000V (UL/CSA AWM) | | |
| Capacitance | 37.09 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 2.57 Ω/kft* | | |
| Impedance | 40.0 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Gray Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | Approvals** | UL (E75755), CSA (90458) |
| Min. Bend Radius | 4x diameter | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) C/C TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL1685, UL MTW NFPA 79 2007 | | |
| Oil Resistance | Oil Res I & II | | |

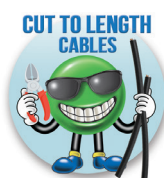
* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 14 Gauge Multi-Conductor Flexible Control Cable (Unshielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| V60127-1 | 3 | 14 | 41 | 20 | 50 | 0.34 | 1.36 | 20 | 0.82 | \$1.19 |
| V60129-1 | 4 | | | | | 0.37 | 1.48 | 20 | 0.11 | \$1.42 |
| V60131-1 | 5 | | | | | 0.41 | 1.64 | 20 | 0.13 | \$1.45 |
| V60133-1 | 7 | | | | | 0.45 | 1.80 | 20 | 0.16 | \$2.52 |
| V60135-1 | 9 | | | | | 0.52 | 2.08 | 20 | 0.21 | \$3.09 |
| V60137-1 | 12 | | | | 65 | 0.60 | 2.40 | 20 | 0.28 | \$4.19 |
| V60139-1 | 18 | | | | | 0.70 | 2.80 | 20 | 0.40 | \$5.71 |
| V60141-1 | 25 | | | | | 0.81 | 3.24 | 20 | 0.57 | \$7.97 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

12 Gauge Multi-Conductor Flexible Control Cable (Unshielded)

| 12 Gauge Multi-Conductor Flexible Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 12AWG 65/30 bare copper, Class K | Applicable Standards | ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors ASTM B174 Standard Specification for Bunch-Stranded Copper UL 13 Power-Limited Circuit Cables UL 83 Thermoplastic Insulated Wire and Cables (sizes 14 AWG to 10AWG) UL 758 AWM Style 2587 UL 1063 Machine Tool Wiring (MTW) UL 1277 TC-ER UL 1690 Data Processing Cable (DP-1) UL 2250 Instrumentation Tray Cable UL 2277 Type WTTTC CSA C22.2 No. 210 Appliance wiring material products I/II A/B (Sizes 16 - 8AWG) CSA C22.2 No.230 Tray Cables - Rated TC CSA C22.2 No. 239 Control and instrumentation cables ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 CE/RoHS-2 - The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive NFPA 79 Electrical Standard for Industrial Machinery Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661 |
| Voltage Rating | 600V (Type TC-ER) 1000V (Type WTTTC) 1000V (UL/CSA AWM) | | |
| Capacitance | 40.4 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 1.62 Ω/kft* | | |
| Impedance | 36.1 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Gray Thermoplastic Elastomer (TPE) - sunlight & oil resistant * | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | Approvals** | UL (E75755), CSA (90458) |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL1685, UL MTW NFPA 79 2007 | | |
| Oil Resistance | Oil Res I & II | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIG/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 12 Gauge Multi-Conductor Flexible Control Cable (Unshielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| V70107-1 | 4 | 12 | 65 | 20 | 50 | 0.43 | 1.72 | 20 | 0.15 | \$2.15 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

10 Gauge Multi-Conductor Flexible Control Cable (Unshielded)

| 10 Gauge Multi-Conductor Flexible Control Cable Specifications (Unshielded) | | | |
|---|---|-----------------------------|--|
| Conductor Gauge & Stranding | 10 AWG 105/30 bare copper, Class K | Applicable Standards | ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors ASTM B174 Standard Specification for Bunch-Stranded Copper UL 13 Power-Limited Circuit Cables UL 83 Thermoplastic Insulated Wire and Cables (sizes 14 AWG to 10AWG) UL 758 AWM Style 2587 UL 1063 Machine Tool Wiring (MTW) UL 1277 TC-ER UL 1690 Data Processing Cable (DP-1) UL 2250 Instrumentation Tray Cable UL 2277 Type WTTTC CSA C22.2 No. 210 Appliance wiring material products I/II A/B (Sizes 16 - 8AWG) CSA C22.2 No.230 Tray Cables - Rated TC CSA C22.2 No. 239 Control and instrumentation cables ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive NFPA 79 Electrical Standard for Industrial Machinery Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661 |
| Voltage Rating | 600V (Type TC-ER) 1000V (Type WTTTC) 1000V (UL/CSA AWM) | | |
| Capacitance | 40.7 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 1.02 Ω/kft* | | |
| Impedance | 35.8 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Gray Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | Approvals** | UL (E75755), CSA (90458) |
| Min. Bend Radius | 4x diameter | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL1685, UL MTW NFPA 79 2007 | | |
| Oil Resistance | Oil Res I & II | | |

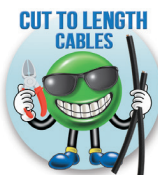
* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 10 Gauge Multi-Conductor Flexible Control Cable | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| V80059-1 | 4 | 10 | 105 | 25 | 50 | 0.50 | 2.00 | 20 | 0.21 | \$3.36 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

18 Gauge Multi-Conductor Flexible Control Cable (Shielded)

| 18 Gauge Multi-Conductor Flexible Control Cable Specifications (Shielded) | | | | |
|---|---|-------------|--------------------------|--|
| Conductor Gauge & Stranding | 18AWG 16/30 bare copper, Class K | | Applicable Standards | ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors ASTM B174 Standard Specification for Bunch-Stranded Copper UL 13 Power-Limited Circuit Cables UL 66 Fixture Wire Type TFFN (for sizes 18 and 16 AWG) UL 758 AWM Style 2587 UL 1063 Machine Tool Wiring (MTW) UL 1277 TC-ER UL 1690 Data Processing Cable (DP-1) UL 2250 Instrumentation Tray Cable UL 2277 Type WTTTC CSA C22.2 No.230 Tray Cables - Rated TC CSA C22.2 No. 239 Control and instrumentation cables ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test Exceeds Ecobal PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive NFPA 79 Electrical Standard for Industrial Machinery Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661 |
| Voltage Rating | 600V (Type TC-ER) | | | |
| | 1000V (Type WTTTC) | | | |
| | 1000V (UL/CSA AWM) | | | |
| Capacitance | 72.02 pF/ft Nom. Conductor to Shield | | | |
| | 40.01 pF/ft Nom. Conductor to Conductor | | | |
| Resistance | 6.53 Ω/kft* | | | |
| Impedance | 53.8 Ω | | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | | |
| Jacket Material | Flexible Gray Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | | |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 85% coverage with 20 AWG drain | | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | | | |
| Min. Bend Radius | 12x diameter | Approvals** | UL (E75755), CSA (90458) | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 | | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| | UL 1685, UL MTW NFPA 79 2007 | | | |
| Oil Resistance | Oil Res I & II | | | |

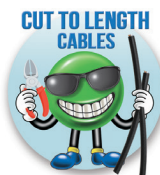
* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 18 Gauge Multi-Conductor Flexible Control Cable (Shielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| MCTC-18-3S-1 | 3 | 18 | 16 | 20 | 47 | 0.30 | 3.60 | 20 | 0.06 | \$1.34 |
| MCTC-18-4S-1 | 4 | | | | | 0.33 | 3.96 | 20 | 0.07 | \$1.50 |
| MCTC-18-5S-1 | 5 | | | | | 0.35 | 4.20 | 20 | 0.08 | \$1.61 |
| MCTC-18-7S-1 | 7 | | | | | 0.38 | 4.56 | 20 | 0.10 | \$2.08 |
| MCTC-18-9S-1 | 9 | | | | | 0.44 | 5.28 | 20 | 0.14 | \$2.27 |
| MCTC-18-12S-1 | 12 | | | | | 0.47 | 5.64 | 20 | 0.16 | \$2.61 |
| MCTC-18-25S-1 | 25 | | | | 62 | 0.66 | 7.92 | 20 | 0.31 | \$4.95 |

* Installed bend radius ≥ 12x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16 Gauge Multi-Conductor Flexible Control Cable (Shielded)

| 16 Gauge Multi-Conductor Flexible Control Cable Specifications (Shielded) | | | |
|---|---|-----------------------------|---|
| Conductor Gauge & Stranding | 16AWG 26/30 bare copper, Class K | Applicable Standards | ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors ASTM B174 Standard Specification for Bunch-Stranded Copper UL 13 Power-Limited Circuit Cables UL 66 Fixture Wire Type TFFN (for sizes 18 and 16 AWG) UL 758 AWM Style 2587 UL 1063 Machine Tool Wiring (MTW) UL 1277 TC-ER UL 1690 Data Processing Cable (DP-1) UL 2250 Instrumentation Tray Cable UL 2277 Type WTTTC CSA C22.2 No. 210 Appliance wiring material products I/II A/B (Sizes 16 - 8AWG) CSA C22.2 No.230 Tray Cables - Rated TC CSA C22.2 No. 239 Control and instrumentation cables ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive NFPA 79 Electrical Standard for Industrial Machinery Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661 |
| Voltage Rating | 600V (Type TC-ER) 1000V (Type WTTTC) 1000V (UL/CSA AWM) | | |
| Capacitance | 85.59 pF/ft Nom. Conductor to Shield 47.55 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 4.10 Ω /kft* | | |
| Impedance | 45.3 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Gray Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 85% coverage with 18 AWG drain | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | | |
| Min. Bend Radius | 12x diameter | Approvals** | UL (E75755), CSA (90458) |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL1685, UL MTW NFPA 79 2007 | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| Oil Resistance | Oil Res I & II | | |

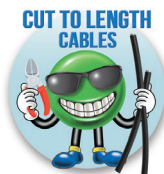
* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 16 Gauge Multi-Conductor Flexible Control Cable (Shielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| MCTC-16-3S-1 | 3 | 16 | 26 | 20 | 47 | 0.33 | 3.96 | 20 | 0.08 | \$1.56 |
| MCTC-16-4S-1 | 4 | | | | | 0.36 | 4.32 | 20 | 0.10 | \$1.74 |
| MCTC-16-5S-1 | 5 | | | | | 0.39 | 4.68 | 20 | 0.11 | \$2.07 |
| MCTC-16-7S-1 | 7 | | | | | 0.42 | 5.04 | 20 | 0.14 | \$2.48 |
| MCTC-16-9S-1 | 9 | | | | | 0.49 | 5.88 | 20 | 0.18 | \$3.00 |
| MCTC-16-12S-1 | 12 | | | | 73 | 0.56 | 6.72 | 20 | 0.28 | \$4.04 |
| MCTC-16-25S-1 | 25 | | | | 76 | 0.75 | 9.00 | 20 | 0.41 | \$6.91 |

* Installed bend radius $\geq 12x$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

14 Gauge Multi-Conductor Flexible Control Cable (Shielded)

| 14 Gauge Multi-Conductor Flexible Control Cable Specifications (Shielded) | | | | |
|---|--|-------------|--------------------------|--|
| Conductor Gauge & Stranding | 14AWG 41/30 bare copper, Class K | | Applicable Standards | ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors ASTM B174 Standard Specification for Bunch-Stranded Copper UL 13 Power-Limited Circuit Cables UL 83 Thermoplastic Insulated Wire and Cables (sizes 14 AWG to 10AWG) UL 758 AWM Style 2587 UL 1063 Machine Tool Wiring (MTW) UL 1277 TC-ER UL 1690 Data Processing Cable (DP-1) UL 2250 Instrumentation Tray Cable UL 2277 Type WTTTC CSA C22.2 No. 210 Appliance wiring material products I/II A/B (Sizes 16 - 8AWG) CSA C22.2 No.230 Tray Cables - Rated TC CSA C22.2 No. 239 Control and instrumentation cables ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive NFPA 79 Electrical Standard for Industrial Machinery Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661 |
| Voltage Rating | 600V (Type TC-ER) | | | |
| | 1000V (Type WTTTC) | | | |
| | 1000V (UL/CSAAWM) | | | |
| Capacitance | 99.09 pF/ft Nom. Conductor to Shield | | | |
| | 55.05 pF/ft Nom. Conductor to Conductor | | | |
| Resistance | 2.57 Ω/kft* | | | |
| Impedance | 39.1 Ω | | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | | |
| Jacket Material | Flexible Gray Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | | |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 85% coverage with 16 AWG drain | | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | | | |
| Min. Bend Radius | 12x diameter | Approvals** | UL (E75755), CSA (90458) | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 | | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 – CE |
| | UL1685, UL MTW NFPA 79 2007 | | | |
| Oil Resistance | Oil Res I & II | | | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 14 Gauge Multi-Conductor Flexible Control Cable (Shielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| MCTC-14-3S-1 | 3 | 14 | 41 | 20 | 47 | 0.36 | 4.32 | 20 | 0.10 | \$2.01 |
| MCTC-14-4S-1 | 4 | | | | | 0.40 | 4.80 | 20 | 0.13 | \$2.44 |
| MCTC-14-7S-1 | 7 | | | | | 0.47 | 5.64 | 20 | 0.20 | \$3.25 |

* Installed bend radius ≥ 12x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

12 Gauge Multi-Conductor Flexible Control Cable (Shielded)

| 12 Gauge Multi-Conductor Flexible Control Cable Specifications (Shielded) | | | |
|---|--|-----------------------------|---|
| Conductor Gauge & Stranding | 12AWG 65/30 bare copper, Class K | Applicable Standards | ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors ASTM B174 Standard Specification for Bunch-Stranded Copper UL 13 Power-Limited Circuit Cables UL 83 Thermoplastic Insulated Wire and Cables (sizes 14 AWG to 10AWG) UL 758 AWM Style 2587 UL 1063 Machine Tool Wiring (MTW) UL 1277 TC-ER UL 1690 Data Processing Cable (DP-1) UL 2250 Instrumentation Tray Cable UL 2277 Type WTTC CSA C22.2 No. 210 Appliance wiring material products I/II A/B (Sizes 16 - 8AWG) CSA C22.2 No.230 Tray Cables - Rated TC CSA C22.2 No. 239 Control and instrumentation cables ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive NFPA 79 Electrical Standard for Industrial Machinery Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661 |
| Voltage Rating | 600V (Type TC-ER) 1000V (Type WTTC) 1000V (UL/CSA AWM) | | |
| Capacitance | 109.85 pF/ft Nom. Conductor to Shield 61.03 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 1.62 Ω /kft* | | |
| Impedance | 35.5 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Gray Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 85% coverage with 14 AWG drain | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | | |
| Min. Bend Radius | 12x diameter | Approvals** | UL (E75755), CSA (90458) |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL1685, UL MTW NFPA 79 2007 | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| Oil Resistance | Oil Res I & II | | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 12 Gauge Multi-Conductor Flexible Control Cable (Shielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| MCTC-12-4S-1 | 4 | 12 | 65 | 25 | 47 | 0.44 | 5.28 | 20 | 0.18 | \$2.98 |

* Installed bend radius \geq 12x diameter

** See web store for maximum cut lengths



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

10 Gauge Multi-Conductor Flexible Control Cable (Shielded)

| 10 Gauge Multi-Conductor Flexible Control Cable Specifications (Shielded) | | | | |
|---|--|---------------------|---|---|
| Conductor Gauge & Stranding | 10AWG 105/30 bare copper, Class K | | Applicable Standards | ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors ASTM B174 Standard Specification for Bunch-Stranded Copper UL 13 Power-Limited Circuit Cables UL 83 Thermoplastic Insulated Wire and Cables (sizes 14 AWG to 10AWG) UL 758 AWM Style 2587 UL 1063 Machine Tool Wiring (MTW) UL 1277 TC-ER UL 1690 Data Processing Cable (DP-1) UL 2250 Instrumentation Tray Cable UL 2277 Type WTTC CSA C22.2 No. 210 Appliance wiring material products I/II A/B (Sizes 16 - 8AWG) CSA C22.2 No.230 Tray Cables - Rated TC CSA C22.2 No. 239 Control and instrumentation cables ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive NFPA 79 Electrical Standard for Industrial Machinery Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661 |
| Voltage Rating | 600V (Type TC-ER) | | | |
| | 1000V (Type WTTC) | | | |
| | 1000V (UL/CSAAWM) | | | |
| Capacitance | 110.83 pF/ft Nom. Conductor to Shield | | | |
| | 61.57 pF/ft Nom. Conductor to Conductor | | | |
| Resistance | 1.02 Ω/kft* | | | |
| Impedance | 35.0 Ω | | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | | |
| Jacket Material | Flexible Gray Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | | |
| Shield | Overall aluminized polyester foil shield 100% coverage & tinned copper braid 85% coverage with 12 AWG drain | | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | | |
| Conductor Markings | #1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | | | |
| Min. Bend Radius | 12x diameter | Approvals** | UL (E75755), CSA (90458) | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE | |
| | UL1685, UL MTW NFPA 79 2007 | | | |
| Oil Resistance | Oil Res I & II | | | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 10 Gauge Multi-Conductor Flexible Control Cable (Shielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | | | | |
| MCTC-10-4S-1 | 4 | 10 | 105 | 25 | 62 | 0.56 | 6.72 | 20 | 0.32 | \$4.77 |

* Installed bend radius ≥ 12x diameter

** See web store for maximum cut lengths



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Power Machine Tray Cable



Overview

Power Machine Tray Cable from Southwire is available in sizes from 18AWG to 8AWG with 3 to 25 unshielded conductors. Individual conductors are bare copper and stranded for flexibility, with black PVC/Nylon insulation and marked with numbers for easy identification. A convenient ground conductor is included in the conductor count of each cable and has insulation that is green with a yellow stripe. The cable's outer jacket is a flexible, premium grade Thermoplastic Elastomer (TPE) that is resistant to sunlight, oil, and moisture penetration, making these cables suitable for wet and dry locations as well as outdoors. Although not suitable for continuous flexing applications, these cables are ideal for both stationary and flexible applications with limited mechanical stress and free movement without any tensile stress, loads or forced movements.

With multiple ratings and approvals, Southwire Power Machine Tray Cable has the versatility to meet a wide range of industrial applications. Given its Tray Cable Exposed Run rating, UL Type TC-ER, our cable can be installed between a cable tray and the utilization equipment or device without the need for metal conduit and/or armor resulting in installation and maintenance savings. With the Machine Tool Wire rating, UL Type MTW, these cables meet NFPA 79, Electrical Standard for Industrial Machinery. Other ratings and approvals include Wind Turbine Tray Cable UL Type WTTC, Class 1 Division 2 Hazardous Locations and Direct Burial. Cut to length in 1 foot increments with a 20 foot minimum length.

Features

- 18AWG to 8AWG, 3 to 25 conductors including a ground
- Individual conductors have black PVC/Nylon insulation and are marked with identification numbers
- Rugged Thermoplastic Elastomer (TPE) outer jacket
- Green/yellow ground wire included
- Multiple ratings and approvals include Type TC-ER (eliminates need for conduit/armor), Type MTW (meets NFPA 79), WTTC, Class 1 Division 2, Direct Burial, Wet and Dry Location, Oil Resistant, Sunlight Resistant
- Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862
- Flexibility for easy installation
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- Made in the USA



Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable




18 Gauge Multi-Conductor Power/Control Cable (Unshielded)

| 18 Gauge Multi-Conductor Flexible Power/Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 18AWG 16/30 bare copper, Class K | Applicable Standards | ASTM B3, B172, B174 UL 1277 - Type TC-ER UL 2277 - Type WTTTC UL 1063 - Machine Tool Wiring (MTW) UL 1690 - Data Processing Cable (DP-1) UL 758 - AWM Style 20886 C22.2 NO. 230 - c(UL) Type TC CSA 22.2 No. 239 - c(UL) Type CIC CSA C22.2 No. 210 - CSA AWM I/II A/B Class 1 Division II per NEC 336, 501, 502 Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 |
| Voltage Rating | 600V (Type TC-ER) 1000V (Type WTTTC) 1000V (UL/CSAAWM) | | |
| Capacitance | 28.2 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 6.53 Ω/kft* | | |
| Impedance | 55.0 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Black Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | Approvals** | UL (E75755), CSA (90458) |
| Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| Cold Impact | -40°C (-40°F) per UL 1277 | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL1685, UL MTW NFPA 79 2007 | | |
| Oil Resistance | Oil Res I & II | | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 18 Gauge Multi-Conductor Flexible Power/Control Cable (Unshielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| PMTC-18U-3BK-1 | 3 | 18 | 16 | 20 | 45 | 0.28 | 1.12 | 20 | 0.05 | \$0.70 |
| PMTC-18U-4BK-1 | 4 | | | | | 0.31 | 1.24 | 20 | 0.06 | \$0.77 |
| PMTC-18U-5BK-1 | 5 | | | | | 0.33 | 1.32 | 20 | 0.07 | \$1.06 |
| PMTC-18U-7BK-1 | 7 | | | | | 0.36 | 1.44 | 20 | 0.09 | \$1.31 |
| PMTC-18U-9BK-1 | 9 | | | | | 0.41 | 1.64 | 20 | 0.11 | \$1.59 |
| PMTC-18U-12BK-1 | 12 | | | | | 0.46 | 1.84 | 20 | 0.14 | \$1.91 |
| PMTC-18U-25BK-1 | 25 | | | | 60 | 0.64 | 2.56 | 20 | 0.25 | \$3.90 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible power/control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16 Gauge Multi-Conductor Power/Control Cable (Unshielded)

| 16 Gauge Multi-Conductor Flexible Power/Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|---|
| Conductor Gauge & Stranding | 16AWG 26/30 bare copper, Class K | Applicable Standards | ASTM B3, B172, B174 UL 1277 - Type TC-ER UL 2277 - Type WTTC UL 1063 - Machine Tool Wiring (MTW) UL 1690 - Data Processing Cable (DP-1) UL 758 - AWM Style 20886 C22.2 NO. 230 - c(UL) Type TC CSA 22.2 No. 239 - c(UL) Type CIC CSA C22.2 No. 210 - CSA AWM I/II A/B Class 1 Division II per NEC 336, 501, 502 Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 |
| Voltage Rating | 600V (Type TC-ER) 1000V (Type WTTC) 1000V (UL/CSAAWM) | | |
| Capacitance | 32.78 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 4.10 Ω /kft* | | |
| Impedance | 46.3 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Black Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | Approvals** | UL (E75755), CSA (90458) |
| Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| Cold Impact | -40°C (-40°F) per UL 1277 | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL1685, UL MTW NFPA 79 2007 | | |
| Oil Resistance | Oil Res I & II | | |

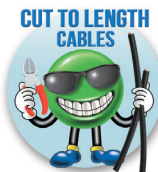
* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 16 Gauge Multi-Conductor Flexible Power/Control Cable (Unshielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| PMTC-16U-3BK-1 | 3 | 16 | 26 | 20 | 50 | 0.31 | 1.24 | 20 | 0.06 | \$0.85 |
| PMTC-16U-4BK-1 | 4 | | | | | 0.34 | 1.36 | 20 | 0.08 | \$1.01 |
| PMTC-16U-5BK-1 | 5 | | | | | 0.37 | 1.48 | 20 | 0.09 | \$1.23 |
| PMTC-16U-9BK-1 | 9 | | | | | 0.46 | 1.84 | 20 | 0.14 | \$2.05 |
| PMTC-16U-12BK-1 | 12 | | | | 50 | 0.51 | 2.04 | 20 | 0.20 | \$2.80 |

* Installed bend radius $\geq 4x$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible power/control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

14 Gauge Multi-Conductor Power/Control Cable (Unshielded)

| 14 Gauge Multi-Conductor Flexible Power/Control Cable Specifications (Unshielded) | | | |
|---|---|-----------------------------|---|
| Conductor Gauge & Stranding | 14AWG 41/30 bare copper, Class K | Applicable Standards | ASTM B3, B172, B174 UL 1277 - Type TC-ER UL 2277 - Type WTTC UL 1063 - Machine Tool Wiring (MTW) UL 1690 - Data Processing Cable (DP-1) UL 758 - AWM Style 20886 C22.2 NO. 230 - c(UL) Type TC CSA 22.2 No. 239 - c(UL) Type CIC CSA C22.2 No. 210 - CSA AWM I/II A/B Class 1 Division II per NEC 336, 501, 502 Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 |
| Voltage Rating | 600V (Type TC-ER) 1000V (Type WTTC) 1000V (UL/CSA AWM) | | |
| Capacitance | 37.09 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 2.57 Ω /kft* | | |
| Impedance | 40.0 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Black Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | Approvals** | UL (E75755), CSA (90458) |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | Sample Print Legend | Southwire XXAWG (XXmm ²) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| Cold Impact | -40°C (-40°F) per UL 1277 | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL1685, UL MTW NFPA 79 2007 | | |
| Oil Resistance | Oil Res I & II | | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 14 Gauge Multi-Conductor Flexible Power/Control Cable (Unshielded) | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| PMTC-14U-3BK-1 | 3 | 14 | 41 | 20 | 50 | 0.34 | 1.36 | 20 | 0.82 | \$1.19 |
| PMTC-14U-4BK-1 | 4 | | | | | 0.37 | 1.48 | 20 | 0.11 | \$1.49 |
| PMTC-14U-9BK-1 | 9 | | | | | 0.52 | 2.08 | 20 | 0.21 | \$3.09 |
| PMTC-14U-12BK-1 | 12 | | | | 65 | 0.60 | 2.40 | 20 | 0.28 | \$4.19 |
| PMTC-14U-18BK-1 | 18 | | | | | 0.70 | 2.80 | 20 | 0.40 | \$5.75 |

* Installed bend radius $\geq 4x$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible power/control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

12 Gauge Multi-Conductor Power/Control Cable (Unshielded)

| 12 Gauge Multi-Conductor Flexible Power/Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 12AWG 65/30 bare copper, Class K | Applicable Standards | ASTM B3, B172, B174 UL 1277 - Type TC-ER UL 2277 - Type WTTTC UL 1063 - Machine Tool Wiring (MTW) UL 1690 - Data Processing Cable (DP-1) UL 758 - AWM Style 20886 C22.2 NO. 230 - c(UL) Type TC CSA 22.2 No. 239 - c(UL) Type CIC CSA C22.2 No. 210 - CSA AWM I/II A/B Class 1 Division II per NEC 336, 501, 502 Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 |
| Voltage Rating | 600V (Type TC-ER) 1000V (Type WTTTC) 1000V (UL/CSA AWM) | | |
| Capacitance | 40.4 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 1.62 Ω /kft* | | |
| Impedance | 36.1 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Black Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | Approvals** | UL (E75755), CSA (90458) |
| Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| Cold Impact | -40°C (-40°F) per UL 1277 | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL1685, UL MTW NFPA 79 2007 | | |
| Oil Resistance | Oil Res I & II | | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 12 Gauge Multi-Conductor Flexible Power/Control Cable (Unshielded) | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| PMTC-12U-3BK-1 | 3 | 12 | 65 | 20 | 50 | 0.39 | 1.56 | 20 | 0.11 | \$1.92 |
| PMTC-12U-4BK-1 | 4 | | | | | 0.42 | 1.68 | 20 | 0.15 | \$2.27 |
| PMTC-12U-5BK-1 | 5 | | | | | 0.46 | 1.85 | 20 | 0.18 | \$2.72 |
| PMTC-12U-7BK-1 | 7 | | | | | 0.50 | 2.01 | 20 | 0.23 | \$3.78 |

* Installed bend radius $\geq 4x$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible power/control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

10 Gauge Multi-Conductor Power/Control Cable (Unshielded)

| 10 Gauge Multi-Conductor Flexible Power/Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|---|
| Conductor Gauge & Stranding | 10 AWG 105/30 bare copper, Class K | Applicable Standards | ASTM B3, B172, B174 UL 1277 - Type TC-ER UL 2277 - Type WTTC UL 1063 - Machine Tool Wiring (MTW) UL 1690 - Data Processing Cable (DP-1) UL 758 - AWM Style 20886 C22.2 NO. 230 - c(UL) Type TC CSA 22.2 No. 239 - c(UL) Type CIC CSA C22.2 No. 210 - CSA AWM I/II A/B Class 1 Division II per NEC 336, 501, 502 Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 |
| Voltage Rating | 600V (Type TC-ER) 1000V (Type WTTC) 1000V (UL/CSA AWM) | | |
| Capacitance | 40.7 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 1.02 Ω/kft* | | |
| Impedance | 35.8 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Black Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | | |
| Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | Approvals** | UL (E75755), CSA (90458) |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | |
| Cold Impact | -40°C (-40°F) per UL 1277 | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL 1685, UL MTW NFPA 79 2007 | | |
| Oil Resistance | Oil Res I & II | | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 10 Gauge Multi-Conductor Flexible Power/Control Cable | | | | | | | | | | |
|--|--|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| PMTC-10U-4BK-1 | 4 | 10 | 105 | 25 | 50 | 0.50 | 2.00 | 20 | 0.21 | \$3.36 |
| PMTC-10U-5BK-1 | 5 | | | | | 0.53 | 2.12 | 20 | 0.26 | \$4.11 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible power/control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

8 Gauge Multi-Conductor Power/Control Cable (Unshielded)

| 8 Gauge Multi-Conductor Flexible Power/Control Cable Specifications (Unshielded) | | | |
|--|--|-----------------------------|--|
| Conductor Gauge & Stranding | 8 AWG 168/30 bare copper, Class K | Applicable Standards | ASTM B3, B172, B174 UL 1277 - Type TC-ER UL 2277 - Type WTTTC UL 1063 - Machine Tool Wiring (MTW) UL 1690 - Data Processing Cable (DP-1) UL 758 - AWM Style 20886 C22.2 NO. 230 - c(UL) Type TC CSA 22.2 No. 239 - c(UL) Type CIC CSA C22.2 No. 210 - CSA AWM I/II A/B Class 1 Division II per NEC 336, 501, 502 Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 |
| Voltage Rating | 600V (Type TC-ER) 1000V (Type WTTTC) 1000V (UL/CSA AWM) | | |
| Capacitance | 40.7 pF/ft Nom. Conductor to Conductor | | |
| Resistance | 1.02 Ω /kft* | | |
| Impedance | 35.8 Ω | | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | |
| Jacket Material | Flexible Black Thermoplastic Elastomer (TPE) - sunlight & oil resistant | | |
| Conductor Insulation | 0.015 Inch, PVC + 0.005 Inch, NYLON | Approvals** | UL (E75755), CSA (90458) |
| Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C PVC/Nylon Type TC-ER E75755 (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 - LL90458 CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE |
| Cold Impact | -40°C (-40°F) per UL 1277 | | |
| Min. Bend Radius | 4x diameter | | |
| Flame Rating | FT4, IEEE 1202/383, ICEA T-29-520 UL1685, UL MTW NFPA 79 2007 | | |
| Oil Resistance | Oil Res I & II | | |

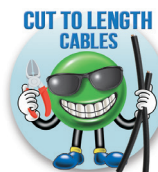
* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 8 Gauge Multi-Conductor Flexible Power/Control Cable | | | | | | | | | | |
|---|--|-----|--------|---|---------------------------------|-----------------------------------|--|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) * | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| PMTC-8U-4BK-1 | 4 | 8 | 168 | 37 | 70 | 0.68 | 2.72 | 20 | 0.37 | \$4.97 |

* Installed bend radius $\geq 4x$ diameter

** See web store for maximum cut lengths



Please Note: Our prices on flexible power/control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Quabbin 600 Volt Control Cable



Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable



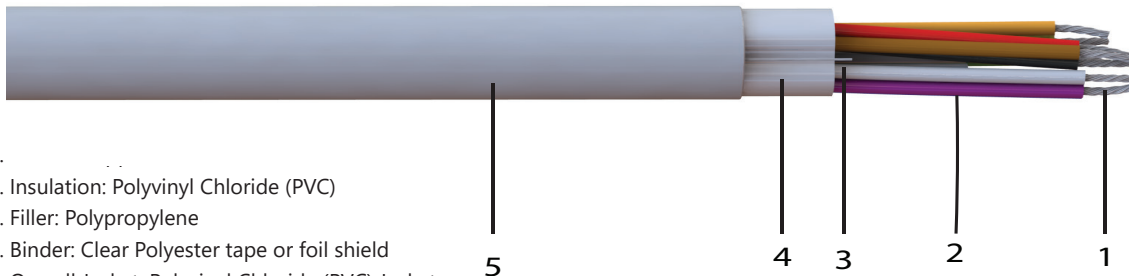
Overview

Quabbin 600 Volt control cables from AutomationDirect are suited for use in control panels, conduits, and where superior electrical properties are desired. Quabbin's 600 Volt Control Cable provide significant cost and space savings and are designed for 600V, 105C maximum ambient temperature, internal or external interconnection for industrial controls and instrumentation, HVAC controls, appliance controls, and mixed voltage/signal environments.

Features

- 20AWG to 14AWG, 2 to 25 conductors
- Shielded and Unshielded constructions
- UL Appliance Wiring Material (AWM) style 2586
- Color coded Polyvinyl Chloride (PVC) conductor insulation
- Polyvinyl Chloride (PVC) Jacket
- Reduced diameter for space savings in panels and conduits.
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- Made in the USA

| Control Cable Conductor Identification | | | | | |
|--|---------------|--------|------------------|---------------|--------------|
| Conductor Number | Primary Color | Stripe | Conductor Number | Primary Color | Stripe |
| 1 | Black | — | 14 | White | Orange |
| 2 | Brown | — | 15 | White | Yellow |
| 3 | Red | — | 16 | White | Green |
| 4 | Orange | — | 17 | White | Blue |
| 5 | Yellow | — | 18 | White | Violet |
| 6 | Green | — | 19 | White | Gray |
| 7 | Blue | — | 20 | White | Black/Brown |
| 8 | Violet | — | 21 | White | Black/Red |
| 9 | Gray | — | 22 | White | Black/Orange |
| 10 | White | — | 23 | White | Black/Yellow |
| 11 | White | Black | 24 | White | Black/Green |
| 12 | White | Brown | 25 | White | Black/Blue |
| 13 | White | Red | | | |




- 1. Conductor Insulation
- 2. Insulation: Polyvinyl Chloride (PVC)
- 3. Filler: Polypropylene
- 4. Binder: Clear Polyester tape or foil shield
- 5. Overall Jacket: Polyvinyl Chloride (PVC) Jacket

20 Gauge Cable (Unshielded)

| 20 Gauge 600 Volt Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|---|
| Conductor Gauge & Stranding | 20AWG 7/28 stranded tinned copper | Applicable Standards | UL Appliance Wiring Material (AWM) style 2586 UL VW-1 UL 1581 Flame Tested CSA FT-4 Flame Tested |
| Voltage Rating | 600V | | |
| Resistance | 10.4 Ω /1000ft | | |
| Operating Temperature | -20°C to 105 °C (-4°F to 221°F) | | |
| Jacket Material | Polyvinyl Chloride (PVC) jacket, Chrome Gray | | |
| Conductor Insulation | 0.016 Inch, PVC | | |
| Filler | Polypropylene filler | | |
| Binder | Clear Polyester binder tape | | |
| Conductor Markings | Color coded conductors** | Approvals* | UR E69976 |
| Temperature Rating | 105°C | | |
| Flame Rating | FT4 | | |
| | | Sample Print Legend | 600V-TROL® E69976 AWM 2586 VW-1 -- CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |

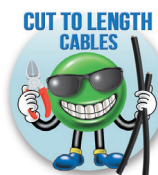
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on overview page of this section

| 20 Gauge 600 Volt Control Cable (Unshielded) | | | | | | | | | | |
|--|----------------------|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|---------------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/1,000ft) | Price per foot |
|  | | | | | | | | | | |
| CC600-20-3U-1 | 3 | 20 | 7 | 16 | 32 | 0.218 | 2.18 | 20 | 27 | \$0.50 |
| CC600-20-4U-1 | 4 | | | | | 0.236 | 2.36 | 20 | 33.3 | \$0.59 |
| CC600-20-9U-1 | 9 | | | | | 0.323 | 3.23 | 20 | 65.1 | \$1.16 |
| CC600-20-12U-1 | 12 | | | | | 0.351 | 3.51 | 20 | 81.2 | \$1.32 |
| CC600-20-15U-1 | 15 | | | | | 0.395 | 3.95 | 20 | 99.8 | \$1.68 |
| CC600-20-19U-1 | 19 | | | | | 0.417 | 4.17 | 20 | 121 | \$1.93 |
| CC600-20-25U-1 | 25 | | | | | 0.498 | 4.98 | 20 | 156.8 | \$2.49 |

* Installed bend radius $\geq 10 \times$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

18 Gauge Cable (Unshielded)

| 18 Gauge 600 Volt Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 18AWG 16/30 stranded tinned copper | Applicable Standards | UL Appliance Wiring Material (AWM) style 2586 UL VW-1 UL 1581 Flame Tested CSA FT-4 Flame Tested |
| Voltage Rating | 600V | | |
| Resistance | 7.15 Ω /1000ft | | |
| Operating Temperature | -20°C to 105°C (-4°F to 221°F) | | |
| Jacket Material | Polyvinyl Chloride (PVC) jacket, Chrome Gray | | |
| Conductor Insulation | 0.016 Inch, PVC | | |
| Filler | Polypropylene filler | | |
| Binder | Clear Polyester binder tape | | |
| Conductor Markings | Color coded conductors** | Approvals* | UR E69976 |
| Temperature Rating | 105°C | | |
| Flame Rating | FT4 | | |
| | | Sample Print Legend | 600V-TROL® E69976 AWM 2586 VW-1 -- CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |

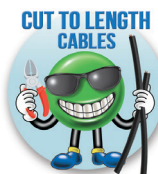
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on overview page of this section

| 18 Gauge 600 Volt Control Cable (Unshielded) | | | | | | | | | | |
|---|----------------------|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|--------------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/1000ft) | Price per foot |
|  | | | | | | | | | | |
| CC600-18-2U-1 | 2 | 18 | 16 | 16 | 32 | 0.221 | 2.21 | 20 | 28.1 | \$0.42 |
| CC600-18-3U-1 | 3 | | | | | 0.223 | 2.23 | 20 | 34.7 | \$0.50 |
| CC600-18-4U-1 | 4 | | | | | 0.253 | 2.53 | 20 | 41.2 | \$0.61 |
| CC600-18-5U-1 | 5 | | | | | 0.275 | 2.75 | 20 | 52.2 | \$0.75 |
| CC600-18-7U-1 | 7 | | | | | 0.298 | 2.98 | 20 | 64.6 | \$0.93 |
| CC600-18-9U-1 | 9 | | | | | 0.348 | 3.48 | 20 | 83.1 | \$1.18 |
| CC600-18-15U-1 | 15 | | | | | 0.428 | 4.28 | 20 | 131.8 | \$2.05 |
| CC600-18-19U-1 | 19 | | | | | 0.452 | 4.52 | 20 | 156 | \$2.59 |
| CC600-18-25U-1 | 25 | | | | | 0.541 | 5.41 | 20 | 205.5 | \$2.75 |

* Installed bend radius $\geq 10 \times$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16 Gauge Cable (Unshielded)

| 16 Gauge 600 Volt Control Cable Specifications (Unshielded) | | | | |
|---|--|----------------------|--|--|
| Conductor Gauge & Stranding | 16AWG 19/0.117 stranded tinned copper | Applicable Standards | UL Appliance Wiring Material (AWM) style 2586 UL VW-1 UL 1581 Flame Tested CSA FT-4 Flame Tested | |
| Voltage Rating | 600V | | | |
| Resistance | 4.82 Ω/1000ft | | | |
| Operating Temperature | -20°C to 105°C (-4°F to 221°F) | | | |
| Jacket Material | Polyvinyl Chloride (PVC) jacket, Chrome Gray | | | |
| Conductor Insulation | 0.016 Inch, PVC | | | |
| Filler | Polypropylene filler | | | |
| Binder | Clear Polyester binder tape | | | |
| Conductor Markings | Color coded conductors** | | | |
| Temperature Rating | 105°C | Approvals* | UR E69976 | |
| Flame Rating | FT4 | Sample Print Legend | 600V-TROL® E69976 AWM 2586 VW-1 -- CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) | |

* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on overview page of this section

| 16 Gauge 600 Volt Control Cable (Unshielded) | | | | | | | | | | |
|--|----------------------|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|--------------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/1000ft) | Price per foot |
|  | | | | | | | | | | |
| CC600-16-4U-1 | 4 | 16 | 19 | 16 | 32 | 0.282 | 2.82 | 20 | 58.4 | \$1.14 |
| CC600-16-5U-1 | 5 | | | | | 0.307 | 3.07 | 20 | 72 | \$1.38 |
| CC600-16-7U-1 | 7 | | | | | 0.334 | 3.34 | 20 | 91.1 | \$1.88 |
| CC600-16-9U-1 | 9 | | | | | 0.392 | 3.92 | 20 | 115.2 | \$2.36 |
| CC600-16-12U-1 | 12 | | | | | 0.427 | 4.27 | 20 | 148.8 | \$3.09 |
| CC600-16-15U-1 | 15 | | | | | 0.484 | 4.84 | 20 | 182.6 | \$3.46 |
| CC600-16-19U-1 | 19 | | | | | 0.512 | 5.12 | 20 | 225 | \$4.14 |
| CC600-16-25U-1 | 25 | | | | 52 | 0.654 | 6.54 | 20 | 318 | \$5.38 |

* Installed bend radius $\geq 10 \times$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

14 Gauge Cable (Unshielded)

| 14 Gauge 600 Volt Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 14AWG 41/30 stranded tinned copper | Applicable Standards | UL Appliance Wiring Material (AWM) style 2586 UL VW-1 UL 1581 Flame Tested CSA FT-4 Flame Tested |
| Voltage Rating | 600V | | |
| Resistance | 2.94 Ω /1000ft | | |
| Operating Temperature | -20°C to 105°C (-4°F to 221°F) | | |
| Jacket Material | Polyvinyl Chloride (PVC) jacket, Chrome Gray | | |
| Conductor Insulation | 0.016 Inch, PVC | | |
| Filler | Polypropylene filler | | |
| Binder | Clear Polyester binder tape | | |
| Conductor Markings | Color coded conductors** | Approvals* | UR E69976 |
| Temperature Rating | 105°C | | |
| Flame Rating | FT4 | | |
| | | Sample Print Legend | 600V-TROL® E69976 AWM 2586 VW-1 -- CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |

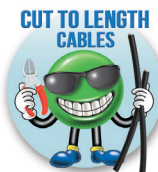
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on overview page of this section

| 14 Gauge 600 Volt Control Cable (Unshielded) | | | | | | | | | | |
|---|----------------------|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|--------------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/1000ft) | Price per foot |
|  | | | | | | | | | | |
| CC600-14-2U-1 | 2 | 14 | 41 | 16 | 32 | 0.271 | 2.71 | 20 | 49.2 | \$1.01 |
| CC600-14-3U-1 | 3 | | | | | 0.286 | 2.86 | 20 | 66.3 | \$1.37 |
| CC600-14-4U-1 | 4 | | | | | 0.314 | 3.14 | 20 | 79.4 | \$1.78 |
| CC600-14-5U-1 | 5 | | | | | 0.342 | 3.42 | 20 | 97.7 | \$2.19 |
| CC600-14-7U-1 | 7 | | | | | 0.373 | 3.73 | 20 | 129 | \$2.96 |

* Installed bend radius $\geq 10 \times$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

18 Gauge Cable (Shielded)

| 18 Gauge 600 Volt Control Cable Specifications (Shielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 18 AWG 16/30 stranded tinned copper | Applicable Standards | UL Appliance Wiring Material (AWM) style 2586 UL VW-1 UL 1581 Flame Tested CSA FT-4 Flame Tested |
| Voltage Rating | 600V | | |
| Resistance | 7.15 Ω /1000ft | | |
| Operating Temperature | -20°C to 105°C (-4°F to 221°F) | | |
| Jacket Material | Polyvinyl Chloride (PVC) jacket, Chrome Gray | | |
| Conductor Insulation | 0.016 Inch, PVC | | |
| Shielding | Overall aluminized polyester foil shield, 100% coverage includes an 18 AWG. stranded tinned copper drain wire. | | |
| Filler | Polypropylene filler | | |
| Binder | Clear Polyester binder tape | | |
| Conductor Markings | Color coded conductors** | | |
| Temperature Rating | 105°C | Approvals* | UR E69976 |
| Flame Rating | FT4 | Sample Print Legend | 600V-TROL® E69976 AWM 2586 VW-1 -- CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |

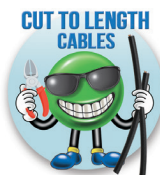
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on overview page of this section

| 18 Gauge 600 Volt Control Cable (Shielded) | | | | | | | | | | |
|---|----------------------|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|--------------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/1000ft) | Price per foot |
|  | | | | | | | | | | |
| CC600-18-3S-1 | 3 | 18 | 16 | 16 | 32 | 0.236 | 2.36 | 20 | 40.7 | \$0.61 |
| CC600-18-4S-1 | 4 | | | | | 0.272 | 2.72 | 20 | 48.2 | \$0.73 |
| CC600-18-5S-1 | 5 | | | | | 0.278 | 2.78 | 20 | 58.2 | \$0.84 |
| CC600-18-7S-1 | 7 | | | | | 0.321 | 3.21 | 20 | 71.8 | \$1.06 |
| CC600-18-9S-1 | 9 | | | | | 0.351 | 3.51 | 20 | 90.6 | \$1.29 |
| CC600-18-12S-1 | 12 | | | | | 0.382 | 3.82 | 20 | 111.5 | \$1.80 |
| CC600-18-19S-1 | 19 | | | | | 0.476 | 4.76 | 20 | 164.7 | \$2.74 |

* Installed bend radius $\geq 10 \times$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16 Gauge Cable (Shielded)

| 16 Gauge 600 Volt Control Cable Specifications (Shielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 16 AWG 19/0.117 stranded tinned copper | Applicable Standards | UL Appliance Wiring Material (AWM) style 2586 UL VW-1 UL 1581 Flame Tested CSA FT-4 Flame Tested |
| Voltage Rating | 600V | | |
| Resistance | 4.82 Ω /1000ft | | |
| Operating Temperature | -20°C to 105°C (-4°F to 221°F) | | |
| Jacket Material | Polyvinyl Chloride (PVC) jacket, Chrome Gray | | |
| Conductor Insulation | 0.016 Inch, PVC | | |
| Shielding | Overall aluminized polyester foil shield, 100% coverage includes an 16 AWG. stranded tinned copper drain wire. | | |
| Filler | Polypropylene filler | | |
| Binder | Clear Polyester binder tape | | |
| Conductor Markings | Color coded conductors** | Approvals* | UR E69976 |
| Temperature Rating | 105°C | | |
| Flame Rating | FT4 | | |
| | | Sample Print Legend | 600V-TROL® E69976 AWM 2586 VW-1 -- CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |

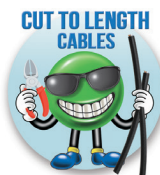
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on overview page of this section

| 16 Gauge 600 Volt Control Cable (Shielded) | | | | | | | | | | |
|--|----------------------|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|--------------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/1000ft) | Price per foot |
|  | | | | | | | | | | |
| <u>CC600-16-3S-1</u> | 3 | 16 | 19 | 0.117 | 32 | 0.276 | 2.76 | 20 | 55.6 | \$1.07 |
| <u>CC600-16-4S-1</u> | 4 | | | | | 0.304 | 3.04 | 20 | 69.9 | \$1.31 |

* Installed bend radius $\geq 10 \times$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

14 Gauge Cable (Shielded)

| 14 Gauge 600 Volt Control Cable Specifications (Shielded) | | | | |
|---|--|----------------------|--|--|
| Conductor Gauge & Stranding | 14 AWG 41/30 stranded tinned copper, Class K | Applicable Standards | UL Appliance Wiring Material (AWM) style 2586 UL VW-1 UL 1581 Flame Tested CSA FT-4 Flame Tested | |
| Voltage Rating | 600V | | | |
| Resistance | 2.94 Ω/1000ft | | | |
| Operating Temperature | -20°C to 105°C (-4°F to 221°F) | | | |
| Jacket Material | Polyvinyl Chloride (PVC) jacket, Chrome Gray | | | |
| Conductor Insulation | 0.020 Inch, PVC | | | |
| Shielding | Overall aluminized polyester foil shield, 100% coverage includes an 14 AWG. stranded tinned copper drain wire. | | | |
| Filler | Polypropylene filler | | | |
| Binder | Clear Polyester binder tape | | | |
| Conductor Markings | Color coded conductors** | | | |
| Temperature Rating | 105°C | Approvals* | UR E69976 | |
| Flame Rating | FT4 | Sample Print Legend | 600V-TROL® E69976 AWM 2586 VW-1 -- CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) | |

* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on overview page of this section

| 14 Gauge 600 Volt Control Cable (Shielded) | | | | | | | | | | |
|---|----------------------|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|--------------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/1000ft) | Price per foot |
|  | | | | | | | | | | |
| CC600-14-4S-1 | 4 | 14 | 41 | 16 | 32 | 0.317 | 3.17 | 20 | 71.4 | \$2.07 |

* Installed bend radius $\geq 10 \times$ diameter

** See web store for maximum cut lengths



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Vinyl Nylon Tray Cable (VNTC) Control Cable



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
for a short introduction on our cut to length cable



Overview

Vinyl Nylon Tray Cable (VNTC) 600 Volt Type TC-ER control cables from AutomationDirect are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, aerial supported by a messenger, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 75°C in wet locations and 90°C in dry locations, 130°C for emergency overload, and 150°C for short circuit conditions. For use in Class I, II, and III, Division 2 hazardous locations per NEC Article 501 and 502. Constructions with 3 or more conductors are listed for exposed runs (TC-ER) per NEC 336.10. Silicone Free

Features

- 18AWG to 10AWG, 3 to 24 conductors
- Unshielded constructions
- Type TC-ER Control Cable 600Volt Copper Conductors
- Polyvinyl Chloride (PVC) with nylon layer Insulation THHN Polyvinyl Chloride (PVC) Jacket
- Control Cable Conductor Identification Method 1 Table 2
- Silicone Free
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- Made in the USA

| Control Cable Conductor Identification Method 1 Table 2* | | | | | |
|--|---------------|--------|------------------|---------------|--------|
| Conductor Number | Primary Color | Stripe | Conductor Number | Primary Color | Stripe |
| 1 | Black | — | 19 | Orange | Blue |
| 2 | Red | — | 20 | Yellow | Blue |
| 3 | Blue | — | 21 | Brown | Blue |
| 4 | Orange | — | 22 | Black | Orange |
| 5 | Yellow | — | 23 | Red | Orange |
| 6 | Brown | — | 24 | Blue | Orange |
| 7 | Red | Black | 25 | Yellow | Orange |
| 8 | Blue | Black | 26 | Brown | Orange |
| 9 | Orange | Black | 27 | Black | Yellow |
| 10 | Yellow | Black | 28 | Red | Yellow |
| 11 | Brown | Black | 29 | Blue | Yellow |
| 12 | Black | Red | 30 | Orange | Yellow |
| 13 | Blue | Red | 31 | Brown | Yellow |
| 14 | Orange | Red | 32 | Black | Brown |
| 15 | Yellow | Red | 33 | Red | Brown |
| 16 | Brown | Red | 34 | Blue | Brown |
| 17 | Black | Blue | 35 | Orange | Brown |
| 18 | Red | Blue | 36 | Yellow | Brown |

* ICEA Method 1 Table 2 does not provide a green or green/yellow conductor for ground




- 1. Conductor: 7 strands class B compressed bare copper per ASTM B3 and ASTM B8 for 14, 12, and 10 AWG cables. 26 strands class K bare copper per ASTM B3 and B174 for 16 AWG cables
- 2. Insulation: Polyvinyl Chloride (PVC) with nylon layer 19 Mils thick for 18, 16, 14, 12 AWG cables and 24 Mils for 10 AWG cables, Type TFFN/TFN for 18 and 16 AWG cable and Type THHN or THWN for 14, 12 and 10 AWG cables
- 3. Filler: Polypropylene filler on cables with 5 or less conductors
- 4. Binder: Polyester flat thread binder tape applied for cables with more than 5 conductors
- 5. Overall Jacket: Polyvinyl Chloride (PVC) Jacket

18 Gauge VNTC Cable (Unshielded)

| 18 Gauge VNTC Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 18AWG 7/26 bare copper, Class K | Applicable Standards | ASTM B3 Standard Specification for Soft or Annealed Copper Wire |
| Voltage Rating | 600V (Type TC-ER) | | ASTM B8 Concentric-Lay-Stranded Copper Conductors |
| Resistance | 6.53 Ω /kft* | | UL 83 Thermoplastic Insulated Wires and Cables Type THHN |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | UL 1277 Electrical Power and Control Tray Cables |
| Jacket Material | Polyvinyl chloride (PVC) jacket | | UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test |
| Conductor Insulation | 0.015 Inch, PVC + 0.004 Inch, NYLON | | ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 2 |
| Filler | Polypropylene filler on cables with 5 or less conductors | | ICEA S-73-532 Standard for Control |
| Binder | Polyester flat thread binder tape applied for cables with more than 5 conductors | | ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy |
| Conductor Markings | Control Cable Conductor Identification Method 1 Table 2 | Approvals** | IEEE 1202 FT4 Vertical Tray Flame Test (70,000 Btu/hr) and ICEA T-29-520 - (210,000 Btu/hr) |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | UL (E75755) |
| Flame Rating | FT4 | Sample Print Legend | SOUTHWIRE EXXXXX #P# (UL) [#AWG Or #kcmil] CU THHN PVC/PVC 600V Type TC-ER For CT USE SUN. RES. For DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS] |

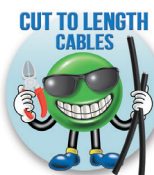
* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 18 Gauge VNTC Cable (Unshielded) | | | | | | | | | | |
|--|----------------------|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| VNTC-18-3-BK-1 | 3 | 18 | 7 | 15 | 45 | 0.350 | 1.1 | 20 | 0.05 | \$0.43 |
| VNTC-18-6-BK-1 | 6 | | | | | 0.453 | 1.4 | 20 | 0.08 | \$0.67 |
| VNTC-18-8-BK-1 | 8 | | | | | 0.490 | 1.6 | 20 | 0.09 | \$0.86 |
| VNTC-18-10-BK-1 | 10 | | | | | 0.551 | 1.8 | 20 | 0.12 | \$1.04 |
| VNTC-18-12-BK-1 | 12 | | | | | 0.573 | 1.8 | 20 | 0.13 | \$1.28 |
| VNTC-18-19-BK-1 | 19 | | | | | 0.705 | 2.3 | 20 | 0.21 | \$2.13 |
| VNTC-18-24-BK-1 | 24 | | | | | 0.826 | 2.6 | 20 | 0.26 | \$2.52 |

* Installed bend radius $\geq 4 \times$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16 Gauge VNTC Cable (Unshielded)

| 16 Gauge VNTC Cable Specifications (Unshielded) | | | | |
|---|--|-----------------------------|--|--|
| Conductor Gauge & Stranding | 16AWG 7/24 bare copper, Class K | Applicable Standards | ASTM B3 Standard Specification for Soft or Annealed Copper Wire | |
| Voltage Rating | 600V (Type TC-ER) | | ASTM B8 Concentric-Lay-Stranded Copper Conductors | |
| Resistance | 4.18 Ω/kft* | | UL 83 Thermoplastic Insulated Wires and Cables Type THHN | |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | UL 1277 Electrical Power and Control Tray Cables | |
| Jacket Material | Polyvinyl chloride (PVC) jacket | | UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test | |
| Conductor Insulation | 0.015 Inch, PVC + 0.004 Inch, NYLON | | ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 2 | |
| Filler | Polypropylene filler on cables with 5 or less conductors | | ICEA S-73-532 Standard for Control | |
| Binder | Polyester flat thread binder tape applied for cables with more than 5 conductors | | ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy | |
| Conductor Markings | Control Cable Conductor Identification Method 1 Table 2 | Approvals** | IEEE 1202 FT4 Vertical Tray Flame Test (70,000 Btu/hr) and ICEA T-29-520 - (210,000 Btu/hr) | |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | UL (E75755) | |
| Flame Rating | FT4 | Sample Print Legend | SOUTHWIRE EXXXXX #P# (UL) [#AWG Or #kcmil] CU THHN PVC/PVC 600V Type TC-ER For CT USE SUN. RES. For DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS] | |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 16 Gauge VNTC Cable (Unshielded) | | | | | | | | | | |
|--|----------------------|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| VNTC-16-3-BK-1 | 3 | 16 | 7 | 19 | 45 | 0.368 | 1.2 | 20 | 0.06 | \$0.59 |
| VNTC-16-4-BK-1 | 4 | | | | | 0.398 | 1.3 | 20 | 0.07 | \$0.69 |
| VNTC-16-5-BK-1 | 5 | | | | | 0.432 | 1.4 | 20 | 0.08 | \$0.84 |
| VNTC-16-7-BK-1 | 7 | | | | | 0.466 | 1.5 | 20 | 0.11 | \$1.18 |
| VNTC-16-9-BK-1 | 9 | | | | | 0.539 | 1.7 | 20 | 0.14 | \$1.50 |
| VNTC-16-12-BK-1 | 12 | | | | | 0.604 | 1.9 | 20 | 0.17 | \$1.85 |
| VNTC-16-19-BK-1 | 19 | | | | 60 | 0.746 | 2.4 | 20 | 0.27 | \$3.36 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

14 Gauge VNTC Cable (Unshielded)

| 14 Gauge VNTC Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 14AWG 7/22 bare copper, Class K | Applicable Standards | ASTM B3 Standard Specification for Soft or Annealed Copper Wire |
| Voltage Rating | 600V (Type TC-ER) | | ASTM B8 Concentric-Lay-Stranded Copper Conductors |
| Resistance | 2.63 Ω /kft* | | UL 83 Thermoplastic Insulated Wires and Cables Type THHN |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | UL 1277 Electrical Power and Control Tray Cables |
| Jacket Material | Polyvinyl chloride (PVC) jacket | | UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test |
| Conductor Insulation | 0.015 Inch, PVC + 0.004 Inch, NYLON | | ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 2 |
| Filler | Polypropylene filler on cables with 5 or less conductors | | ICEA S-73-532 Standard for Control |
| Binder | Polyester flat thread binder tape applied for cables with more than 5 conductors | | ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy |
| Conductor Markings | Control Cable Conductor Identification Method 1 Table 2 | Approvals** | IEEE 1202 FT4 Vertical Tray Flame Test (70,000 Btu/hr) and ICEA T-29-520 - (210,000 Btu/hr) |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | UL (E75755) |
| Flame Rating | FT4 | | Sample Print Legend SOUTHWIRE EXXXXX #P# (UL) [#AWG Or #kcmil] CU THHN PVC/PVC 600V Type TC-ER For CT USE SUN. RES. For DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS] |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 14 Gauge VNTC Cable (Unshielded) | | | | | | | | | | |
|---|----------------------|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| VNTC-14-3-BK-1 | 3 | 14 | 7 | 19 | 45 | 0.405 | 1.3 | 20 | 0.08 | \$0.77 |
| VNTC-14-4-BK-1 | 4 | | | | | 0.437 | 1.4 | 20 | 0.09 | \$0.91 |
| VNTC-14-5-BK-1 | 5 | | | | | 0.475 | 1.5 | 20 | 0.11 | \$1.19 |
| VNTC-14-7-BK-1 | 7 | | | | | 0.516 | 1.7 | 20 | 0.15 | \$1.72 |
| VNTC-14-12-BK-1 | 12 | | | | 60 | 0.710 | 2.3 | 20 | 0.26 | \$2.85 |

* Installed bend radius $\geq 4 \times$ diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

12 Gauge VNTC Cable (Unshielded)

| 12 Gauge VNTC Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 12AWG 7/20 bare copper, Class K | Applicable Standards | ASTM B3 Standard Specification for Soft or Annealed Copper Wire |
| Voltage Rating | 600V (Type TC-ER) | | ASTM B8 Concentric-Lay-Stranded Copper Conductors |
| Resistance | 1.66 Ω/kft* | | UL 83 Thermoplastic Insulated Wires and Cables Type THHN |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | UL 1277 Electrical Power and Control Tray Cables |
| Jacket Material | Polyvinyl chloride (PVC) jacket | | UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test |
| Conductor Insulation | 0.015 Inch, PVC + 0.004 Inch, NYLON | | ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 2 |
| Filler | Polypropylene filler on cables with 5 or less conductors | | ICEA S-73-532 Standard for Control |
| Binder | Polyester flat thread binder tape applied for cables with more than 5 conductors | | ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy |
| Conductor Markings | Control Cable Conductor Identification Method 1 Table 2 | Approvals** | IEEE 1202 FT4 Vertical Tray Flame Test (70,000 Btu/hr) and ICEA T-29-520 - (210,000 Btu/hr) |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | | UL (E75755) |
| Flame Rating | FT4 | | Sample Print Legend SOUTHWIRE EXXXXX #P# (UL) [#AWG Or #kcmil] CU THHN PVC/PVC 600V Type TC-ER For CT USE SUN. RES. For DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS] |

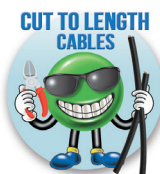
* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 12 Gauge VNTC Cable (Unshielded) | | | | | | | | | | |
|--|----------------------|-----|--------|---|---------------------------------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| VNTC-12-3-BK-1 | 3 | 12 | 7 | 19 | 45 | 0.450 | 1.4 | 20 | 0.10 | \$1.08 |
| VNTC-12-4-BK-1 | 4 | | | | | 0.490 | 1.6 | 20 | 0.13 | \$1.38 |
| VNTC-12-5-BK-1 | 5 | | | | | 0.539 | 1.7 | 20 | 0.16 | \$1.68 |

* Installed bend radius ≥ 4x diameter

** See web store for maximum cut lengths




Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

10 Gauge VNTC Cable (Unshielded)

| 10 Gauge VNTC Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|--|
| Conductor Gauge & Stranding | 10 AWG 7/18 bare copper, Class K | Applicable Standards | ASTM B3 Standard Specification for Soft or Annealed Copper Wire |
| Voltage Rating | 600V (Type TC-ER) | | ASTM B8 Concentric-Lay-Stranded Copper Conductors |
| Resistance | 1.04 Ω /kft* | | UL 83 Thermoplastic Insulated Wires and Cables Type THHN |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | UL 1277 Electrical Power and Control Tray Cables |
| Jacket Material | Polyvinyl chloride (PVC) jacket | | UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test |
| Conductor Insulation | 0.020 Inch, PVC + 0.004 Inch, NYLON | | ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 2 |
| Filler | Polypropylene filler on cables with 5 or less conductors | | ICEA S-73-532 Standard for Control |
| Binder | Polyester flat thread binder tape applied for cables with more than 5 conductors | | ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy |
| Conductor Markings | Control Cable Conductor Identification Method 1 Table 2 | | IEEE 1202 FT4 Vertical Tray Flame Test (70,000 Btu/hr) and ICEA T-29-520 - (210,000 Btu/hr) |
| Temperature Rating | 75°C (167°F) Wet, 90°C (194°F) Dry | Approvals** | UL (E75755) |
| Flame Rating | FT4 | Sample Print Legend | SOUTHWIRE EXXXXX #P# (UL) [#AWG Or #kcmil] CU THHN PVC/PVC 600V Type TC-ER For CT USE SUN. RES. For DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS] |

* Per ASTM B174

** To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| 10 Gauge VNTC Cable (Unshielded) | | | | | | | | | | |
|--|----------------------|-----|--------|---|---------------------------------|-----------------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches)* | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| VNTC-10-3-BK-1 | 3 | 10 | 7 | 24 | 45 | 0.541 | 1.7 | 20 | 0.16 | \$1.57 |
| VNTC-10-4-BK-1 | 4 | | | | | 0.591 | 1.9 | 20 | 0.20 | \$2.04 |
| VNTC-10-5-BK-1 | 5 | | | | | 0.650 | 2.1 | 20 | 0.24 | \$2.59 |

* Installed bend radius $\geq 4 \times$ diameter

** See web store for maximum cut lengths



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

VFD (Variable-Frequency Drive) Cable



Variable-frequency drives (VFDs) control the speed and torque of AC motors by varying the frequency of the voltage to the motor; however, the VFD does not send a pure sine-wave frequency to the motor. They more accurately use a series of pulses which varies in frequency in a technique called pulse-width modulation (PWM).

While PWM is an excellent way to control a motor, it creates several issues that can affect the motor's life and power quality, as well as create Electromagnetic Interference (EMI) and reduce the life of the cable.

By using a cable designed for use with VFDs, it is possible to limit the effect of high frequencies on the surrounding equipment and possibly prevent costly machine downtime.

AutomationDirect is pleased to introduce our new line of Variable-frequency drive (VFD) cable manufactured by Southwire Company.

Features

- Cross-linked Polyethylene (XLPE) conductor insulation
- Class K, flexible stranded tinned annealed copper conductors per ASTM B33, B172 and B174
- Green ground conductor with yellow stripe, cross linked Polyethylene (XLPE) insulation
- 100% coverage aluminum/mylar/aluminum foil shield
- 85% coverage tinned copper braid shield
- Tinned copper drain wire(s)
- Black Thermoplastic Elastomer (TPE) jacket
- Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862
- Cut to length in 1 foot increments
- Minimum cut lengths as low as 10 feet
- Made in USA



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
for a short introduction on our cut to length cable

Please Note: Our prices on VFD Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



VFD 4-Conductor Cable Specifications

| | | | |
|---|--|--------------------|---|
| Conductors Gauge & Stranding | 16AWG (26 Strands) to 2AWG (651 Strands), Class K flexible stranded tinned annealed copper per ASTM B33, B172 and B174 | Approvals** | ASTM B172 - Rope-Lay-Stranded Copper Conductors ASTM B174 - Bunch-Stranded Copper Conductors ASTM B33 - Tinned soft or annealed Copper UL 44 - Thermoset Insulation UL 1063 - Machine Tool Wiring (MTW) UL 1277 - Type TC-ER Standard Power and Control Cables UL 2277 - Type WTTTC Flexible Motor Supply UL 758 - AWM Style 20886 Standard for Appliance Wiring Material Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 C22.2 No. 230 Type TC CSA 22.2 No. 239 TYPE CIC CSA C22.2 No. 210 - CSA AWM I/II A/B ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy CE RoHS 2 |
| Voltage Rating | 600V UL 90°C TC-ER 1000V WTTTC 1000V AWM 1000V Flexible Motor Supply Cable | | Sample Print Legend |
| Outer Jacket Material | Thermoplastic Elastomer (TPE) | | |
| Outer Jacket Color | Black with white print | | |
| Cold Bend | -40°F (-40°C) | | |
| Min. Cut Length* | 20 feet | | Southwire XXAWG (XXmm ²) XX/C VFD XLPE CDRS TYPE TC-ER EXXXXX (UL) 600V 90°C DRY 90°C WET SUN RES OIL RES I/II DIR BUR -40°C OR WTTTC 1000V OR AWM 20886 105°C 1000V OR Flexible Motor Supply Cable 1000V -- LLXXXXXX CSA CIC/TC FT4 OR AWM I/II A/B 1000V 105C FT4 -40°C -- CE RoHS-2 Made in USA |
| Temperature Ratings | -40°F to +194°F (-40°C to +90°C) | | |
| Conductor Insulation | Black cross-linked Polyethylene (XLPE) with green/yellow ground | | |
| Conductor Markings | "1-ONE", "2-TWO", "3-THREE", @ 4.5 inch intervals, ICEA Method 4 | | |

* See web store for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

VFD Cable - 4 Conductor

VFD 4-Conductor Cable Specifications Continued

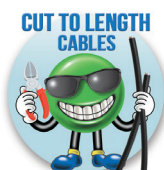
| Part Number | Nom. Capacitance Conductor to Shield (pF/ft.) | Nom. Capacitance Conductor to Conductor (pF/ft.) | Nom. Conductor DC Resistance @ 20°C (Ohm/1000 ft.) | Nominal Outer Shield DC Resistance @ 20°C (Ohm/1000 ft.) | Impedance (ohms) | Velocity of Propagation | Max. Operating Voltage - UL |
|------------------------------|---|--|--|--|---------------------|----------------------------|--------------------------------|
| VFDC-16-4B-1 | 36.34 | 20.19 | 4.49 | 2.40 | 86.6 | 0.57 | 600V / 1000V |
| VFDC-14-4B-1 | 44.10 | 24.50 | 2.82 | 2.31 | 71.4 | 0.57 | 600V / 1000V |
| VFDC-12-4B-1 | 46.93 | 26.07 | 1.77 | 2.48 | 67.1 | 0.57 | 600V / 1000V |
| VFDC-10-4B-1 | 52.52 | 29.18 | 1.12 | 2.63 | 60.0 | 0.57 | 600V / 1000V |
| VFDC-8-4B-1 | 50.72 | 28.18 | 0.72 | 3.66 | 62.1 | 0.57 | 600V / 1000V |
| VFDC-6-4B-1 | 56.81 | 31.56 | 0.45 | 3.48 | 55.4 | 0.57 | 600V / 1000V |
| VFDC-4-4B-1 | 67.95 | 37.75 | 0.28 | 3.69 | 46.3 | 0.57 | 600V / 1000V |
| VFDC-2-4B-1 | 75.96 | 42.20 | 0.18 | 4.10 | 41.5 | 0.57 | 600V / 1000V |

VFD 4-Conductor Cable Selection

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Power Conductors | Ground (AWG) | Drain Wire (AWG) | Insulation Thickness (mils) | Jacket Thickness (mils) | Nominal OD inches | *Ampacity NEC 310.15 (B) (16) Amps | | Min. Bend Radius inches | Approximate Weight (lb/ft) | Price per foot |
|---|--|---------------------|--------|---------------------|--------------|---------------------|--------------------------------|----------------------------|-------------------|--|------|----------------------------|-------------------------------|----------------|
| | | | | | | | | | | 75°C | 90°C | | | |
| <div></div> | | | | | | | | | | | | | | |
| VFDC-16-4B-1 | 4 | 16AWG (1.31 mm²) | 26 | 3 | 1 x (16) | 1 x (16) | 46 | 62 | 0.523 | 10 | 10 | 6 | 0.171 | \$3.02 |
| VFDC-14-4B-1 | 4 | 14AWG (2.08 mm²) | 41 | 3 | 1 x (14) | 1 x (14) | 46 | 62 | 0.565 | 15 | 15 | 7 | 0.212 | \$3.60 |
| VFDC-12-4B-1 | 4 | 12AWG (3.31 mm²) | 65 | 3 | 1 x (12) | 1 x (12) | 46 | 62 | 0.635 | 20 | 20 | 8 | 0.269 | \$4.49 |
| VFDC-10-4B-1 | 4 | 10AWG (5.26 mm²) | 105 | 3 | 1 x (10) | 1 x (10) | 46 | 62 | 0.698 | 30 | 30 | 8 | 0.352 | \$5.89 |
| VFDC-8-4B-1 | 4 | 8AWG (8.36 mm²) | 168 | 3 | 1 x (8) | 4 x (14) | 60 | 80 | 0.870 | 50 | 55 | 10 | 0.533 | \$10.70 |
| VFDC-6-4B-1 | 4 | 6AWG (13.3 mm²) | 266 | 3 | 1 x (6) | 4 x (12) | 60 | 80 | 0.942 | 65 | 75 | 11 | 0.699 | \$14.07 |
| VFDC-4-4B-1 | 4 | 4AWG (21.2 mm²) | 420 | 3 | 1 x (4) | 4 x (10) | 60 | 80 | 1.071 | 85 | 95 | 14 | 1.039 | \$19.97 |
| VFDC-2-4B-1 | 4 | 2AWG (33.6 mm²) | 651 | 3 | 1 x (2) | 4 x (8) | 60 | 80 | 1.230 | 115 | 130 | 14 | 1.486 | \$29.15 |

* Ampacity based on NEC 310.15 (B) (16) up to and including 2000 volts, not more than 3 current-carrying conductors, ambient 86°F (30°C)

All dimensions are nominal and subject to normal manufacturing tolerances.



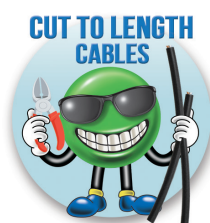
Please Note: Our prices on VFD Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

VFD (Variable-Frequency Drive) / Servo Cable with Signal Pair



Overview

AutomationDirect's VFD-SC series VFD / Servo cable is the same high-quality cable as our VFDC series with one additional feature. The VFD-SC cable has a shielded 16AWG signal pair allowing this cable to be used with motors and drives requiring brake control or feedback from devices like temperature or position sensors. Having the integral signal pair allows this cable to be used with our SureServo Drives and Motors up to 3kW.



Please Note: Our prices on VFD Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Features

- Cross-linked Polyethylene (XLPE) conductor insulation
- Class K, flexible stranded tinned annealed copper conductors per ASTM B33, B172 and B174
- Green ground conductor with yellow stripe, cross linked Polyethylene (XLPE) insulation
- 100% coverage aluminum/mylar/aluminum foil shield
- 85% coverage tinned copper braid shield
- Tinned copper drain wire(s)
- 16AWG Shielded Signal Pair for Feedback / Brake Control
- Black Thermoplastic Elastomer (TPE) jacket
- Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862
- Cut to length in 1 foot increments
- Minimum cut lengths as low as 20 feet
- Made in USA



Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable

VFD/Servo Cable 4-Conductor Cable Specifications

| | | | |
|---|---|----------------------------|---|
| Power Conductors Gauge & Stranding | 16AWG (26 Strands) to 10AWG (105 Strands), Class K flexible stranded tinned annealed copper per ASTM B33, B172 and B174 | Approvals** | ASTM B172 - Rope-Lay-Stranded Copper Conductors ASTM B174 - Bunch-Stranded Copper Conductors ASTM B33 - Tinned soft or annealed Copper UL 44 - Thermoset Insulation UL 1277 - Type TC-ER Standard Power and Control Cables UL 2277 - Type WTTC Flexible Motor Supply UL 758 - AWM Style 20886 Standard for Appliance Wiring Material Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862 C22.2 No. 230 Type TC CSA 22.2 No. 239 TYPE CIC CSA C22.2 No. 210 - CSA AWM I/II A/B ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy NFPA 79 - Electrical Standard for Industrial Machinery CE RoHS-2 |
| Signal Pair | Foil shielded 16AWG (26 Strands), tinned copper conductor with black and white EPDM insulation | | Sample Print Legend |
| Voltage Rating | 600V UL 90°C TC-ER 1000V WTTC 1000V AWM 1000V Flexible Motor Supply Cable | | |
| Outer Jacket Material | Thermoplastic Elastomer (TPE) | | |
| Outer Jacket Color | Black with white print | | |
| Cold Bend | -40°F (-40°C) | | |
| Min. Cut Length* | 20 feet | Sample Print Legend | Southwire XXAWG (XXmm2) XX/C VFD RHH/RHW-2 CDRS PLUS 16 AWG 1 PR TYPE TC-ER EXXXXX (UL) 600V 90°C DRY 90°C WET SUN RES OIL RES I/II DIR BUR -40°C OR WTTC 1000V OR AWM 20886 105°C 1000V OR Flexible Motor Supply Cable 1000V -- LLXXXXXX CSA CIC/TC FT4 OR AWM I/II A/B 1000V 105C FT4 -40°C -- CE RoHS-2 Made in USA |
| Temperature Ratings | -40°F to +194°F (-40°C to +90°C) | | |
| Conductor Insulation | Black cross-linked Polyethylene (XLPE) with green/yellow ground | | |
| Conductor Markings | "1-ONE", "2-TWO", "3-THREE", @ 4.5 inch intervals, ICEA Method 4 | | |

* See web store for maximum cut lengths

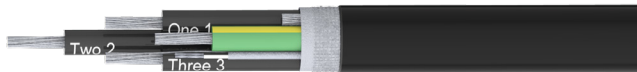
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

VFD / Servo Cable - 4 Conductor

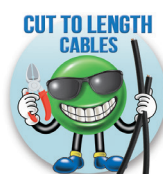
VFD/Servo Cable 4-Conductor Cable Specifications Continued

| Part Number | Nom. Capacitance Conductor to Shield (pF/ft.) | Nom. Capacitance Conductor to Conductor (pF/ft.) | Nom. Conductor DC Resistance @ 20°C (Ohm/1000 ft.) | Nominal Outer Shield DC Resistance @ 20°C (Ohm/1000 ft.) | Impedance (ohms) | Max. Operating Voltage - UL |
|-----------------------------------|---|--|--|--|------------------|-----------------------------|
| VFD-SC-16-4B-1P-1 | 36.34 | 20.19 | 4.49 | 2.40 | 86.6 | 600V / 1000V |
| VFD-SC-14-4B-1P-1 | 44.10 | 24.50 | 2.82 | 2.31 | 71.4 | 600V / 1000V |
| VFD-SC-12-4B-1P-1 | 46.93 | 26.07 | 1.77 | 2.48 | 67.1 | 600V / 1000V |
| VFD-SC-10-4B-1P-1 | 52.52 | 29.18 | 1.12 | 2.63 | 60.0 | 600V / 1000V |

VFD/Servo Cable 4-Conductor Cable Selection

| Part Number | Number of Conductors (includes ground) | AWG | Conductor OD inches | Strand | Power Conductors | Ground (AWG) | Drain Wire (AWG) | Insulation Thickness (mils) | Jacket Thickness (mils) | Shielded Signal Pair AWG | Nominal OD inches | *Ampacity NEC 310.15 (B) (16) Amps | | Min. Bend Radius inches | Approximate Weight (lb/ft) | Price per foot |
|---|--|------------------|---------------------|--------|------------------|--------------|------------------|-----------------------------|-------------------------|--------------------------|-------------------|------------------------------------|------|-------------------------|----------------------------|----------------|
| | | | | | | | | | | | | 75°C | 90°C | | | |
|  | | | | | | | | | | | | | | | | |
| VFD-SC-16-4B-1P-1 | 4 | 16AWG (1.31 mm²) | 0.054 | 26 | 3 | 1 x (16) | 1 x (16) | 46 | 62 | 16 | 0.604 | 10 | 10 | 7.25 | 0.20 | \$5.28 |
| VFD-SC-14-4B-1P-1 | 4 | 14AWG (2.08 mm²) | 0.074 | 41 | 3 | 1 x (14) | 1 x (14) | 46 | 62 | 16 | 0.689 | 15 | 15 | 8.27 | 0.24 | \$5.93 |
| VFD-SC-12-4B-1P-1 | 4 | 12AWG (3.31 mm²) | 0.090 | 65 | 3 | 1 x (12) | 1 x (12) | 46 | 62 | 16 | 0.719 | 20 | 20 | 8.63 | 0.31 | \$6.88 |
| VFD-SC-10-4B-1P-1 | 4 | 10AWG (5.26 mm²) | 0.112 | 105 | 3 | 1 x (10) | 1 x (10) | 46 | 62 | 16 | 0.773 | 30 | 30 | 9.28 | 0.37 | \$7.96 |

* Ampacity based on NEC 310.15 (B) (16) up to and including 2000 volts, not more than 3 current-carrying conductors, ambient 86°F (30°C)
All dimensions are nominal and subject to normal manufacturing tolerances.



Please Note: Our prices on VFD Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Instrumentation Cable



Overview

AutomationDirect offers 300V UL Instrumentation Cable available with 20AWG, 18AWG and 16AWG conductors in 1, 2, 4, or 8 twisted pairs with an overall shield or in 2, 4, or 8 individually shielded twisted pairs with an overall shield. The overall shielded cables have an aluminum/polyester foil shield with 100% coverage and a tinned copper continuous drain wire for protection against external electrical noise interference. Cables with both individually shielded pairs and an overall shield have aluminum/polyester foil shields with 100% coverage complete with separate tinned copper continuous drain wires for maximum effectiveness against both external electrical noise interference and crosstalk between pairs. Individual conductor pairs are stranded bare copper with black and white premium grade PVC insulation and marked with alpha-numeric print for easy identification. The cable's outer jacket is a black premium grade PVC that is sunlight resistant. A convenient 22AWG orange PVC insulated communications conductor is included on 18AWG and 16AWG multi-pair cables. Cut to length in 1 foot increments with a 20 foot minimum length.

Features

- Typical applications include industrial instrumentation, control, alarm, audio, intercom, and energy management circuits
- Dual listed Type ITC and Type PLTC
- Suitable for use in hazardous locations
- 20AWG, 18AWG, and 16AWG with 2, 4 or 8 twisted pairs, overall shield or individually shielded pairs with overall shield
- Conductor pairs with black and white premium PVC insulation and alpha-numeric identification
- Communication (Talk) wire included on multi-pair 18AWG and 16AWG cables for use during installation or instrument calibration
- Sunlight resistant PVC outer jacket with sequential foot markings
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- Made in the USA

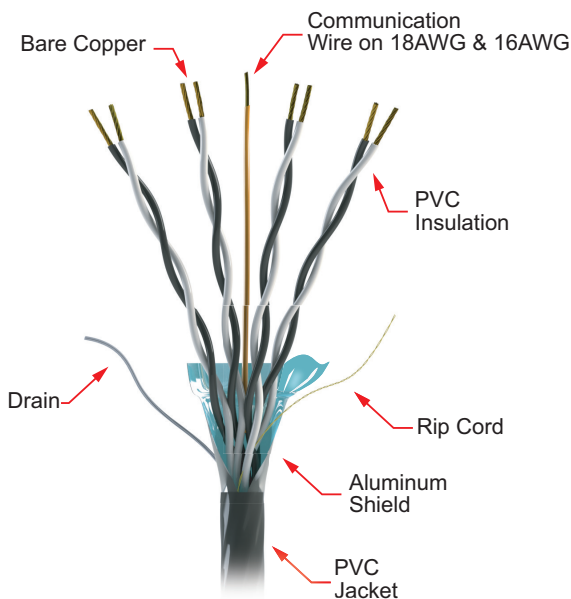
Our instrumentation cables are dual listed as UL 2250 Type ITC (Instrumentation Tray Cables) and UL 13 Type PLTC (Power Limited Tray Cables). Type ITC cables can be used for instrumentation and control circuits operating at 150 volts or less and 5 amperes or less as described in NEC Article 727. Type PLTC cables can be used for Class 2 and Class 3 remote-control, signaling, and power-limited circuits as described in NEC Article 725. Additionally, certain cables are permitted for use in hazardous locations as described in NEC Articles 501 through 505.



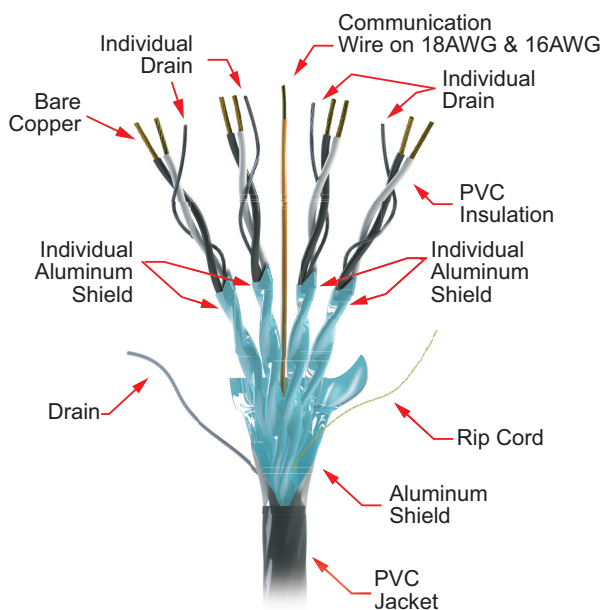
Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable



Overall Cable Shield



Individual and Overall Cable Shields




20AWG Instrumentation Cable - Overall Shield

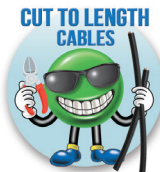
| 20AWG Instrumentation Cable - Overall Shield Specifications | | | |
|---|---|------------------------------|--|
| Conductor Gauge & Stranding | 20AWG Class B 7 stranded bare copper per ASTM B-3 and B-8 | Shield and Drain Wire | Overall aluminum polyester foil shield with a tinned copper drain wire |
| Voltage Rating | 300V | Min. Bend Radius | 10x diameter |
| Jacket Material | Sunlight resistant black PVC (polyvinyl chloride) | Print Legend* | QUABBIN P/N xxxxx (UL) TYPE PLTC OR ITC 20AWG SHEILDED 105C SUN RES OR C(UL)US CM OR AWM 2464-RoHS--(LOT#) |
| Conductor Insulation | PVC | | |
| Pair Lay Length | 1.25 twists per inch | | |
| Resistance | 10.50Ω/1000' @ 20°C per conductor | Flame Rating | UL 1581 Section 1061 Cable Flame, UL 1581 Vertical Tray |
| Capacitance | 31 pF/ft | Applicable Standards | UL Standard 13 Type PLTC UL Standard 2250 Type ITC NEC Article 725 (Type PLTC) NEC Article 727 (Type ITC) |
| Conductor Markings | Black / White; Alpha-numeric print; alternate & inverted @ 2.5 inch intervals | | |
| Temperature Rating | -40°C to 105°C (-40°F to 221°F) | | |

*XX = Number of shielded pairs

** Included on multi-pair cables

| 20AWG Instrumentation Cable - Overall Shield | | | | | | | | | | | |
|--|-----------------|-----|-----------|---|---------------------------------|---------------------------------|----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | | | | | |
| Part Number | Number of Pairs | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| PLTC3-20-1S-1 | 1 | 20 | 7 | 15 | 0.063 | 37 | 0.203 | 2.03 | 20 | 0.02 | \$0.29 |
| PLTC3-20-2S-1 | 2 | | | | | | 0.264 | 2.64 | 20 | 0.04 | \$0.47 |
| PLTC3-20-4S-1 | 4 | | | | | | 0.333 | 3.33 | 20 | 0.06 | \$0.76 |
| PLTC3-20-8S-1 | 8 | | | | | | 0.453 | 4.53 | 20 | 0.11 | \$1.40 |

* See web store for maximum cut lengths




Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

18AWG Instrumentation Cable - Overall Shield

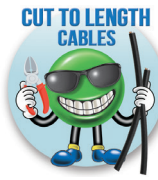
| 18AWG Instrumentation Cable - Overall Shield Specifications | | | |
|---|---|------------------------------|---|
| Conductor Gauge & Stranding | 18AWG Class B 7 stranded bare copper per ASTM B-3 and B-8 | Shield and Drain Wire | Overall aluminum polyester foil shield with a tinned copper drain wire |
| Voltage Rating | 300V | Min. Bend Radius | 10x diameter |
| Jacket Material | Sunlight and moisture resistant black PVC (polyvinyl chloride) | Print Legend* | CCI ROYAL 18 AWG XX SHIELDED PAIRS PVC/PVC TYPE PLTC/ITC E176494 (UL) 105C SUN RES FT4/IEEE 1202 --- SEQUENTIAL MARKING |
| Conductor Insulation | PVC | | |
| Pair Lay Length | 1.25 twists per inch | Flame Rating | Passes FT4/IEEE 1202 Flame Test Passes IEEE 383 Flame Test (70,000btu) |
| Resistance | 6.60Ω/1000' @ 20°C per conductor | | |
| Capacitance | 40.66 pF/ft | Applicable Standards | UL Standard 13 Type PLTC UL Standard 2250 Type ITC EPA 40 CFR, Part 26, Subpart C, heavy metals per Table 1, TCLP method NEC Article 725 (Type PLTC) NEC Article 727 (Type ITC) Hazardous Locations: NEC Article 501.10 (Class I, Div 2) NEC Article 502.10 (Class II, Div 2) NEC Article 503.10 (Class III, Div 1 and 2) NEC Article 504 (Intrinsically Safe Systems) NEC Article 505.15 (Class I, Zone 2) |
| Inductance | 0.0957 μH/ft | | |
| Conductor Markings | Black / White; Alpha-numeric print; alternate & inverted @ 2.5 inch intervals | | |
| Temperature Rating | -30°C to 105°C (-22°F to 221°F) | | |

* XX = Number of shielded pairs

** Included on 18AWG and 16AWG multi-pair cables

| 18AWG Instrumentation Cable - Overall Shield | | | | | | | | | | | |
|--|-----------------|-----|-----------|---|---------------------------------|---------------------------------|-----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | | | | | |
| Part Number | Number of Pairs | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| PLTC3-18-1S-1 | 1 | 18 | 7 | 15 | 0.0152 | 52 | 0.258 | 2.58 | 20 | 0.04 | \$0.39 |
| PLTC3-18-2S-1 | 2 | | | | | | 0.385 | 3.85 | 20 | 0.07 | \$0.76 |
| PLTC3-18-4S-1 | 4 | | | | | | 0.440 | 4.40 | 20 | 0.11 | Retired |
| PLTC3-18-8S-1 | 8 | | | | | 65 | 0.575 | 5.75 | 20 | 0.20 | \$2.12 |

* See web store for maximum cut lengths




Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

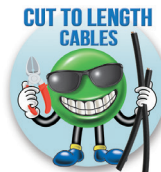
18AWG Instrumentation Cable - Overall Shield

| 18AWG Instrumentation Cable - Overall Shield Specifications | | | |
|---|---|------------------------------|--|
| Conductor Gauge & Stranding | 18AWG 7-stranded bare copper | Shield and Drain Wire | Overall aluminum polyester foil shield with a tinned copper drain wire |
| Voltage Rating | 300V | Min. Bend Radius | 10x diameter |
| Jacket Material | Sunlight resistant black PVC (polyvinyl chloride) | Print Legend | QUABBIN P/N xxxx (UL) TYPE PLTC OR ITC 18AWG SHEILDED 105C SUN RES OR C(UL)US CM OR AWM 2464-RoHS--(LOT#) |
| Conductor Insulation | PVC | | |
| Pair Lay Length | 1.25 twists per inch | Flame Rating | UL 1685 Vertical Tray, Section 1061 of UL 1581 Cable Flame |
| Resistance | 6.64Ω/1000' @ 20°C per conductor | | |
| Conductor Markings | Black / White | Applicable Standards | UL Standard 444 Type CM UL Standard 758 AWM 2464 UL Standard 13 Type PLTC UL Standard 2250 Type ITC |
| Temperature Rating | -40°C to 105°C (-40°F to 221°F) | | |
| Communication Wire* | 22AWG PVC (orange) | | |

*Included on 18AWG and 16AWG multi-pair cables

| 18AWG Instrumentation Cable - Overall Shield | | | | | | | | | | | | |
|---|-----------------|-----|-----------|---|---------------------------------|---------------------------------|---------------------|-----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | | | | | | |
| Part Number | Number of Pairs | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Capacitance (pF/ft) | Nominal O.D. (Inches ± 10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| PLTC-18-1S-1 | 1 | 18 | 7 | 16 | 0.078 | 37 | 62 | 0.233 | 2.33 | 20 | 0.03 | \$0.33 |
| PLTC-18-2S-1 | 2 | | | | | 42 | 47 | 0.318 | 3.18 | 20 | 0.06 | \$0.61 |
| PLTC-18-4S-1 | 4 | | | | | 52 | 43 | 0.417 | 4.17 | 20 | 0.10 | \$1.07 |
| PLTC-18-8S-1 | 8 | | | | | | 41 | 0.535 | 5.35 | 20 | 0.17 | \$1.86 |

* See web store for maximum cut lengths



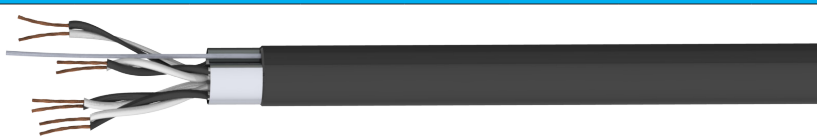
Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16AWG Instrumentation Cable - Overall Shield

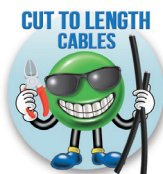
| 16AWG Instrumentation Cable - Overall Shield Specifications | | | |
|---|---|------------------------------|---|
| Conductor Gauge & Stranding | 16AWG Class B 7 stranded bare copper per ASTM B-3 and B-8 | Shield and Drain Wire | Overall aluminum polyester foil shield with a tinned copper drain wire |
| Voltage Rating | 300V | Min. Bend Radius | 10x diameter |
| Jacket Material | Sunlight and moisture resistant black PVC (polyvinyl chloride) | Print Legend* | CCI ROYAL 16 AWG XX SHIELDED PAIRS PVC/PVC TYPE PLTC/ITC E176494 (UL) 105C SUN RES FT4/IEEE 1202 --- SEQUENTIAL MARKING |
| Conductor Insulation | PVC | | |
| Pair Lay Length | 1.25 twists per inch | Flame Rating | Passes FT4/IEEE 1202 Flame Test Passes IEEE 383 Flame Test (70,000btu) |
| Resistance | 4.18Ω/1000' @ 20°C per conductor | | |
| Capacitance | 48.51 pF/ft | Applicable Standards | UL Standard 13 Type PLTC UL Standard 2250 Type ITC EPA 40 CFR, Part 26, Subpart C, heavy metals per Table 1, TCLP method NEC Article 725 (Type PLTC) NEC Article 727 (Type ITC) Hazardous Locations: NEC Article 501.10 (Class I, Div 2) NEC Article 502.10 (Class II, Div 2) NEC Article 503.10 (Class III, Div 1 and 2) NEC Article 504 (Intrinsically Safe Systems) NEC Article 505.15 (Class I, Zone 2) |
| Inductance | 0.0895 μH/ft | | |
| Conductor Markings | Black / White; Alpha-numeric print; alternate & inverted @ 2.5 inch intervals | | |
| Temperature Rating | -30°C to 105°C (-22°F to 221°F) | | |
| Communication Wire** | 22AWG PVC (orange) | | |

*XX = Number of shielded pairs

** Included on 18AWG and 16AWG multi-pair cables

| 16AWG Instrumentation Cable - Overall Shield | | | | | | | | | | | |
|--|-----------------|-----|-----------|---|---------------------------------|---------------------------------|----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | | | | | |
| Part Number | Number of Pairs | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| <u>PLTC3-16-1S-1</u> | 1 | 16 | 7 | 15 | 0.0152 | 52 | 0.282 | 2.82 | 20 | 0.05 | \$0.51 |
| <u>PLTC3-16-2S-1</u> | 2 | | | | | | 0.407 | 4.07 | 20 | 0.08 | \$0.89 |
| <u>PLTC3-16-4S-1</u> | 4 | | | | | 65 | 0.516 | 5.16 | 20 | 0.16 | Retired |
| <u>PLTC3-16-8S-1</u> | 8 | | | | | 75 | 0.662 | 6.62 | 20 | 0.27 | \$2.95 |

* See web store for maximum cut lengths




Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

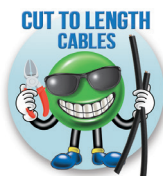
16AWG Instrumentation Cable - Overall Shield

| 16AWG Instrumentation Cable - Overall Shield Specifications | | | |
|---|---|------------------------------|--|
| Conductor Gauge & Stranding | 16AWG 7-stranded bare copper | Shield and Drain Wire | Overall aluminum polyester foil shield with a tinned copper drain wire |
| Voltage Rating | 300V | Min. Bend Radius | 10x diameter |
| Jacket Material | Sunlight resistant black PVC (polyvinyl chloride) | Print Legend | QUABBIN P/N xxxx (UL) TYPE PLTC OR ITC 16AWG SHEILDDED 105C SUN RES OR C(UL)US CM OR AWM 2464-RoHS--(LOT#) |
| Conductor Insulation | PVC | | |
| Pair Lay Length | 1.25 twists per inch | Flame Rating | UL 1685 Vertical Tray, Section 1061 of UL 1581 Cable Flame |
| Resistance | 4.15Ω/1000' @ 20°C per conductor | | |
| Conductor Markings | Black / White | Applicable Standards | UL Standard 444 Type CM UL Standard 758 AWM 2464 UL Standard 13 Type PLTC UL Standard 2250 Type ITC |
| Temperature Rating | -40°C to 105°C (-40°F to 221°F) | | |
| Communication Wire* | 22AWG PVC (orange) | | |

*Included on 18AWG and 16AWG multi-pair cables

| 16AWG Instrumentation Cable - Overall Shield | | | | | | | | | | | | |
|---|-----------------|-----|-----------|---|---------------------------------|---------------------------------|---------------------|----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | | | | | | |
| Part Number | Number of Pairs | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Capacitance (pF/ft) | Nominal O.D. (Inches ±10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| <u>PLTC-16-1S-1</u> | 1 | 16 | 7 | 16 | 0.091 | 37 | 71 | 0.259 | 2.59 | 20 | 0.04 | \$0.71 |
| <u>PLTC-16-2S-1</u> | 2 | | | | | 42 | 51 | 0.378 | 3.78 | 20 | 0.08 | \$0.89 |

* See web store for maximum cut lengths




Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

20AWG Instrumentation Cable - Individual and Overall Shields

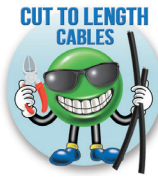
| 20AWG Instrumentation Cable - Individual and Overall Shields Specifications | | | |
|---|---|------------------------------|--|
| Conductor Gauge & Stranding | 20AWG Class B 7 stranded bare copper per ASTM B-3 and B-8 | Shield and Drain Wire | Individual and overall aluminum polyester foil shield with a tinned copper drain wire |
| Voltage Rating | 300V | Min. Bend Radius | 10x diameter |
| Jacket Material | Sunlight resistant black PVC (polyvinyl chloride) | Print Legend* | QUABBIN P/N xxxx (UL) TYPE PLTC OR ITC 20AWG SHEILDED 105C SUN RES OR C(UL)US CM OR AWM 2464-RoHS--(LOT#) |
| Conductor Insulation | PVC | | |
| Pair Lay Length | 1.25 twists per inch | | |
| Resistance | 10.50Ω/1000' @ 20°C per conductor | Flame Rating | UL 1581 Section 1061 Cable Flame, UL 1581 Vertical Tray |
| Capacitance | 31 pF/ft | Applicable Standards | UL Standard 13 Type PLTC UL Standard 2250 Type ITC NEC Article 725 (Type PLTC) NEC Article 727 (Type ITC) |
| Conductor Markings | Black / White; Alpha-numeric print; alternate & inverted @ 2.5 inch intervals | | |
| Temperature Rating | -40°C to 105°C (-40°F to 221°F) | | |
| Communication Wire** | 22AWG PVC (orange) | | |

* XX = Number of shielded pairs

** Included on 18AWG and 16AWG multi-pair cables

| 20AWG Instrumentation Cable - Individual and Overall Shields | | | | | | | | | | | |
|--|-----------------|-----|-----------|---|---------------------------------|---------------------------------|-----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | | | | | |
| Part Number | Number of Pairs | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| PLTC3-20-2SS-1 | 2 | 20 | 7 | 15 | 0.063 | 42 | 0.312 | 3.12 | 20 | 0.05 | \$0.60 |
| PLTC3-20-4SS-1 | 4 | | | | | 52 | 0.411 | 4.11 | 20 | 0.09 | \$1.03 |
| PLTC3-20-8SS-1 | 8 | | | | | | 0.520 | 5.20 | 20 | 0.14 | \$1.76 |

* See web store for maximum cut lengths




Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

18AWG Instrumentation Cable - Individual and Overall Shields

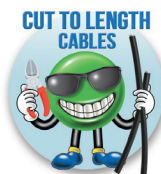
| 18AWG Instrumentation Cable - Individual and Overall Shields Specifications | | | |
|---|---|------------------------------|---|
| Conductor Gauge & Stranding | 18AWG Class B 7 stranded bare copper per ASTM B-3 and B-8 | Min. Bend Radius | 10x diameter |
| Voltage Rating | 300V | Shield and Drain Wire | Individual and overall aluminum polyester foil shield with a tinned copper drain wire |
| Jacket Material | Sunlight and moisture resistant black PVC (polyvinyl chloride) | Print Legend* | CCI ROYAL 18 AWG XX SHIELDED PAIRS PVC/PVC TYPE PLTC/ITC E176494 (UL) 105C SUN RES FT4/IEEE 1202 --- SEQUENTIAL MARKING |
| Conductor Insulation | PVC | | |
| Pair Lay Length | 1.25 twists per inch | Flame Rating | Passes FT4/IEEE 1202 Flame Test Passes IEEE 383 Flame Test (70,000btu) |
| Resistance | 6.60Ω/1000' @ 20°C per conductor | | |
| Capacitance | 40.66 pF/ft | Applicable Standards | UL Standard 13 Type PLTC UL Standard 2250 Type ITC EPA 40 CFR, Part 26, Subpart C, heavy metals per Table 1, TCLP method NEC Article 725 (Type PLTC) NEC Article 727 (Type ITC) Hazardous Locations: NEC Article 501.10 (Class I, Div 2) NEC Article 502.10 (Class II, Div 2) NEC Article 503.10 (Class III, Div 1 and 2) NEC Article 504 (Intrinsically Safe Systems) NEC Article 505.15 (Class I, Zone 2) |
| Inductance | 0.0957 μH/ft | | |
| Conductor Markings | Black / White; Alpha-numeric print; alternate & inverted @ 2.5 inch intervals | | |
| Temperature Rating | -30°C to 105°C (-22°F to 221°F) | | |
| Communication Wire** | 22AWG PVC (orange) | | |

*XX = Number of shielded pairs

** Included on 18AWG and 16AWG multi-pair cables

| 18AWG Instrumentation Cable - Individual and Overall Shields | | | | | | | | | | | |
|--|-----------------|-----|-----------|---|---------------------------------|---------------------------------|----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | | | | | |
| Part Number | Number of Pairs | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| PLTC3-18-2SS-1 | 2 | 18 | 7 | 15 | 0.0152 | 52 | 0.401 | 4.01 | 20 | 0.08 | \$0.84 |
| PLTC3-18-4SS-1 | 4 | | | | | 65 | 0.490 | 4.90 | 20 | 0.14 | Retired |
| PLTC3-18-8SS-1 | 8 | | | | | | 0.605 | 6.05 | 20 | 0.23 | \$2.80 |

* See web store for maximum cut lengths

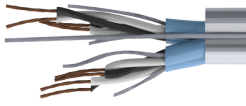


Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

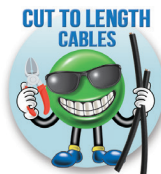
18AWG Instrumentation Cable - Individual and Overall Shields

| 18AWG Instrumentation Cable - Individual and Overall Shields Specifications | | | |
|---|---|------------------------------|--|
| Conductor Gauge & Stranding | 18AWG 7-stranded bare copper | Min. Bend Radius | 10x diameter |
| Voltage Rating | 300V | Shield and Drain Wire | Individual and overall aluminum polyester foil shield with a tinned copper drain wire |
| Jacket Material | Sunlight resistant black PVC (polyvinyl chloride) | Print Legend | QUABBIN P/N xxxx (UL) TYPE PLTC OR ITC 18AWG SHEILDDED 105C SUN RES OR C(UL)US CM OR AWM 2464-RoHS--(LOT#) |
| Conductor Insulation | PVC | | |
| Pair Lay Length | 1.25 twists per inch | Flame Rating | UL 1685 Vertical Tray, Section 1061 of UL 1581 Cable Flame |
| Resistance | 6.64Ω/1000' @ 20°C per conductor | | |
| Conductor Markings | Black / White | Applicable Standards | UL Standard 444 Type CM UL Standard 758 AWM 2464 UL Standard 13 Type PLTC UL Standard 2250 Type ITC |
| Temperature Rating | -40°C to 105°C (-40°F to 221°F) | | |
| Communication Wire* | 22AWG PVC (orange) | | |

*Included on 18AWG and 16AWG multi-pair cables

| 18AWG Instrumentation Cable - Individual and Overall Shields | | | | | | | | | | | | |
|--|-----------------|-----|-----------|---|---------------------------------|---------------------------------|---------------------|----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | | | | | | |
| Part Number | Number of Pairs | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Capacitance (pF/ft) | Nominal O.D. (Inches ±10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| <u>PLTC-18-2SS-1</u> | 2 | 18 | 7 | 16 | 0.078 | 42 | 62 | 0.365 | 3.65 | 20 | 0.07 | \$0.77 |
| <u>PLTC-18-4SS-1</u> | 4 | | | | | 52 | | 0.483 | 4.83 | 20 | 0.12 | \$1.37 |
| <u>PLTC-18-8SS-1</u> | 8 | | | | | 62 | | 0.639 | 6.39 | 20 | 0.22 | \$2.51 |

* See web store for maximum cut lengths




Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16AWG Instrumentation Cable - Individual and Overall Shields

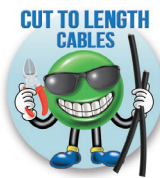
| 16AWG Instrumentation Cable - Individual and Overall Shields Specifications | | | |
|---|---|------------------------------|---|
| Conductor Gauge & Stranding | 16AWG Class B 7 stranded bare copper per ASTM B-3 and B-8 | Shield and Drain Wire | Individual and overall aluminum polyester foil shield with a tinned copper drain wire |
| Voltage Rating | 300V | Min. Bend Radius | 10x diameter |
| Jacket Material | Sunlight and moisture resistant black PVC (polyvinyl chloride) | Print Legend* | CCI ROYAL 16 AWG XX SHIELDED PAIRS PVC/PVC TYPE PLTC/ITC E176494 (UL) 105C SUN RES FT4/IEEE 1202 --- SEQUENTIAL MARKING |
| Conductor Insulation | PVC | | |
| Pair Lay Length | 1.25 twists per inch | | |
| Resistance | 4.18Ω/1000' @ 20°C per conductor | Flame Rating | Passes FT4/IEEE 1202 Flame Test Passes IEEE 383 Flame Test (70,000btu) |
| Capacitance | 48.51 pF/ft | Applicable Standards | UL Standard 13 Type PLTC UL Standard 2250 Type ITC EPA 40 CFR, Part 26, Subpart C, heavy metals per Table 1, TCLP method NEC Article 725 (Type PLTC) NEC Article 727 (Type ITC) Hazardous Locations: NEC Article 501.10 (Class I, Div 2) NEC Article 502.10 (Class II, Div 2) NEC Article 503.10 (Class III, Div 1 and 2) NEC Article 504 (Intrinsically Safe Systems) NEC Article 505.15 (Class I, Zone 2) |
| Inductance | 0.0895 μH/ft | | |
| Conductor Markings | Black / White; Alpha-numeric print; alternate & inverted @ 2.5 inch intervals | | |
| Temperature Rating | -30°C to 105°C (-22°F to 221°F) | | |
| Communication Wire** | 22AWG PVC (orange) | | |

*XX = Number of shielded pairs

** Included on 18AWG and 16AWG multi-pair cables

| 16AWG Instrumentation Cable - Individual and Overall Shields | | | | | | | | | | | |
|--|-----------------|-----|-----------|---|---------------------------------|---------------------------------|-----------------------------|--------------------------------|---------------------------|----------------------------|----------------|
|  | | | | | | | | | | | |
| Part Number | Number of Pairs | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
| PLTC3-16-2SS-1 | 2 | 16 | 7 | 15 | 0.0152 | 52 | 0.443 | 4.43 | 20 | 0.11 | Retired |
| PLTC3-16-4SS-1 | 4 | | | | | 65 | 0.539 | 5.39 | 20 | 0.18 | \$1.97 |
| PLTC3-16-8SS-1 | 8 | | | | | 75 | 0.690 | 6.90 | 20 | 0.32 | Retired |

* See web store for maximum cut lengths




Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

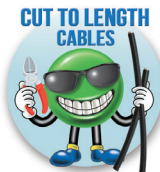
16AWG Instrumentation Cable - Individual and Overall Shields

| 16AWG Instrumentation Cable - Individual and Overall Shields Specifications | | | |
|---|---|------------------------------|--|
| Conductor Gauge & Stranding | 16AWG 7-stranded bare copper | Shield and Drain Wire | Individual and overall aluminum polyester foil shield with a tinned copper drain wire |
| Voltage Rating | 300V | Min. Bend Radius | 10x diameter |
| Jacket Material | Sunlight resistant black PVC (polyvinyl chloride) | Print Legend | QUABBIN P/N xxxx (UL) TYPE PLTC OR ITC 16AWG SHEILDED 105C SUN RES OR C(UL)US CM OR AWM 2464-RoHS--(LOT#) |
| Conductor Insulation | PVC | | |
| Pair Lay Length | 1.25 twists per inch | | |
| Resistance | 4.18Ω/1000' @ 20°C per conductor | Flame Rating | UL 1685 Vertical Tray, Section 1061 of UL 1581 Cable Flame |
| Conductor Markings | Black / White | Applicable Standards | UL Standard 444 Type CM UL Standard 758 AWM 2464 UL Standard 13 Type PLTC UL Standard 2250 Type ITC |
| Temperature Rating | -40°C to 105°C (-40°F to 221°F) | | |
| Communication Wire* | 22AWG PVC (orange) | | |

*Included on 18AWG and 16AWG multi-pair cables

| 16AWG Instrumentation Cable - Individual and Overall Shields | | | | | | | | | | | | |
|--|-----------------|-----|-----------|---|---------------------------------|---------------------------------|---------------------|----------------------------|--------------------------------|---------------------------|----------------------------|----------------|
|  | | | | | | | | | | | | |
| Part Number | Number of Pairs | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Capacitance (pF/ft) | Nominal O.D. (Inches ±10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
| <u>PLTC-16-2SS-1</u> | 2 | 16 | 7 | 16 | 0.091 | 52 | 71 | 0.432 | 4.32 | 20 ft | 0.10 | \$1.09 |


* See web store for maximum cut lengths



Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

20AWG Triad Instrumentation Cable - Overall Shield

| 20AWG Triad Instrumentation Cable - Overall Shield Specifications | | | |
|---|---|------------------------------|---|
| Conductor Gauge & Stranding | 20AWG Class B 10 stranded bare copper per ASTM B-3 and B-8 | Shield and Drain Wire | Overall aluminum polyester foil shield with a 22AWG tinned copper drain wire |
| Voltage Rating | 300V | Min. Bend Radius | 10x diameter |
| Jacket Material | Sunlight resistant black PVC (polyvinyl chloride) | Print Legend* | QUABBIN P/N xxxx (UL) TYPE PLTC OR ITC 20AWG SHEILDED 105C SUN RES OR C(UL)US CM OR AWM 2464-RoHS--(LOT#) |
| Conductor Insulation | PVC | | |
| Conductor Insulation Colors | (1) Black/ (1) Red/ (1) White | | |
| Set Lay Length | 1 twist per inch | | |
| Resistance | 10.50Ω/1000' @ 20°C per conductor | Flame Rating | UL 1581 Section 1061 Cable Flame, UL 1581 Vertical Tray |
| Capacitance | 42 pF/ft | Applicable Standards | NEC (UL) Type PLTC NEC (UL) Type ITC NEC (UL) Type CM CEC C(UL)Type CM UL AWM STYLE 2464 |
| Conductor Markings | Black / White; Alpha-numeric print; alternate & inverted @ 2.5 inch intervals | | |
| Temperature Rating | -40°C to 105°C (-40°F to 221°F) | | |

| 20AWG Triad Instrumentation Cable - Overall Shield | | | | | | | | | | | |
|--|------------------|-----|-----------|---|---------------------------------|---------------------------------|-----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | | | | | |
| Part Number | Number of Triads | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| PLTC3-20-1TS-1 | 1 | 20 | 10 | 13 | 0.037 | 37 | 0.212 | 2.12 | 20 | 0.03 | \$0.35 |
| PLTC3-20-2TS-1 | 2 | | | | | 42 | 0.358 | 3.58 | 20 | 0.05 | \$0.72 |
| PLTC3-20-4TS-1 | 4 | | | | | 52 | 0.432 | 4.32 | 20 | 0.09 | \$1.17 |
| PLTC3-20-8TS-1 | 8 | | | | | | 0.560 | 5.60 | 20 | 0.16 | \$2.01 |

* See web store for maximum cut lengths



Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

18AWG Triad Instrumentation Cable - Overall Shield

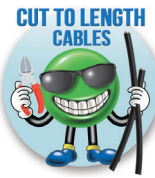
| 18AWG Triad Instrumentation Cable - Overall Shield Specifications | | | |
|---|---|------------------------------|---|
| Conductor Gauge & Stranding | 18AWG 7 stranded bare copper | Shield and Drain Wire | Overall aluminum polyester foil shield with a 22AWG tinned copper drain wire |
| Voltage Rating | 300V | Min. Bend Radius | 10x diameter |
| Jacket Material | Sunlight resistant black PVC (polyvinyl chloride) | Print Legend* | QUABBIN P/N xxxx (UL) TYPE PLTC OR ITC 18 AWG SHIELDED 105C SUN RES OR C(UL)US CM OR AWM 2464-- RoHS-- (LOT DESIGNATOR) |
| Conductor Insulation | PVC | | |
| Conductor Insulation Colors | (1) Black/ (1) Red/ (1) White | | |
| Set Lay Length | 1 twist per inch | Flame Rating | UL 1581 Section 1061 Cable Flame, UL 1581 Vertical Tray |
| Resistance | 6.64Ω/1000' @ 20°C per conductor | | |
| Capacitance | 42 pF/ft | Agency Approvals | NEC (UL) Type PLTC NEC (UL) Type ITC NEC (UL) Type CM CEC C(UL)Type CM UL AWM STYLE 2464 |
| Conductor Markings | Black / White; Alpha-numeric print; alternate & inverted @ 2.5 inch intervals | | |
| Temperature Rating | -40°C to 105°C (-40°F to 221°F) | | |

18AWG Triad Instrumentation Cable - Overall Shield



| Part Number | Number of Triads | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|--------------------------------|------------------|-----|-----------|---|---------------------------------|---------------------------------|-----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
| PLTC3-18-1TS-1 | 1 | 18 | 7 | 16 | 0.046 | 37 | 0.245 | 2.45 | 20 | 0.04 | \$0.41 |
| PLTC3-18-2TS-1 | 2 | | | | | 52 | 0.442 | 4.42 | 20 | 0.08 | \$0.80 |
| PLTC3-18-4TS-1 | 4 | | | | | 62 | 0.513 | 5.13 | 20 | 0.13 | \$1.42 |
| PLTC3-18-8TS-1 | 8 | | | | | 62 | 0.681 | 6.81 | 20 | 0.24 | \$2.48 |


* See web store for maximum cut lengths



Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

20AWG Triad Instrumentation Cable - Individual and Overall Shields

| 20AWG Triad Instrumentation Cable - Individual and Overall Shields Specifications | | | |
|---|---|------------------------------|--|
| Conductor Gauge & Stranding | 20AWG Class B 10 stranded bare copper per ASTM B-3 and B-8 | Shield and Drain Wire | Individual and overall aluminum polyester foil shield with a 22AWG tinned copper drain wire |
| Voltage Rating | 300V | Min. Bend Radius | 10x diameter |
| Jacket Material | Sunlight resistant black PVC (polyvinyl chloride) | Print Legend* | QUABBIN P/N xxxx (UL) TYPE PLTC OR ITC 20AWG SHELDED 105C SUN RES OR C(UL)US CM OR AWM 2464-RoHS--(LOT#) |
| Conductor Insulation | PVC | | |
| Conductor Insulation Colors | (1) Black/ (1) Red/ (1) White | | |
| Set Lay Length | 1 twist per inch | | |
| Resistance | 10.50Ω/1000' @ 20°C per conductor | Flame Rating | UL 1581 Section 1061 Cable Flame, UL 1581 Vertical Tray |
| Capacitance | 57 pF/ft | Agency Approvals | NEC (UL) Type PLTC NEC (UL) Type ITC NEC (UL) Type CM CEC C(UL)Type CM UL AWM STYLE 2464 |
| Conductor Markings | Black / White; Alpha-numeric print; alternate & inverted @ 2.5 inch intervals | | |
| Temperature Rating | -40°C to 105°C (-40°F to 221°F) | | |

| 20AWG Triad Instrumentation Cable - Individual and Overall Shields | | | | | | | | | | | |
|--|------------------|-----|-----------|---|---------------------------------|---------------------------------|----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | | | | | |
| Part Number | Number of Triads | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ±10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| PLTC3-20-2TSS-1 | 2 | 20 | 10 | 13 | 0.37 | 42 | 0.367 | 3.67 | 20 | 0.06 | \$0.85 |
| PLTC3-20-4TSS-1 | 4 | | | | | 52 | 0.444 | 4.44 | 20 | 0.11 | \$1.38 |
| PLTC3-20-8TSS-1 | 8 | | | | | | 0.576 | 5.76 | 20 | 0.18 | \$2.48 |


* See web store for maximum cut lengths



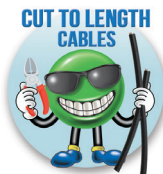
Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

18AWG Triad Instrumentation Cable - Individual and Overall Shields

| 18AWG Triad Instrumentation Cable - Individual and Overall Shields Specifications | | | |
|---|---|------------------------------|---|
| Conductor Gauge & Stranding | 18AWG 7 stranded bare copper | Min. Bend Radius | 10x diameter |
| Voltage Rating | 300V | Shield and Drain Wire | Individual and overall aluminum polyester foil shield with a 22AWG tinned copper drain wire |
| Jacket Material | Sunlight resistant black PVC (polyvinyl chloride) | Print Legend* | QUABBIN P/N xxxx (UL) TYPE PLTC OR ITC 18 AWG SHIELDED 105C SUN RES OR C(UL)US CM OR AWM 2464-- RoHS-- (LOT DESIGNATOR) |
| Conductor Insulation | PVC | | |
| Conductor Insulation Colors | (1) Black/ (1) Red/ (1) White | | |
| Set Lay Length | 1 twist per inch | Flame Rating | UL 1581 Section 1061 Cable Flame, UL 1581 Vertical Tray |
| Resistance | 6.64Ω/1000' @ 20°C per conductor | | |
| Capacitance | 57 pF/ft | Agency Approvals | NEC (UL) Type PLTC NEC (UL) Type ITC NEC (UL) Type CM CEC C(UL)Type CM UL AWM STYLE 2464 |
| Conductor Markings | Black / White; Alpha-numeric print; alternate & inverted @ 2.5 inch intervals | | |
| Temperature Rating | -40°C to 105°C (-40°F to 221°F) | | |

| 18AWG Triad Instrumentation Cable - Individual and Overall Shields | | | | | | | | | | | |
|--|------------------|-----|-----------|---|---------------------------------|---------------------------------|-----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
|  | | | | | | | | | | | |
| Part Number | Number of Triads | AWG | Stranding | Overall Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| <u>PLTC3-18-2TSS-1</u> | 2 | 18 | 7 | 16 | 0.046 | 52 | 0.454 | 4.54 | 20 | 0.09 | \$1.05 |
| <u>PLTC3-18-4TSS-1</u> | 4 | | | | | | 0.527 | 5.27 | 20 | 0.15 | \$1.68 |
| <u>PLTC3-18-8TSS-1</u> | 8 | | | | | 62 | 0.701 | 7.01 | 20 | 0.28 | \$3.03 |

* See web store for maximum cut lengths



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Data Cables

Industrial Use Data Cables

Electrically radiated noise frequently present in factory floor environments can interfere with device-to-device communication circuits, causing delayed signals or data loss. One important factor in establishing a good, reliable communication circuit is cable selection. AutomationDirect offers high quality, low-capacitance data cables designed with impedances specific for communication applications in industrial environments. The tinned copper conductors are twisted pairs that help reduce electrical noise sensitivity and are available in one-, two-, three-, or four-pair color-coded versions. The polyethylene conductor insulation provides a very high insulation resistance with a low, stable dielectric constant that results in lower capacitance and excellent propagation velocity for superior signal transmission.

To protect from radiated or conducted electromagnetic interference (EMI), these data cables have shields consisting of an overall foil shield with drain wire and some are available with a woven braided layer. The overall foil shield has 100% cable coverage for excellent protection against higher frequency noise. A drain wire is provided to easily terminate and ground the foil shield. On the RS-422 data cables a second shield layer consists of a woven braid that is ideal for minimizing low frequency interference while providing superior structural integrity to the overall cable.

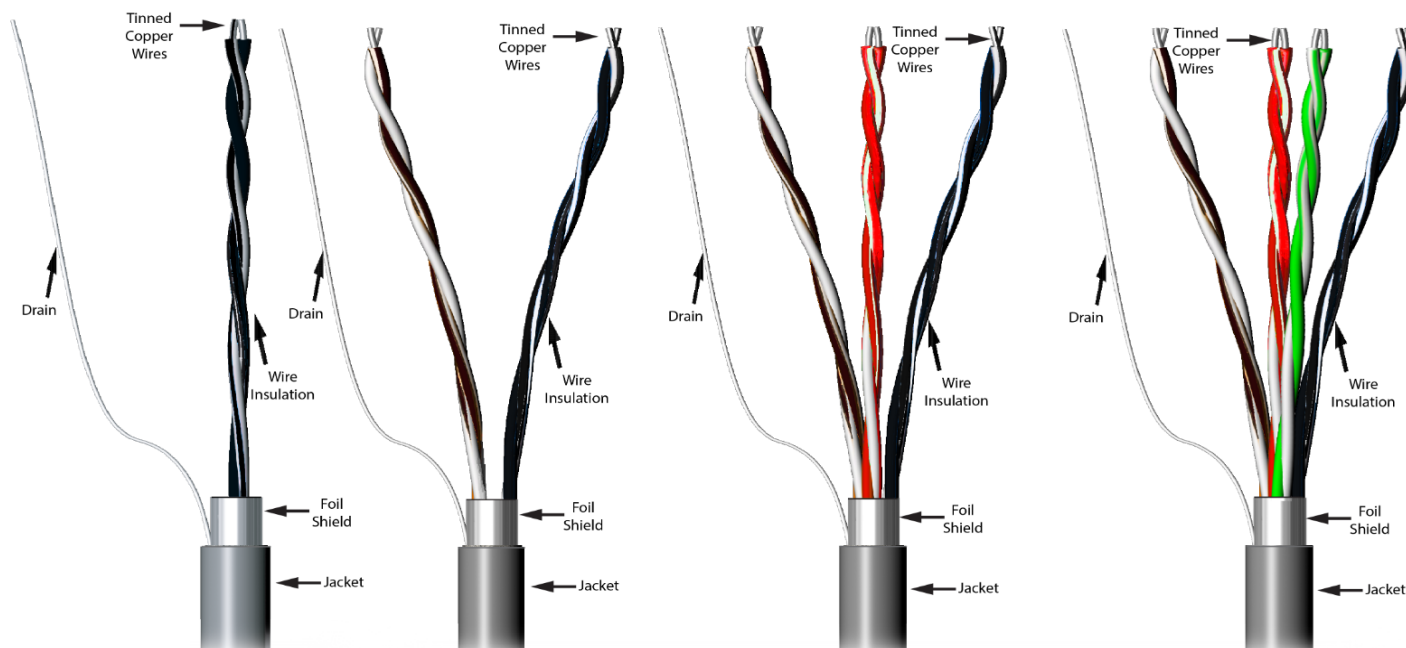


Features

- Low capacitance data cables for RS-232, RS-422, and RS-485 applications in industrial environments
- Color-coded tinned copper twisted-pair conductors to reduce electrical noise sensitivity
- Shielded with tinned copper drain wire
- Rugged gray PVC jacket provides durability in demanding installations
- UL CM available in multipliable AWM Styles
- Cut-to-length in 1-foot increments
- Low 25-foot minimum length



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable

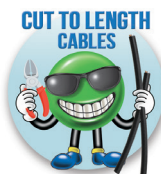


Data Cable Specifications

| Series RS-232 Data Cable Specifications | | | | |
|---|---------------|--|---|--|
| | | Q8105-1 | Q8504-1 | Q8506-1 |
| Conductor Gauge and Stranding | | 24 AWG 7/32 stranded tinned copper | 24 AWG 7/32 stranded tinned copper | 24 AWG 7/32 stranded tinned copper |
| Pairs | | 1 | 2 | 3 |
| Color Code | Pair 1 | Black X Red | Black X Black/White | Black X Black/White |
| | Pair 2 | N/A | White X White/Black | White X White/Black |
| | Pair 3 | N/A | N/A | Red X White/Red |
| Insulation | | Semi-Rigid PVC | Low Density Polyethylene | Low Density Polyethylene |
| Construction | | Twisted pair, overall shield | Twisted pairs cabled; overall shield | Twisted pairs cabled; overall shield |
| Shield/Drain | | Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire | Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire | Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire |
| Jacket | | Chrome Gray PVC | Chrome Gray PVC | Chrome Gray PVC |
| Diameter | | .155in Nominal | .235in Nominal | .235in Nominal |
| Minimum Bend Radius | | 1.55in (Install) | 2.94in (Install) | 2.35in (Install) |
| Cable Weight | | 13.9lbs/1000ft Approx. | 23.6 lb/1000ft Approx. | 28.8 lb/1000ft Approx. |
| Impedance | | N/A | 100 Ω /1,000 | 100 Ω /1,000 |
| Capacitance | | 40 pF/ft mutual Nom. 74 pF/ft grounded Nom. | 12.5 pF/ft Nom. 23.2 pF/ft Nom. | 15.5 pF/ft Nom. 29.0 pF/ft Nom. |
| Resistance | | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max |
| Voltage | | 300V | 300V | 300V |
| Temperature Range | | -20°C to 80°C (-4°F to 176°F) | -20°C to 80°C (-4°F to 176°F) | -20°C to 80°C (-4°F to 176°F) |
| Plenum | | No | No | No |
| UL Classification | | CM or AWM Style 2464 | CM/CL2 or AWM Style 2919 | CM/CL2 or AWM Style 2919 |
| Agency Approvals | | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame |
| Sample Print Legend | | QUABBIN 8105 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 --RoHS -- | QUABBIN 8504 (UL) TYPE CM 24 AWG 75C OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG 60C -- RoHS -- | QUABBIN 8506 (UL) TYPE CM 24 AWG 75C OR AWM 2448 --LOW VOLTAGE COMPUTER CABLE --CSA LL51726 TYPE CMG 60C --RoHS -- |

| Series RS-232 Data Cable Specifications | | | | | | |
|---|-------------------------|-----|-----------------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Twisted Pairs | AWG | Maximum O.D. (Inches $\pm 10\%$) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| <u>Q8105-1</u> | 1 | 24 | 0.20 | 25 | 0.014 | \$0.31 |
| <u>Q8504-1</u> | 2 | | 0.24 | | 0.023 | \$0.51 |
| <u>Q8506-1</u> | 3 | | 0.28 | | 0.028 | \$0.59 |

* See web store for maximum cut lengths



Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Data Cable Specifications

| Series RS-422 Data Cable Specifications | | | | | | |
|---|---------------|--|--|--|--|---|
| | | <u>Q8602-1</u> | <u>Q8604-1</u> | <u>Q8606-1</u> | <u>Q8804-1</u> | <u>Q8806-1</u> |
| Conductor Gauge and Stranding | | 24 AWG 7/32 stranded tinned copper | 24 AWG 7/32 stranded tinned copper | 24 AWG 7/32 stranded tinned copper | 24 AWG 7/32 stranded tinned copper | 24 AWG 7/32 stranded tinned copper |
| Pairs | | 1 | 2 | 3 | 2 | 3 |
| Color Code | Pair 1 | Black X Red | Black X Red | Black X Red | Black X Red | Black X Red |
| | Pair 2 | N/A | Black X White | Black X White | Black X White | Black X White |
| | Pair 3 | N/A | N/A | Black X Green | N/A | Black X Green |
| Insulation | | Foam Polypropylene | Foam Polypropylene | Foam Polypropylene | High Density Polyethylene | High Density Polyethylene |
| Construction | | Twisted pair, overall shield | Twisted pairs cabled; overall shield | Twisted pairs cabled; overall shield | Twisted pairs cabled; overall shield | Twisted pairs cabled; overall shield |
| Shield/Drain | | Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire | Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire | Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire | Tinned Copper Braid over a Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire | Tinned Copper Braid over a Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire |
| Jacket | | Chrome Gray PVC | Chrome Gray PVC | Chrome Gray PVC | Chrome Gray PVC | Chrome Gray PVC |
| Diameter | | .203in Nominal | .294in Nominal | .324in Nominal | .242in Nominal | .239in Nominal |
| Minimum Bend Radius | | 2.07in (Install) | 2.94in (Install) | 3.24in (Install) | 2.42in (Install) | 2.39in (Install) |
| Cable Weight | | 18.9lbs/1000ft Approx. | 31.7 lb/1000ft Approx. | 41.1 lb/1000ft Approx. | 31.7 lb/1000ft Approx. | 35.4 lb/1000ft Approx. |
| Impedance | | 120 Ω /1,000 | 100 Ω /1,000 | 100 Ω /1,000 | 100 Ω /1,000 | 100 Ω /1,000 |
| Capacitance | | 12.5 pF/ft mutual Nom. 23.2 pF/ft grounded Nom. | 12.5 pF/ft mutual Nom. 23.2 pF/ft grounded Nom. | 12.5 pF/ft mutual Nom. 23.2 pF/ft grounded Nom. | 18.0 pF/ft Nom. 32.0 pF/ft Nom. | 18.0 pF/ft Nom. 32.0 pF/ft Nom. |
| Resistance | | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max |
| Voltage | | 300V | 300V | 300V | 300V | 300V |
| Temperature Range | | -20°C to 80°C (-4°F to 176°F) | -20°C to 80°C (-4°F to 176°F) | -20°C to 80°C (-4°F to 176°F) | -20°C to 80°C (-4°F to 176°F) | -20°C to 80°C (-4°F to 176°F) |
| Plenum | | No | No | No | No | No |
| UL Classification | | CM or AWM Style 2919 UL E69976 & E118830 RoHS | CM or AWM Style 2448 UL E69976 & E118830 RoHS | CM or AWM Style 2448 UL E69976 & E118830 RoHS | CM or AWM Style 2919 UL E69976 & E118830 RoHS | CM or AWM Style 2919 UL E69976 & E118830 RoHS |
| Agency Approvals | | UL 1685 Vertical Tray, UL 1581 Cable Flame | UL 1685 Vertical Tray, UL 1581 Cable Flame | UL 1685 Vertical Tray, UL 1581 Cable Flame | UL 1685 Vertical Tray, UL 1581 Cable Flame | UL 1685 Vertical Tray, UL 1581 Cable Flame |
| Sample Print Legend | | QUABBIN 8602 C(UL)US TYPE CM 24 AWG OR AWM 2919 -- LOW VOLTAGE COMPUTER CABLE -- RoHS -- | QUABBIN 8604 TYPE CM C(UL)US 24 AWG SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- RoHS -- | QUABBIN 8606 TYPE CM C(UL)US 24 AWG SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- RoHS -- | QUABBIN 8804 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2919 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG -- RoHS -- | QUABBIN 8806 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2919 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG -- RoHS -- |

| Series RS-422 Data Cable Specifications | | | | | | |
|---|--------------------------------|------------|--|---------------------------------|-----------------------------------|-----------------------|
| Part Number | Number of Twisted Pairs | AWG | Maximum O.D. (Inches $\pm 10\%$) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| <u>Q8602-1</u> | 1 | 24 | 0.203 | 25 | 0.0189 | \$0.34 |
| <u>Q8604-1</u> | 2 | | 0.294 | | 0.0317 | \$0.75 |
| <u>Q8606-1</u> | 3 | | 0.324 | | 0.0411 | \$0.88 |
| <u>Q8804-1</u> | 2 | | 0.242 | | 0.0317 | \$0.73 |
| <u>Q8806-1</u> | 3 | | 0.239 | | 0.0354 | \$0.82 |

* See web store for maximum cut lengths



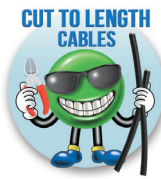
Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Data Cable Specifications

| Series RS-422/485 Data Cable Specifications | | | | | |
|---|---------------|---|---|---|---|
| | | <u>Q8302-1</u> | <u>Q8304-1</u> | <u>Q8606-1</u> | <u>Q8308-1</u> |
| Conductor Gauge and Stranding | | 24 AWG 7/32 stranded tinned copper | 24 AWG 7/32 stranded tinned copper | 24 AWG 7/32 stranded tinned copper | 24 AWG 7/32 stranded tinned copper |
| Pairs | | 1 | 2 | 3 | 4 |
| Color Code | Pair 1 | Black X Black/White | Black X Black/White | Black X Black/White | Black X Black/White |
| | Pair 2 | N/A | White X White/Black | White X White/Black | White X White/Black |
| | Pair 3 | N/A | N/A | Red X White/Red | Red X White/Red |
| | Pair 4 | | | | Green X White/Green |
| Insulation | | Low Density Polyethylene | Low Density Polyethylene | Low Density Polyethylene | Low Density Polyethylene |
| Construction | | Twisted pair, overall shield | Twisted pairs cabled; overall shield | Twisted pairs cabled; overall shield | Twisted pairs cabled; overall shield |
| Shield/Drain | | Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire | Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire | Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire | Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire |
| Jacket | | Chrome Gray PVC | Chrome Gray PVC | Chrome Gray PVC | Chrome Gray PVC |
| Diameter | | .238in Nominal | .250in Nominal | .258in Nominal | .298in Nominal |
| Minimum Bend Radius | | 2.38in (Install) | 2.50in (Install) | 2.58in (Install) | 2.98in (Install) |
| Cable Weight | | 28.8lbs/1000ft Approx. | 35.1 lb/1000ft Approx. | 37.7 lb/1000ft Approx. | 46.7 lb/1000ft Approx. |
| Impedance | | 100 Ω /1,000 | 110 Ω /1,000 | 110 Ω /1,000 | 110 Ω /1,000 |
| Capacitance | | 15.5 pF/ft mutual Nom. 29 pF/ft grounded Nom. | 14 pF/ft mutual Nom. 25.9 pF/ft grounded Nom. | 13.5 pF/ft mutual Nom. 25.0 pF/ft grounded Nom. | 13.0 pF/ft mutual Nom. 24.0 pF/ft grounded Nom. |
| Resistance | | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max |
| Voltage | | 300V | 300V | 300V | 300V |
| Temperature Range | | -20°C to 80°C (-4°F to 176°F) | -20°C to 75°C (-4°F to 167 °F) | -20°C to 75°C (-4°F to 167 °F) | -20°C to 75°C (-4°F to 167 °F) |
| Plenum | | No | No | No | No |
| UL Classification | | CM or AWM Style 2448 | CM or AWM Style 2448 | CM or AWM Style 2448 | CM or AWM Style 2919 |
| Agency Approvals | | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame |
| Sample Print Legend | | QUABBIN 8302 (UL) TYPE CM 24 AWG 75C SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 CMG 60C -- RoHS -- | QUABBIN 8304 (UL) TYPE CM 24 AWG 75C SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG 60C -- RoHS -- | QUABBIN 8306 (UL) TYPE CM 24 AWG 75C SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG 60C -- RoHS -- | QUABBIN 8308 (UL) TYPE CM 24 AWG 75C SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG 60C -- RoHS -- |

| Series RS-422/485 Data Cable Specifications | | | | | | |
|---|--------------------------------|------------|--|---------------------------------|-----------------------------------|-----------------------|
| Part Number | Number of Twisted Pairs | AWG | Maximum O.D. (Inches $\pm 10\%$) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| <u>Q8302-1</u> | 1 | 24 | 0.238 | 25 | 0.0288 | \$0.65 |
| <u>Q8304-1</u> | 2 | | 0.250 | | 0.0351 | \$0.80 |
| <u>Q8606-1</u> | 3 | | 0.258 | | 0.0377 | \$0.88 |
| <u>Q8308-1</u> | 4 | | 0.298 | | 0.0467 | \$1.05 |

* See web store for maximum cut lengths



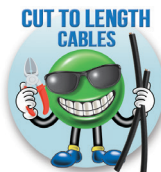
Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Data Cable Specifications

| Series RS-422/485 Data Cable Specifications | | | | |
|---|-------------------------|---|---|---|
| | | Q0356-1 | Q0357-1 | Q0358-1 |
| Conductor Gauge and Stranding | | 24AWG 7/32 stranded tinned copper | 22AWG 7/30 stranded tinned copper | 20AWG 7/28 stranded tinned copper |
| Pairs | | 1.5 | 1.5 | 1.5 |
| Color Code | Pair 1 | Black X Black/White | Black X Black/White | Black X Black/White |
| | Ground | Green | Green | Green |
| Insulation | | Low Density Polyethylene | Low Density Polyethylene | Low Density Polyethylene |
| Construction | | Shielded twisted pair with green ground conductor and overall shield | Shielded twisted pair with green ground conductor and overall shield | Shielded twisted pair with green ground conductor and overall shield |
| Pair Shield/Drain | | Aluminized Polyester Foil Shield with a 24AWG Stranded Tinned Copper Drain Wire | Aluminized Polyester Foil Shield with a 22AWG Stranded Tinned Copper Drain Wire | Aluminized Polyester Foil Shield with a 20AWG Stranded Tinned Copper Drain Wire |
| Overall Shield/Drain | | Tinned Copper Braid 70% Minimum Coverage | Tinned Copper Braid 70% Minimum Coverage | Tinned Copper Braid 70% Minimum Coverage |
| Jacket | | Chrome Gray PVC | Chrome Gray PVC | Chrome Gray PVC |
| Diameter | | 0.219 in Nominal | 0.249 in Nominal | 0.292 in Nominal |
| Minimum Bend Radius | | 2.19 in Nominal (install) | 2.49 in Nominal (install) | 2.92 in (install) |
| Cable Weight | | 24.8 lbs/1000ft Approx. | 36.9 lbs/1000ft Approx. | 49.7 lbs/1000ft Approx. |
| Impedance | | 100 Ω /1,000 | 101 Ω /1,000 | 102 Ω /1,000 |
| Capacitance | Signal to Signal | 18.0 pF/ft Nom. | 18.0 pF/ft Nom. | 18.0 pF/ft Nom. |
| | Signal to Ground | 32.0 pF/ft Nom. | 32.0 pF/ft Nom. | 32.0 pF/ft Nom. |
| Resistance | | 26.2 Ω DC per 1000 ft @ 20°C (68°F) max | 16.7 Ω DC per 1000 ft @ 20°C (68°F) max | 10.4 Ω DC per 1000 ft @ 20°C (68°F) max |
| Voltage | | 300V | 300V | 300V |
| Temperature Range | | -20°C to 80°C (-4°F to 176°F) | -20°C to 80°C (-4°F to 176°F) | -20°C to 80°C (-4°F to 176°F) |
| Plenum | | No | No | No |
| UL Classification | | CM or AWM Style 2448 | CM or AWM Style 2448 | CM or AWM Style 2448 |
| Agency Approvals | | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame |
| Sample Print Legend | | QUABBIN P/N 0356 3/C 24 AWG SHIELDED C(UL)US CM 75C OR AWM 2448 -- RoHS -- (LOT DESIGNATOR) | QUABBIN P/N 0356 3/C 24 AWG SHIELDED C(UL)US CM 75C OR AWM 2448 -- RoHS -- (LOT DESIGNATOR) | QUABBIN P/N 0356 3/C 24 AWG SHIELDED C(UL)US CM 75C OR AWM 2448 -- RoHS -- (LOT DESIGNATOR) |

| Twisted Pairs Data Cable Specifications | | | | | | |
|---|--------------------------------|------------|--|---------------------------------|-----------------------------------|-----------------------|
| Part Number | Number of Twisted Pairs | AWG | Maximum O.D. (Inches $\pm 10\%$) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| Q0356-1 | 1.5 | 24 | 0.219 | 25 | 0.0248 | \$0.75 |
| Q0357-1 | 1.5 | 22 | 0.249 | 25 | 0.0369 | \$0.90 |
| Q0358-1 | 1.5 | 20 | 0.292 | 25 | 0.0497 | \$1.15 |

* See web store for maximum cut lengths



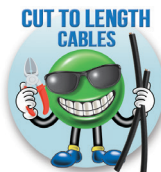
Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Data Cable Specifications

| Twisted Pairs Data Cable Specifications | | | | |
|---|---------------|---|---|--|
| | | <u>Q6135-1</u> | <u>Q6155-1</u> | <u>Q7380-1</u> |
| Conductor Gauge and Stranding | | 20 AWG 7/28 stranded tinned copper | 20 AWG 7/28 stranded tinned copper | 22 AWG Solid |
| Pairs | | 3 | 3 | 3 |
| Color Code | Pair 1 | Black X Red | Black X Red | Black X Red |
| | Pair 2 | Black X White | Black X White | Black X White |
| | Pair 3 | Black X Green | Black X Green | Black X Green |
| Insulation | | Semi-Rigid PVC | High Density Polyethylene | Semi-Rigid PVC |
| Construction | | Twisted pair, unshielded | Twisted pairs cabled, individually shielded | Twisted pairs cabled, individually shielded |
| Shield/Drain | | N/A | Aluminized Polyester Foil Shield with a 22 AWG Stranded Tinned Copper Drain Wire | Aluminized Polyester Foil Shield with a 22AWG Solid Tinned Copper Drain Wire |
| Jacket | | Chrome Gray PVC | Chrome Gray PVC | Chrome Gray PVC |
| Diameter | | .264in Nominal | .325in Nominal | .270in Nominal |
| Minimum Bend Radius | | 2.64in (Install) | 3.25in (Install) | 2.70in (Install) |
| Cable Weight | | 42.3lbs/1000ft Approx. | 54.5 lb/1000ft Approx. | 39.3 lb/1000ft Approx. |
| Impedance | | N/A | 100 Ω /1,000 | 100 Ω /1,000 |
| Capacitance | | 40 pF/ft mutual Nom. 74 pF/ft grounded Nom. | 30.0 pF/ft Nom. 55.0 pF/ft Nom. | 26.0 pF/ft Nom. 47.0 pF/ft Nom. |
| Resistance | | 10.4 Ω DC per 1000 ft @ 20°C (68°F) max | 10.4 Ω DC per 1000 ft @ 20°C (68°F) max | 17.2 Ω DC per 1000 ft @ 20°C (68°F) max |
| Voltage | | 300V | 300V | 300V |
| Temperature Range | | -20°C to 80°C (-4°F to 176°F) | -20°C to 80°C (-4°F to 176°F) | -20°C to 80°C (-4°F to 176°F) |
| Plenum | | No | No | No |
| UL Classification | | CM or AWM Style 2464 | CM/CL2 or AWM Style 2919 | CM/CL2 or AWM Style 2919 |
| Agency Approvals | | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame | UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame |
| Sample Print Legend | | QUABBIN 6135 (UL) TYPE CM 20 AWG OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 --RoHS -- | QUABBIN 6155 (UL) TYPE CM 20 AWG 75C SHIELDED OR AWM 2919 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG 60C -- RoHS -- | QUABBIN 7380 (UL) TYPE CM 22 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- |

| Twisted Pairs Data Cable Specifications | | | | | | |
|---|--------------------------------|------------|--|----------------------------------|-----------------------------------|-----------------------|
| Part Number | Number of Twisted Pairs | AWG | Maximum O.D. (Inches $\pm 10\%$) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
| <u>Q6135-1</u> | 3 | 20 | 0.264 | 25 | 0.0423 | \$0.89 |
| <u>Q6155-1</u> | | | 0.325 | | 0.0545 | \$1.08 |
| <u>Q7380-1</u> | | 22 | 0.270 | | 0.0393 | \$0.80 |

* See web store for maximum cut lengths



Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Flexible Cable or Flexing Cable?

While it may seem there should be no difference between a cable described as flexible and one described as flexing, there are actually big differences in the design, manufacture, and application of flexible cable and flexing cable.

A flexible cable allows for easier installation in a control panel or machine as it can be easily bent and routed as needed. However, once routed and installed a flexible cable will generally be static during its service life.

A flexing (or more descriptively continuous flexing) cable during its service life will be exposed to continuous motion in the form of rolling, bending, torsional, or variable flexing operations. To provide a long service life under these rigorous applications especially when exposed to harsh industrial environmental conditions, special design and manufacturing characteristics are required to produce a continuous flexing rated cable.

Additionally, factors such as temperature, velocity, acceleration, travel distance, minimum bend radius, torsion, and minimum number of cycles must be considered when selecting a continuous flexing rated cable for a specific application.

Cable Failures

Misapplied flexible cables or poorly designed/manufactured flexing cables will quickly fail when exposed to the rigors of continuous flexing applications in harsh industrial environments.

Loss of continuity

The copper conductors can break or become severed causing a loss of continuity when insulated conductors are twisted with incorrect pitch length/direction. The cable core cannot absorb the mechanical load caused by the cable's flexing, transferring the force to the copper conductors and causing them to break under the increased tensile load.

Insulation damage

Insulation damage occurs when the insulation integrity of a cable's conductors are compromised. This is caused by material fatigue under constant bending stress, abrasion within the cable structure and/or conductor strand breakage, which in turn perforates the insulation.

Corkscrewing

This failure type is named for its easily recognizable mechanical deformation of the entire cable. The corkscrew, sometimes called pigtail, effect is caused when the torsional forces incurred during the cabling process are allowed to release during continuous-flexing operation. These forces are released because the cable configuration, pitch length and pitch direction are incorrect. Cables constructed using the layering process are typically more susceptible to corkscrewing.

Jacket abrasion

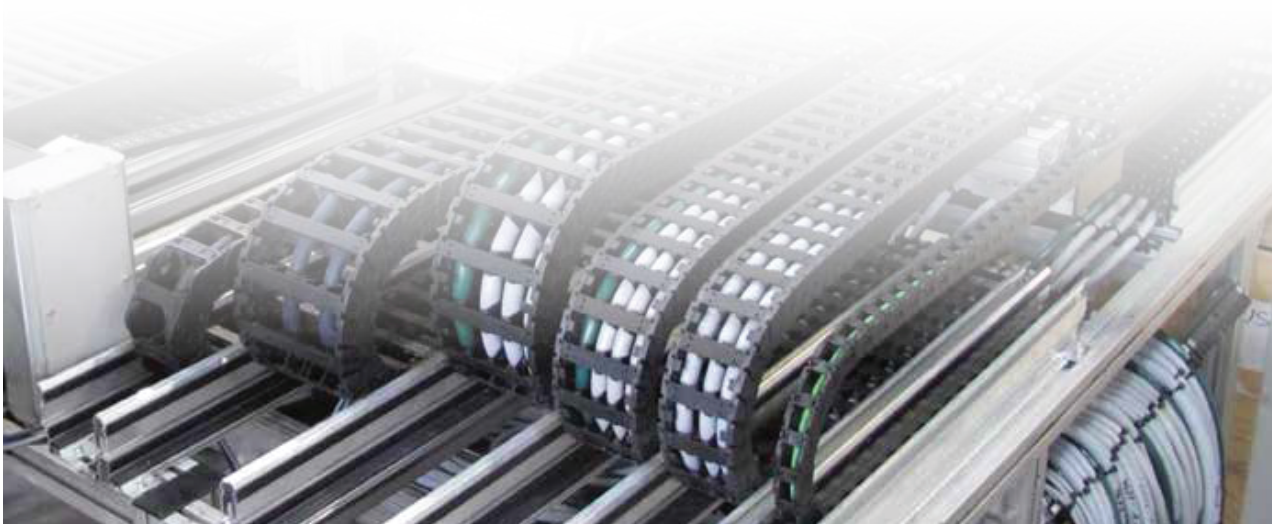
When the outer jacket of a cable wears through to the underlying layers of shielding or conductors, jacket abrasion occurs. This mechanical failure is common when soft jacket materials or a thin jacket extrusion is used.

Jacket swelling/cracking

A cable's outer jacket usually swells because of exposure to oil or chemicals the cable was not designed to withstand. Jacket cracking occurs when the jacket breaks so that the shield can be seen, and is an effect of excessively high/low temperatures.

Shielding losses/EMC problems

Increased electromagnetic interfaces (EMI) occurs when the shield designed to protect the cable signals from electromagnetic fields break and abrade due to continuous flexing. To avoid this, the tensile load of the shield wires along the outer radius of the cable must be considered in the cable design and manufacturing. If an unfavorable braiding angle is added, the tensile load can increase even further causing shield wire breakage. This breakage can result in reduced shielding properties or short circuits if the sharp broken wires penetrate into the conductors.





Flexing Cable



igus® Cable Design and Testing

Based on more than 25 years of experience and testing, various design principles for igus Chainflex® cables have been developed to prevent premature cable failures in demanding continuous flexing applications.

Strain-relieving center element

The center core is filled with a high-quality, high tensile strength center element to protect conductors from falling into the center of the cable.

Conductor structure

The copper stranding in Chainflex® continuous-flex cables is chosen in accordance with tested and proven designs. The test results from the igus® lab indicate that a medium to fine conductor strand diameter is preferable. Many competitive cable manufacturers will employ an extra-fine conductor strand, which has the tendency to kink when subjected to a high number of cycles. Using findings from long-term cable testing, igus® uses a combination of conductor strand diameter, pitch-length, and pitch direction to achieve the best service life and performance, even in the most demanding applications.

Conductor insulation

Igus uses only the highest quality high-pressure extruded PVC or TPE conductor insulation materials to support the stranded individual wires of the conductor and help prevent the conductors from adhering to one another within the cable.

Cable core

Individual conductors are bundled into groups, which are cabled together in a single layer surrounding the cable core. This design enables pulling and compressing forces of the bending motion to balance and cancel out torsional forces. Special attention is given to pitch length and direction. The cable's inner jacket will also help to maintain the integrity of the cable core and provide a continuous surface for the overall shield.

Inner jacket

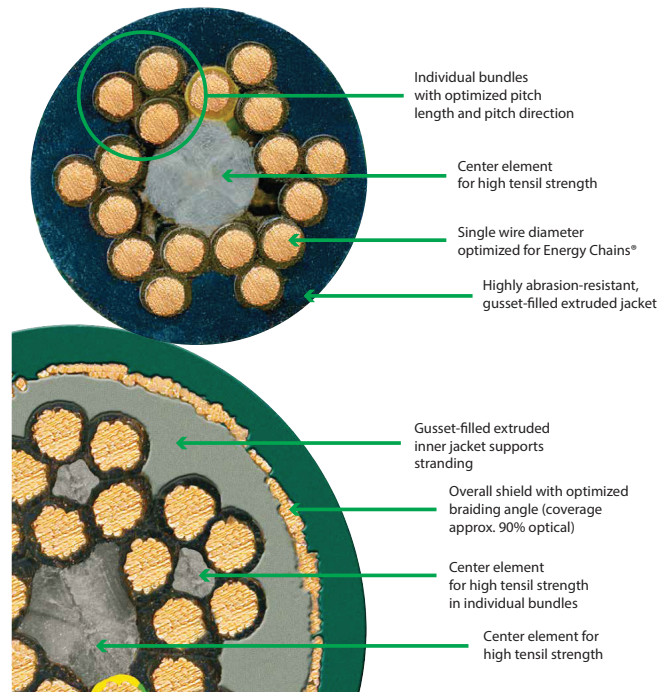
A pressure extruded inner jacket is used in igus continuous flexing cables, as opposed to inexpensive fleece wrap or filler. This extruded inner jacket both ensures that the insulated conductors are efficiently guided, as well as maintaining the integrity of the cable core and providing a continuous surface for the overall shield.

Shield design

A high-quality braided shield provides electromagnetic interference (EMI) protection for the cable. An optimized braid angle prevents the shield strands from breaking over the linear axis and increases torsional stability. The shield has an optical coverage of approximately 90%, providing maximum shield effectiveness.

Outer jacket

Igus outer jacket material is resistant to UV radiation, abrasion, oils, and chemicals, as well as being cost-effective. Additionally the outer jacket is resistant to abrasion, and remains flexible while providing support of the cable for dynamic applications. For best wear rates and service life, igus outer jackets are extruded under pressure compared to other cables which are extruded as a "tube" that does not support the conductors during constant bending.





Cycles Selection Tables - Guaranteed Service Life

For each Chainflex cable system, you will find a lifetime calculation table, expressed in cycles, using technical parameters for the specific cable series. For the Chainflex Guarantee to remain valid, the cables must be used in accordance with these parameters.

- 1 Temperature, from/to °F
- 2 Velocity, v max. unsupported/gliding ft/s
- 3 Acceleration, a max. ft/s
- 4 Travel in ft.
- 5 Min. bend radius [factor x diameter] at 5, 7.5 or 10 million cycles

Example: Selection table "Guaranteed Lifetime"

| Cycles | | | 3 | 4 | 5 million | 7.5 million | 10 million |
|---------------------------|---------------|---|----------------|----------------------|---------------------|---------------------|---------------------|
| Temperature, from/to [°F] | v max. [ft/s] | | a. max [ft/s²] | Travel distance [ft] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] |
| -31 / -13 | | | | | 6.8 | 7.5 | 8.5 |
| 1 -13 / +194 | 32.81 | 2 | 328.1 | > 1,312 | 5 | 6 | 5 7 |
| +194 / +212 | | | | | 6.8 | 7.5 | 8.5 |

Example:

You operate a cable with a diameter of 12 mm in an Energy Chain* with a radius of 100 mm. This results in a bending factor of 8.3 (100 mm/12 mm). You now want to know what the guaranteed service life is.

To find this out, select the technical framework conditions from areas 1-4. In area 5, you can now see that when using $8.3 \times d$ the effective bending factor is above the limit of 7 and the cable has a guaranteed service life for 10 million cycles.

If the temperature is higher or lower, the number of guaranteed cycles falls to 7.5 million.

This statement creates dependability and planning reliability for your entire system.





Flexing Control Cable



AutomationDirect is pleased to offer the igus CF5 and CF6 series multi-conductor control cable for continuous flexing applications. These cables are available in sizes from 20AWG to 14AWG with 3 to 25 unshielded (CF5 series) or 4 to 12 shielded (CF6 series) conductors. Individual conductors are bare copper and stranded for flexing applications. Conductor insulation is a mechanically high-quality black TPE mixture for 20AWG and black PVC mixture for 18 through 14AWG, and individual conductors are marked with white numbers for easy identification. A convenient ground conductor is included in the conductor count of each cable and has green-yellow insulation. The cable's outer jacket is a low-adhesion pressure extruded PVC mixture that provides resistance to sunlight, oil penetration, and is flame retardant.

Unshielded Chainflex® cables have a tear strip underneath the outer jacket, shielded Chainflex® cables have it underneath the inner jacket. With a few easy steps, the jacket can be opened like a zipper to the desired length by pulling on the special tear strip. The outer jacket/inner jacket can then be removed from conductors. This not only saves time and effort for assemblers and electricians, but also means they have no need for additional tools. Cables are designed such that the strip does not cause damage to the jacket or conductors, even after millions of motion cycles.

The igus CF5 and CF6 multi-conductor control cables are specifically designed, tested, and manufactured for continuous flexing, high mechanical load application requirements, and will provide a guaranteed service life between 5 million and 10 million cycles when operated within specified conditions*.

Features

- 0.5 mm² to 2.5 mm² (20AWG to 14AWG), 3 to 25 conductors including ground
- Unshielded and shielded constructions
- Individual conductors have black TPE or PVC insulation and are marked with white identification numbers
- Low adhesion pressure extruded PVC mixture outer jacket that is sunlight and oil resistant and flame retardant
- Green/yellow ground wire included
- Rated for continuous flexing applications with high mechanical load requirements
- Guaranteed service life between 5 million and 10 million cycles when operated within specified conditions
- UL Recognized type AWM (appliance wiring material)
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- 3 year warranty*



- Strip cables 50% faster: The tear strip is in the outer jacket for unshielded cables and inner jacket for shielded



* CF5 and CF6 Series Guaranteed lifetime according to guarantee conditions

| Cycles | | 5 million | | 7.5 million | | 10 million | |
|---------------------------|----------------------|---------------------|------------|---------------------|------------|---------------------|------------|
| Temperature, from/to [°F] | Travel distance [ft] | R min. [factor x d] | | R min. [factor x d] | | R min. [factor x d] | |
| | | < 32.81 ft | ≥ 32.81 ft | < 32.81 ft | ≥ 32.81 ft | < 32.81 ft | ≥ 32.81 ft |
| +41 / +59 | ≤ 328 | 7.5 | 10 | 8.5 | 11 | 9.5 | 12 |
| +59 / +140 | | 6.8 | 7.5 | 7.8 | 8.5 | 8.8 | 9.5 |
| +140 / +158 | | 7.5 | 10 | 8.5 | 11 | 9.5 | 12 |



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable








0.5 mm² (20AWG) Flexing Control Cable CF5 Series Unshielded

| 0.5 mm ² (20AWG) Multi-Conductor Flexing Control Cable Specifications (Unshielded) | | | |
|---|--|----------------------|---|
| Conductors Gauge & Stranding | 0.5 mm ² (20AWG) 16/32 bare copper | Conductor Insulation | Black TPE with green/yellow ground |
| Voltage Ratings | 600V per UL | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| | Tested to 2000V | Outer Jacket | Dark Green PVC |
| Min. Bend Radius | e-Chain®, 6.8 x diameter | UV Resistance | Yes |
| | Flexible*, 5.0 x diameter | Oil Resistance | Yes |
| | Fixed, 4.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, +41°F to +158°F (5°C to +70°C) | Silicone-free | Yes |
| | Flexible*, +23°F to +158°F (-5°C to +70°C) | Approvals | UL/CSA Style 10492 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 1, outer jacket material complies with CF130.15.07.UL, tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Fixed, +5°F to +158°F (-15°C to +70°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) | | |
| Max. Acceleration | Gliding, 16 ft/s (5 m/s) | Sample Print Legend | igus chainflex CF5.xx.xx xxGxx 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| | 262.5 ft/s ² (80 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | | |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | |

* Per EN 60811-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 0.5 mm ² (20AWG) Multi-Conductor Flexing Control Cable (Unshielded) | | | | | | | |
|---|--|-----------------------------|--------|-----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF5-05-03-1 | 3 | 0.5 mm ² (20AWG) | 16 | 0.24 | 20 | 0.03 | \$0.99 |
|  | | | | | | | |
| CF5-05-05-1 | 5 | 0.5 mm ² (20AWG) | 16 | 0.28 | 20 | 0.05 | \$1.59 |
|  | | | | | | | |
| CF5-05-07-1 | 7 | 0.5 mm ² (20AWG) | 16 | 0.31 | 20 | 0.05 | \$2.14 |




* See web store for maximum cut lengths



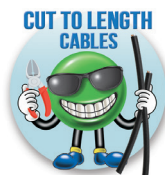
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



0.5 mm² (20AWG) Flexing Control Cable CF5 Series Unshielded

| 0.5 mm ² (20AWG) Multi-Conductor Flexing Control Cable (Unshielded) | | | | | | | |
|---|--|-----------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>CF5-05-12-1</u> | 12 | 0.5 mm ² (20AWG) | 16 | 0.43 | 20 | 0.09 | \$3.39 |
|  | | | | | | | |
| <u>CF5-05-18-1</u> | 18 | 0.5 mm ² (20AWG) | 16 | 0.51 | 20 | 0.13 | \$4.88 |
|  | | | | | | | |
| <u>CF5-05-25-1</u> | 25 | 0.5 mm ² (20AWG) | 16 | 0.63 | 20 | 0.19 | \$6.32 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.






0.75 mm² (18AWG) Flexing Control Cable CF5 Series Unshielded

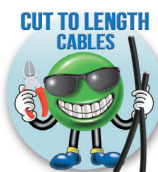
| 0.75 mm ² (18AWG) Multi-Conductor Flexing Control Cable Specifications (Unshielded) | | | |
|--|--|-----------------------------|--|
| Conductors Gauge & Stranding | 0.75 mm ² (18AWG) 34/32 bare copper | Conductor Insulation | Black PVC with green/yellow ground |
| Voltage Ratings | 600V per UL | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| | Tested to 2000V | Outer Jacket | Dark Green PVC |
| Min. Bend Radius | e-Chain®, 6.8 x diameter | UV Resistance | Yes |
| | Flexible*, 5.0 x diameter | Oil Resistance | Yes |
| | Fixed, 4.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, +41°F to +158°F (5°C to +70°C) | Silicone-free | Yes |
| | Flexible*, +23°F to +158°F (-5°C to +70°C) | Approvals | UL/CSA Style 11113 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 1, outer jacket material complies with CF130.15.07.UL, tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Fixed, +5°F to +158°F (-15°C to +70°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) | | |
| | Gliding, 16 ft/s (5 m/s) | Sample Print Legend | igus chainflex CF5.xx.xx xxGxx 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| Max. Acceleration | 262.5 ft/s ² (80 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | | |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | |

* Per EN 60811-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 0.75 mm ² (18AWG) Multi-Conductor Flexing Control Cable (Unshielded) | | | | | | | |
|--|--|------------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF5-07-03-1 | 3 | 0.75 mm ² (18AWG) | 24 | 0.26 | 20 | 0.04 | \$1.10 |
|  | | | | | | | |
| CF5-07-04-1 | 4 | 0.75 mm ² (18AWG) | 24 | 0.28 | 20 | 0.05 | \$1.55 |
|  | | | | | | | |
| CF5-07-05-1 | 5 | 0.75 mm ² (18AWG) | 24 | 0.30 | 20 | 0.06 | \$1.75 |





* See web store for maximum cut lengths



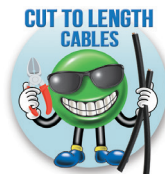
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



0.75 mm² (18AWG) Flexing Control Cable CF5 Series Unshielded

| 0.75 mm ² (18AWG) Multi-Conductor Flexing Control Cable (Unshielded) | | | | | | | |
|---|--|------------------------------|--------|-----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  igus chainflex CF5.07.07 | | | | | | | |
| <u>CF5-07-07-1</u> | 7 | 0.75 mm ² (18AWG) | 24 | 0.35 | 20 | 0.08 | \$2.49 |
|  igus chainflex CF5.07.12 | | | | | | | |
| <u>CF5-07-12-1</u> | 12 | 0.75 mm ² (18AWG) | 24 | 0.49 | 20 | 0.13 | \$4.02 |
|  igus chainflex CF5.07.18 | | | | | | | |
| <u>CF5-07-18-1</u> | 18 | 0.75 mm ² (18AWG) | 24 | 0.59 | 20 | 0.19 | \$5.25 |
|  igus chainflex CF5.07.25 | | | | | | | |
| <u>CF5-07-25-1</u> | 25 | 0.75 mm ² (18AWG) | 24 | 0.69 | 20 | 0.27 | \$7.30 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.






1.5 mm² (16AWG) Flexing Control Cable CF5 Series Unshielded

| 1.5 mm ² (16AWG) Multi-Conductor Flexing Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|---|
| Conductors Gauge & Stranding | 1.5 mm ² (16AWG) 30/30 bare copper | Conductor Insulation | Black PVC with green/yellow ground |
| Voltage Ratings | 600V per UL | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| | Tested to 2000V | Outer Jacket | Dark Green PVC |
| Min. Bend Radius | e-Chain [®] **, 6.8 x diameter | UV Resistance | Yes |
| | Flexible*, 5.0 x diameter | Oil Resistance | Yes |
| | Fixed, 4.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, +41°F to +158°F (5°C to +70°C) | Silicone-free | Yes |
| | Flexible*, +23°F to +158°F (-5°C to +70°C) | Approvals | UL/CSA Style 11113 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 1, outer jacket material complies with CF130.15.07.UL, tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Fixed, +5°F to +158°F (-15°C to +70°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) Gliding, 16 ft/s (5 m/s) | | |
| Max. Acceleration | 262.5 ft/s ² (80 m/s ²) | Sample Print Legend | igus chainflex CF5.xx.xx xxGxx 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | | |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | |

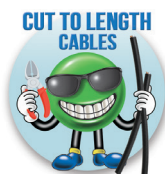
* Per EN 60811-504 standard

** For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

e-Chain[®] is a trademarked flexible cable carrier by igus[®]. igus[®] cable can be used in any suitable cable carrier.

| 1.5 mm ² (16AWG) Multi-Conductor Flexing Control Cable (Unshielded) | | | | | | | |
|---|--|-----------------------------|--------|----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF5-15-03-1 | 3 | 1.5 mm ² (16AWG) | 30 | 0.30 | 20 | 0.05 | \$1.63 |
|  | | | | | | | |
| CF5-15-04-1 | 4 | 1.5 mm ² (16AWG) | 30 | 0.31 | 20 | 0.07 | \$2.07 |
|  | | | | | | | |
| CF5-15-05-1 | 5 | 1.5 mm ² (16AWG) | 30 | 0.35 | 20 | 0.09 | \$2.46 |



* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

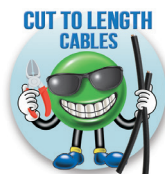


1.5 mm² (16AWG) Flexing Control Cable CF5 Series Unshielded

| 1.5 mm ² (16AWG) Multi-Conductor Flexing Control Cable (Unshielded) | | | | | | | |
|--|--|-----------------------------|--------|-----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  igus chainflex CF5.15.07 | | | | | | | |
| <u>CF5-15-07-1</u> | 7* | 1.5 mm ² (16AWG) | 30 | 0.41 | 20 | 0.13 | \$4.16 |
|  igus chainflex CF5.15.12 | | | | | | | |
| <u>CF5-15-12-1</u> | 12 | 1.5 mm ² (16AWG) | 30 | 0.59 | 20 | 0.19 | \$5.89 |

* For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

** See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.





2.5 mm² (14AWG) Flexing Control Cable CF5 Series Unshielded

| 2.5 mm ² (14AWG) Multi-Conductor Flexing Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|---|
| Conductors Gauge & Stranding | 2.5 mm ² (14AWG) 50/30 bare copper | Conductor Insulation | Black PVC with green/yellow ground |
| Voltage Ratings | 600V per UL | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| | Tested to 2000V | Outer Jacket | Dark Green PVC |
| Min. Bend Radius | e-Chain [®] **, 6.8 x diameter | UV Resistance | Yes |
| | Flexible*, 5.0 x diameter | Oil Resistance | Yes |
| | Fixed, 4.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, +41°F to +158°F (5°C to +70°C) | Silicone-free | Yes |
| | Flexible*, +23°F to +158°F (-5°C to +70°C) | Approvals | UL/CSA Style 11113 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 1, outer jacket material complies with CF130.15.07.UL, tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Fixed, +5°F to +158°F (-15°C to +70°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) Gliding, 16 ft/s (5 m/s) | | |
| Max. Acceleration | 262.5 ft/s ² (80 m/s ²) | Sample Print Legend | igus chainflex CF5.xx.xx xxGxx 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | | |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | |

* Per EN 60811-504 standard

** For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

e-Chain[®] is a trademarked flexible cable carrier by igus[®]. igus[®] cable can be used in any suitable cable carrier.

| 2.5 mm ² (14AWG) Multi-Conductor Flexing Control Cable (Unshielded) | | | | | | | |
|---|--|-----------------------------|--------|----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF5-25-04-1 | 4 | 2.5 mm ² (14AWG) | 50 | 0.39 | 20 | 0.12 | \$3.97 |
|  | | | | | | | |
| CF5-25-07-1 | 7* | 2.5 mm ² (14AWG) | 50 | 0.51 | 20 | 0.20 | \$6.27 |

* For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

** See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.






0.5 mm² (20AWG) Flexing Control Cable CF6 Series Shielded

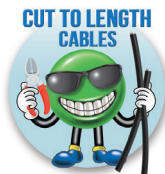
| 0.5 mm ² (20AWG) Multi-Conductor Flexing Control Cable Specifications (Shielded) | | | |
|---|--|----------------------------|---|
| Conductors Gauge & Stranding | 0.5 mm ² (20AWG) 16/32 bare copper | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| Voltage Ratings | 600V per UL | Inner Jacket | Tan PVC |
| | Tested to 2000V | Outer Jacket | Dark Green PVC |
| Min. Bend Radius | e-Chain®, 6.8 x diameter | UV Resistance | Yes |
| | Flexible*, 5.0 x diameter | Oil Resistance | Yes |
| | Fixed, 4.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, +41°F to +158°F (5°C to +70°C) | Silicone-free | Yes |
| | Flexible*, +23°F to +158°F (-5°C to +70°C) | | |
| | Fixed, +5°F to +158°F (-15°C to +70°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) | Approvals | UL/CSA Style 10492 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 2, material/cable tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU igus chainflex CF6.xx.xx (xxGxx)C 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| | Gliding, 16 ft/s (5 m/s) | | |
| Max. Acceleration | 262.5 ft/s ² (80 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | Sample Print Legend | |
| Conductor Insulation | Black TPE with green/yellow ground | | |

* Per EN 60811-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 0.5 mm ² (20AWG) Multi-Conductor Flexing Control Cable (Shielded) | | | | | | | |
|---|--|-----------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF6-05-05-1 | 5 | 0.5 mm ² (20AWG) | 16 | 0.33 | 20 | 0.07 | \$3.15 |
|  | | | | | | | |
| CF6-05-07-1 | 7 | 0.5 mm ² (20AWG) | 16 | 0.39 | 20 | 0.09 | \$3.86 |
|  | | | | | | | |
| CF6-05-12-1 | 12 | 0.5 mm ² (20AWG) | 16 | 0.51 | 20 | 0.16 | \$6.41 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

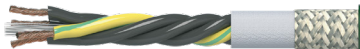




0.75 mm² (18AWG) Flexing Control Cable CF6 Series Shielded

| 0.75mm ² (18AWG) Multi-Conductor Flexing Control Cable Specifications (Shielded) | | | |
|---|--|--------------------|---|
| Conductors Gauge & Stranding | 0.75 mm ² (18AWG) 24/32 bare copper | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| Voltage Ratings | 600V per UL | Inner Jacket | Tan PVC |
| | Tested to 2000V | Outer Jacket | Dark Green PVC |
| Min. Bend Radius | e-Chain®, 6.8 x diameter | UV Resistance | Yes |
| | Flexible*, 5.0 x diameter | Oil Resistance | Yes |
| | Fixed, 4.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, +41°F to +158°F (5°C to +70°C) | Silicone-free | Yes |
| | Flexible*, +23°F to +158°F (-5°C to +70°C) | Approvals | UL/CSA Style 11113 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 2, material/cable tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU igus chainflex CF6.xx.xx (xxGxx)C 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| | Fixed, +5°F to +158°F (-15°C to +70°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) | | |
| Max. Acceleration | Gliding, 16 ft/s (5 m/s) | | |
| | 262.5 ft/s ² (80 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | | |
| Conductor Insulation | Black PVC with green/yellow ground | | |

* Per EN 60811-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 0.75mm ² (18AWG) Multi-Conductor Flexing Control Cable (Shielded) | | | | | | | |
|---|--|------------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF6-07-04-1 | 4 | 0.75 mm ² (18AWG) | 24 | 0.33 | 20 | 0.08 | \$3.29 |
|  | | | | | | | |
| CF6-07-07-1 | 7 | 0.75 mm ² (18AWG) | 24 | 0.41 | 20 | 0.11 | \$4.51 |
|  | | | | | | | |
| CF6-07-12-1 | 12 | 0.75 mm ² (18AWG) | 24 | 0.55 | 20 | 0.19 | \$6.98 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.






1.5 mm² (16AWG) Flexing Control Cable CF6 Series Shielded

| 1.5 mm ² (16AWG) Multi-Conductor Flexing Control Cable Specifications (Shielded) | | | |
|---|--|----------------------------|---|
| Conductors Gauge & Stranding | 1.5 mm ² (16AWG) 30/30 bare copper | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| Voltage Ratings | 600V per UL | Inner Jacket | Tan PVC |
| | Tested to 2000V | Outer Jacket | Dark Green PVC |
| Min. Bend Radius | e-Chain [®] *, 6.8 x diameter | UV Resistance | Yes |
| | Flexible*, 5.0 x diameter | Oil Resistance | Yes |
| | Fixed, 4.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, +41°F to +158°F (5°C to +70°C) | Silicone-free | Yes |
| | Flexible*, +23°F to +158°F (-5°C to +70°C) | Approvals | UL/CSA Style 11113 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 2, material/cable tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Fixed, +5°F to +158°F (-15°C to +70°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) Gliding, 16 ft/s (5 m/s) | | |
| Max. Acceleration | 262.5 ft/s ² (80 m/s ²) | Sample Print Legend | igus chainflex CF6.xx.xx (xxGxx)C 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | | |
| Conductor Insulation | Black PVC with green/yellow ground | | |

* Per EN 60811-504 standard

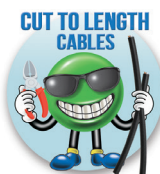
** For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

e-Chain[®] is a trademarked flexible cable carrier by igus[®]. igus[®] cable can be used in any suitable cable carrier.

| 1.5 mm ² (16AWG) Multi-Conductor Flexing Control Cable (Shielded) | | | | | | | |
|---|--|-----------------------------|--------|----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF6-15-04-1 | 4 | 1.5 mm ² (16AWG) | 30 | 0.37 | 20 | 0.11 | \$4.61 |
|  | | | | | | | |
| CF6-15-07-1 | 7* | 1.5 mm ² (16AWG) | 30 | 0.51 | 20 | 0.18 | \$6.40 |
|  | | | | | | | |
| CF6-15-12-1 | 12 | 1.5 mm ² (16AWG) | 30 | 0.67 | 20 | 0.26 | \$9.90 |

* For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

** See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.




2.5 mm² (14AWG) Flexing Control Cable CF6 Series Shielded

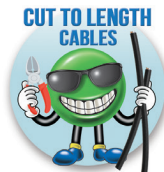
| 2.5 mm ² (14AWG) Multi-Conductor Flexing Control Cable Specifications (Shielded) | | | | |
|---|--|---------------------|--|---|
| Conductors Gauge & Stranding | 2.5 mm ² (14AWG) 50/30 bare copper | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | |
| Voltage Ratings | 600V per UL | Inner Jacket | Tan PVC | |
| | Tested to 2000V | Outer Jacket | Dark Green PVC | |
| Min. Bend Radius | e-Chain®, 6.8 x diameter | UV Resistance | Yes | |
| | Flexible*, 5.0 x diameter | Oil Resistance | Yes | |
| | Fixed, 4.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 | |
| Temperature Ratings | e-Chain, +41°F to +158°F (5°C to +70°C) | Silicone-free | Yes | |
| | Flexible*, +23°F to +158°F (-5°C to +70°C) | Approvals | UL/CSA Style 11113 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 2, material/cable tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU | |
| | Fixed, +5°F to +158°F (-15°C to +70°C) | | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) | | | |
| Max. Acceleration | Gliding, 16 ft/s (5 m/s) | Sample Print Legend | | igus chainflex CF6.xx.xx (xxGxx)C 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| | 262.5 ft/s ² (80 m/s ²) | | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | | | |
| Conductor Insulation | Black PVC with green/yellow ground | | | |

* Per EN 60811-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 2.5 mm ² (14AWG) Multi-Conductor Flexing Control Cable (Shielded) | | | | | | | |
|---|--|-----------------------------|--------|----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF6-25-04-1 | 4 | 2.5 mm ² (14AWG) | 50 | 0.45 | 20 | 0.16 | \$5.47 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



High Flex Control Cable



AutomationDirect is pleased to offer the igus CF9 and CF10 series multi-conductor control cables for continuous flexing applications. These cables are available in sizes from 20AWG to 14AWG with 3 to 7 unshielded (CF9 series) or 4 and 5 shielded (CF10 series) conductors. Individual conductors are bare copper and stranded for flexing applications. Conductor insulation is a mechanically high-quality black TPE mixture. Individual conductors are marked with white numbers for easy identification. A convenient ground conductor is included in the conductor count of each cable and has green-yellow insulation. The cable's outer jacket is a low-adhesion pressure extruded slate gray TPE mixture that provides resistance to sunlight, oil penetration, and flame-retardant.

Unshielded Chainflex® cables have a tear strip underneath the outer jacket, but shielded Chainflex® cables have it underneath the inner jacket. With a few easy steps, the jacket can be opened like a zipper to the desired length by pulling on the special tear strip. The outer jacket/inner jacket can then be removed from conductors. This not only saves time and effort for assemblers and electricians, but also means they have no need for additional tools. Cables are designed such that the strip does not cause damage to the jacket or conductors, even after millions of motion cycles.

The igus CF9 and CF10 multi-conductor control cables are specifically designed, tested, and manufactured for continuous flexing, high mechanical load application requirements, and will provide a guaranteed service life between 5 million and 10 million cycles when operated within specified conditions*.

Features

- 0.5 mm² to 2.5 mm² (20AWG to 14AWG), 3 to 7 conductors, including ground
- Unshielded and shielded constructions
- 0.5 mm² (20AWG) conductors have color coded TPE insulation, larger conductors have black TPE insulation and are marked with white identification numbers
- Low adhesion pressure extruded TPE mixture outer jacket that is sunlight and oil resistant and flame retardant
- Green/yellow ground wire included
- Rated for continuous flexing applications with high mechanical load requirements
- Guaranteed service life between 5 million and 10 million cycles when operated within specified conditions
- UL Recognized type AWM (appliance wiring material)
- Cut to length in 1-foot increments
- Low 20-foot minimum length
- 3-year warranty*
- PVC Free



- Strip cables 50% faster: The tear strip is in the outer jacket for unshielded cables and inner jacket for shielded



* CF9 and CF10 Series Guaranteed lifetime according to guarantee conditions

| Cycles | 5 million | 7.5 million | 10 million |
|---------------------------|---------------------|---------------------|---------------------|
| Temperature, from/to [°F] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] |
| -31/-13 (-35°C / -25°C) | 6.8 | 7.5 | 8.5 |
| -13/194 (-25°C / +90°C) | 5.0 | 6.0 | 7.0 |
| 194/212 (+90°C / +100°C) | 6.8 | 7.5 | 8.5 |



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable



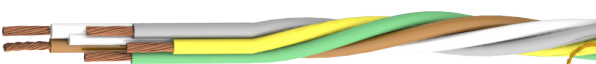


0.5 mm² (20AWG) High Flex Control Cable CF9 Series Unshielded

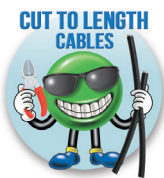
| 0.5 mm ² (20AWG) Multi-Conductor High Flex Control Cable Specifications (Unshielded) | | | |
|---|--|----------------------|---|
| Conductors Gauge & Stranding | 0.5 mm ² (20AWG) 28/0.15 mm ² bare copper | Conductor Insulation | Black TPE with green/yellow ground |
| Voltage Ratings | 300/500V per UL | Conductor Markings | #1 white, #2 brown, #3 green, #4 yellow, #5 grey |
| | Tested to 2000V | Outer Jacket | Slate Gray TPE |
| Min. Bend Radius | e-Chain®, 5.0 x diameter | UV Resistance | Yes |
| | Flexible*, 4.0 x diameter | Oil Resistance | Yes |
| | Fixed, 3.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, -31°F to +212°F (-35°C to +100°C) | Silicone-free | Yes |
| | Flexible*, -49°F to +212°F (-45°C to +100°C) | Approvals | UL/CSA Style 10492 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 1, outer jacket material complies with CF130.15.07.UL, tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Fixed, -58°F to +212°F (-50°C to +100°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) Gliding, 19.6 ft/s (6 m/s) | | |
| Max. Acceleration | 328.08 ft/s ² (100 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (400m) | Sample Print Legend | igus chainflex CF5.xx.xx xxGxx 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | |

* Per EN 60811-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 0.5 mm ² (20AWG) Multi-Conductor High Flex Control Cable (Unshielded) | | | | | | | |
|--|--|-----------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | |
| CF9-UL-05-03-1 | 3 | 0.5 mm ² (20AWG) | 28 | 0.24 | 20 | 0.03 | \$2.62 |
|  | | | | | | | |
| CF9-UL-05-04-1 | 4 | 0.5 mm ² (20AWG) | 28 | 0.28 | 20 | 0.04 | \$3.08 |
|  | | | | | | | |
| CF9-UL-05-05-1 | 5 | 0.5 mm ² (20AWG) | 28 | 0.31 | 20 | 0.05 | \$3.31 |

* See web store for maximum cut lengths



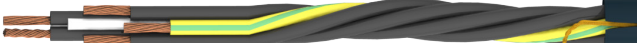
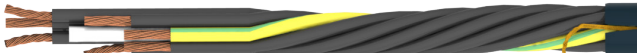
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

igus® 0.75 mm² (18AWG) High Flex Control Cable CF9 Series Unshielded

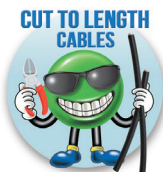
| 0.75 mm ² (18AWG) Multi-Conductor High Flex Control Cable Specifications (Unshielded) | | | |
|--|--|----------------------|---|
| Conductors Gauge & Stranding | 0.75 mm ² (18AWG) 42/0.15 mm ² bare copper | Conductor Insulation | Black TPE with green/yellow ground |
| Voltage Ratings | 300/500V per UL | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| | Tested to 2000V | Outer Jacket | Slate Gray TPE |
| Min. Bend Radius | e-Chain®, 5.0 x diameter | UV Resistance | Yes |
| | Flexible*, 4.0 x diameter | Oil Resistance | Yes |
| | Fixed, 3.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, -31°F to +212°F (-35°C to +100°C) | Silicone-free | Yes |
| | Flexible*, -49°F to +212°F (-45°C to +100°C) | | UL/CSA Style 11113 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 1, outer jacket material complies with CF130.15.07.UL, tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Fixed, -58°F to +212°F (-50°C to +100°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) | | |
| | Gliding, 19.6 ft/s (6 m/s) | | |
| Max. Acceleration | 328.08 ft/s ² (100 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | Sample Print Legend | igus chainflex CF5.xx.xx xxGxx 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | |

* Per EN 60811-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 0.75 mm ² (18AWG) Multi-Conductor High Flex Control Cable (Unshielded) | | | | | | | |
|--|--|------------------------------|--------|----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | |
| CF9-UL-07-05-1 | 5 | 0.75 mm ² (18AWG) | 42 | 0.26 | 20 | 0.06 | \$4.06 |
|  | | | | | | | |
| CF9-UL-07-07-1 | 7 | 0.75 mm ² (18AWG) | 42 | 0.28 | 20 | 0.09 | \$5.23 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.





1.5 mm² (16AWG) High Flex Control Cable CF9 Series Unshielded

| 1.5 mm ² (16AWG) Multi-Conductor High Flex Control Cable Specifications (Unshielded) | | | |
|---|--|-----------------------------|---|
| Conductors Gauge & Stranding | 1.5 mm ² (16AWG) 80/0.15 mm ² bare copper | Conductor Insulation | Black TPE with green/yellow ground |
| Voltage Ratings | 300/500V per UL | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| | Tested to 2000V | Outer Jacket | Slate Gray TPE |
| Min. Bend Radius | e-Chain [®] *, 5.0 x diameter | UV Resistance | Yes |
| | Flexible*, 4.0 x diameter | Oil Resistance | Yes |
| | Fixed, 3.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, -31°F to +212°F (-35°C to +100°C) | Silicone-free | Yes |
| | Flexible*, -49°F to +212°F (-45°C to +100°C) | | |
| | Fixed, -58°F to +212°F (-50°C to +100°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) | Approvals | UL/CSA Style 11113 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 1, outer jacket material complies with CF130.15.07.UL, tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Gliding, 19.6 ft/s (6 m/s) | | |
| Max. Acceleration | 328.08 ft/s ² (100 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | Sample Print Legend | igus chainflex CF5.xx.xx xxGxx 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | |

* Per EN 60811-504 standard

** For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

e-Chain[®] is a trademarked flexible cable carrier by igus[®]. igus[®] cable can be used in any suitable cable carrier.

| 1.5 mm ² (16AWG) Multi-Conductor High Flex Control Cable (Unshielded) | | | | | | | |
|--|--|-----------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | |
| CF9-UL-15-04-1 | 4 | 1.5 mm ² (16AWG) | 80 | 0.30 | 20 | 0.08 | \$5.12 |
|  | | | | | | | |
| CF9-UL-15-05-1 | 5 | 1.5 mm ² (16AWG) | 80 | 0.31 | 20 | 0.10 | \$5.92 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



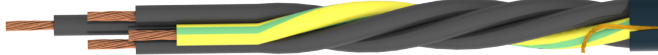
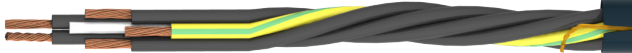
2.5 mm² (14AWG) High Flex Control Cable CF9 Series Unshielded

| 2.5 mm² (14AWG) Multi-Conductor High Flex Control Cable Specifications (Unshielded) | | | |
|---|--|----------------------|---|
| Conductors Gauge & Stranding | 2.5 mm² (14AWG) 76/0.2 mm² bare copper | Conductor Insulation | Black TPE with green/yellow ground |
| Voltage Ratings | 300/500V per UL | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| | Tested to 2000V | Outer Jacket | Slate Gray TPE |
| Min. Bend Radius | e-Chain®, 5.0 x diameter | UV Resistance | Yes |
| | Flexible*, 4.0 x diameter | Oil Resistance | Yes |
| | Fixed, 3.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, -31°F to +212°F (-35°C to +100°C) | Silicone-free | Yes |
| | Flexible*, -49°F to +212°F (-45°C to +100°C) | Approvals | UL/CSA Style 11113 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 1, outer jacket material complies with CF130.15.07.UL, tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Fixed, -58°F to +212°F (-50°C to +100°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) | Sample Print Legend | igus chainflex CF5.xx.xx xxGxx 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| | Gliding, 19.6 ft/s (6 m/s) | | |
| Max. Acceleration | 328.08 ft/s² (100 m/s²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | | |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | |

* Per EN 60811-504 standard

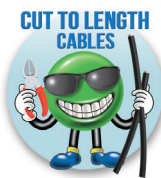
** For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

e-Chain[®] is a trademarked flexible cable carrier by igus[®]. igus[®] cable can be used in any suitable cable carrier.

| 2.5 mm ² (14AWG) Multi-Conductor High Flex Control Cable (Unshielded) | | | | | | | |
|--|--|-----------------------------|--------|----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | |
| CF9-UL-25-04-1 | 4 | 2.5 mm ² (14AWG) | 76 | 0.39 | 20 | 0.13 | \$6.79 |
|  | | | | | | | |
| CF9-UL-25-05-1 | 5 | 2.5 mm ² (14AWG) | 76 | 0.51 | 20 | 0.16 | \$7.63 |

* For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

** See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.





0.5 mm² (20AWG) High Flex Control Cable CF10 Series Shielded

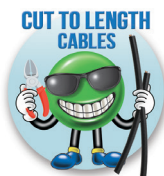
| 0.5 mm ² (20AWG) Multi-Conductor High Flex Control Cable Specifications (Shielded) | | | |
|---|--|----------------------------|---|
| Conductors Gauge & Stranding | 0.5 mm ² (20AWG) 28/0.15 mm ² bare copper | Conductor Markings | #1 white, #2 brown, #3 green, #4 yellow, #5 grey |
| Voltage Ratings | 300/500V per UL | Inner Jacket | Tan TPE |
| | Tested to 2000V | Outer Jacket | Slate Gray TPE |
| Min. Bend Radius | e-Chain®, 5.0 x diameter | UV Resistance | Yes |
| | Flexible*, 4.0 x diameter | Oil Resistance | Yes |
| | Fixed, 3.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, -31°F to +212°F (-35°C to +100°C) | Silicone-free | Yes |
| | Flexible*, -49°F to +212°F (-45°C to +100°C) | | |
| | Fixed, -58°F to +212°F (-50°C to +100°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) | Approvals | UL/CSA Style 10492 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 2, material/cable tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Gliding, 19.6 ft/s (6 m/s) | | |
| Max. Acceleration | 328.08 ft/s ² (100 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | Sample Print Legend | igus chainflex CF6.xx.xx (xxGxx)C 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| Conductor Insulation | Black TPE with green/yellow ground | | |

* Per EN 60811-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 0.5 mm ² (20AWG) Multi-Conductor High Flex Control Cable (Shielded) | | | | | | | |
|--|--|-----------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | |
| CF10-UL-05-04-1 | 4 | 0.5 mm ² (20AWG) | 28 | 0.33 | 20 | 0.07 | \$5.19 |
|  | | | | | | | |
| CF10-UL-05-05-1 | 5 | 0.5 mm ² (20AWG) | 28 | 0.39 | 20 | 0.07 | \$5.50 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

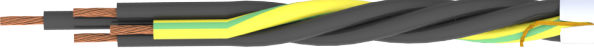
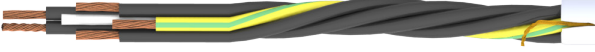


0.75 mm² (18AWG) High Flex Control Cable CF10 Series Shielded

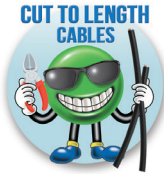
| 0.75mm ² (18AWG) Multi-Conductor High Flex Control Cable Specifications (Shielded) | | | |
|---|--|----------------------------|--|
| Conductors Gauge & Stranding | 0.75 mm ² (18AWG) 42/0.15 mm ² bare copper | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| Voltage Ratings | 300/500V per UL | Inner Jacket | Tan TPE |
| | Tested to 2000V | Outer Jacket | Slate Gray TPE |
| Min. Bend Radius | e-Chain®, 5.0 x diameter | UV Resistance | Yes |
| | Flexible*, 4.0 x diameter | Oil Resistance | Yes |
| | Fixed, 3.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, -31°F to +212°F (-35°C to +100°C) | Silicone-free | Yes |
| | Flexible*, -49°F to +212°F (-45°C to +100°C) | Approvals | UL/CSA Style 11113 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 2, material/cable tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Fixed, -58°F to +212°F (-50°C to +100°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) | | |
| | Gliding, 19.6 ft/s (6 m/s) | Sample Print Legend | igus chainflex CF6.xx.xx (xxGxx)C 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| Max. Acceleration | 328.08 ft/s ² (100 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | | |
| Conductor Insulation | Black PVC with green/yellow ground | | |

* Per EN 60811-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 0.75mm ² (18AWG) Multi-Conductor High Flex Control Cable (Shielded) | | | | | | | |
|--|--|------------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | |
| CF10-UL-07-04-1 | 4 | 0.75 mm ² (18AWG) | 42 | 0.33 | 20 | 0.08 | \$5.67 |
|  | | | | | | | |
| CF10-UL-07-05-1 | 5 | 0.75 mm ² (18AWG) | 42 | 0.41 | 20 | 0.10 | \$6.41 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



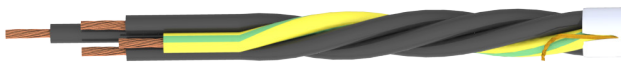
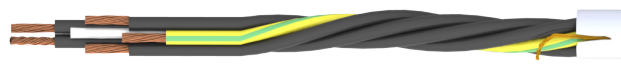
1.5 mm² (16AWG) High Flex Control Cable CF10 Series Shielded

| 1.5 mm ² (16AWG) Multi-Conductor High Flex Control Cable Specifications (Shielded) | | | |
|---|--|----------------------------|---|
| Conductors Gauge & Stranding | 1.5 mm ² (16AWG) 80/0.15 mm ² bare copper | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| Voltage Ratings | 300/500V per UL | Inner Jacket | Tan TPE |
| | Tested to 2000V | Outer Jacket | Slate Gray TPE |
| Min. Bend Radius | e-Chain [®] **, 5.0 x diameter | UV Resistance | Yes |
| | Flexible*, 4.0 x diameter | Oil Resistance | Yes |
| | Fixed, 3.0 x diameter | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Temperature Ratings | e-Chain, -31°F to +212°F (-35°C to +100°C) | Silicone-free | Yes |
| | Flexible*, -49°F to +212°F (-45°C to +100°C) | Approvals | UL/CSA Style 11113 and 2570, 600V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01254 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 2, material/cable tested by IPA According to ISO standard 14644-1 CE; Following 2014/35/EU |
| | Fixed, -58°F to +212°F (-50°C to +100°C) | | |
| Max. Velocity | Unsupported, 33 ft/s (10 m/s) Gliding, 19.6 ft/s (6 m/s) | | |
| Max. Acceleration | 328.08 ft/s ² (100 m/s ²) | Sample Print Legend | igus chainflex CF6.xx.xx (xxGxx)C 300/500V E310776 C cRUus AWM Style 2570 VW-1 AWM I/II A/B 80+C 600V FT1 EAC / CTP CE xx/x RoHS-II conform www.igus.de |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | | |
| Conductor Insulation | Black PVC with green/yellow ground | | |

* Per EN 60811-504 standard

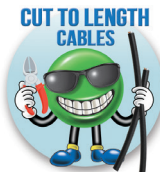
** For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

e-Chain[®] is a trademarked flexible cable carrier by igus[®]. igus[®] cable can be used in any suitable cable carrier.

| 1.5 mm ² (16AWG) Multi-Conductor High Flex Control Cable (Shielded) | | | | | | | |
|--|--|-----------------------------|--------|----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | |
| CF10-UL-15-04-1 | 4 | 1.5 mm ² (16AWG) | 80 | 0.37 | 20 | 0.13 | \$7.70 |
|  | | | | | | | |
| CF10-UL-15-05-1 | 5 | 1.5 mm ² (16AWG) | 80 | 0.51 | 20 | 0.15 | \$8.81 |

* For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

** See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Tray Rated Continuous Flexing Control Cable



AutomationDirect is pleased to offer the igus CF130US and CF140US series tray rated cable for continuous flexing applications. These cables are available in sizes from 18AWG to 12AWG with 4 to 25 unshielded (CF130US series) or 4 to 18 shielded (CF140US series) conductors. Individual conductors are bare copper and stranded for flexing applications. Conductor insulation is a mechanically high-quality black PVC mixture with a nylon outer layer and individual conductors are marked with white numbers for easy identification. A convenient ground conductor is included in the conductor count of each cable and has green-yellow insulation. The cable's outer jacket is a low-adhesion pressure extruded PVC mixture that provides resistance to sunlight, oil penetration, and is flame resistant.

The igus CF130US and CF140US tray rated continuous flexing control cables are specifically designed, tested, and manufactured for use in both continuous flexing and fixed tray application. The UL TC-ER rating of our igus CF130US and CF140US series cables makes it ideally suited for most all control cable application.

Features

- 0.75 mm² to 4mm² (18AWG to 12AWG), 4 to 25 conductors including ground
- Unshielded and shielded constructions
- Individual conductors have black PVC/Nylon insulation and are marked with white identification numbers
- Low adhesion pressure extruded gray PVC mixture outer jacket that is sunlight and oil resistant and flame retardant
- Green/yellow ground wire included
- Rated for low duty continuous flexing and fixed tray applications
- Guaranteed service life between 1 million and 5 million cycles when operated within specified conditions
- UL Tray cable for exposed run (TC-ER)
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- 3 year warranty*

* **CF130US and CF140US Series Guaranteed lifetime according to guarantee conditions**

| CF130US Series Tray Rated Continuous Flexing Control Cable | | | |
|--|---------------------|---------------------|---------------------|
| Cycles | 1 million | 3 million | 5 million |
| Temperature, from/to [°F] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] |
| +23 / +59 | 10 | 12 | 13 |
| +59 / +140 | 8 | 10 | 12 |
| +140 / +176 | 10 | 12 | 13 |

| CF140US Series Tray Rated Continuous Flexing Control Cable | | | | | | |
|--|---------------------------|---------------|----------------------|---------------------|---------------------|---------------------|
| Cycles | | | | 1 million | 3 million | 5 million |
| Temperature, from/to [°F] | V max. [ft/s] unsupported | A max. [ft/s] | Travel distance [ft] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] |
| +23 / +59 | 9.84 | 6.56 | ≤ 29.52 | 12 | 13 | 15 |
| +59 / +140 | | | | 10 | 12 | 13 |
| +140 / +176 | | | | 12 | 13 | 15 |



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable



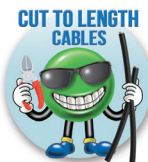
18AWG (0.75 mm²) Tray Rated Cable CF130US Series Unshielded

| 18AWG (0.75 mm²) Tray Rated Multi-Conductor Flexing Control Cable Specifications (Unshielded) | | | | |
|---|---|-----------------------------|--|------------------------------------|
| Conductors Gauge & Stranding | 18AWG (0.75 mm²) 24/30 bare copper | Conductor Insulation | Mechanically high-quality, PVC/Nylon, black with white numbers, one green-yellow | |
| Voltage Ratings | 600V per UL | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 | |
| | Tested to 3300V | Outer Jacket | Oil-resistant UV-resistant Gray PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. | |
| Min. Bend Radius | e-Chain®, 8 x diameter | UV Resistance | Medium | |
| | Flexible, 7.5 x diameter | Oil Resistance | Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4 | |
| | Fixed, 5.0 x diameter | Flame Resistance | MTW: UL VW-1 and CSA FT4 TC-ER: UL 1685 and CSA FT4 | |
| Temperature Ratings | e-Chain, +41°F to +176°F (5°C to +80°C) | Silicone-free | Free from silicone which can affect paint adhesion (following PV3.10.7 – status 1992) | |
| | Flexible, +23°F to +176°F (-5°C to +80°C) | | UL: 22-10 AWG: Type MTW per UL 1063 18-10 AWG: Type TC-ER per UL 1277 | |
| | Fixed, -4°F to +194°F (-20°C to +90°C) | | Lead Free; Following 2002/95/EC | |
| Max. Velocity | Unsupported, 9.84 ft/s (3 m/s) | | CE; Following 2014/35/EU | |
| | Gliding, 6.56 ft/s (2 m/s) | Tray cable for exposed runs | | |
| Max. Acceleration | 65.6 ft/s² (20 m/s²) | Approvals | Sunlight resistant | |
| | | | Direct Burial | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 30ft (9m) | | Sample Print Legend | Oil Resistant I |
| | | | | Type WTTC: Wind Turbine Tray Cable |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | | UL AWM 2587 90°C 600V |
| | | | | CSA AWM I/II A/B 90°C 600V FT4 |
| | NEC section 500: For hazardous environments Class 1 and 2 Division 2 | | | |
| | IGUS P/N CF130US-07-XX 18 AWG ##/C | | | |
| | | | E223775 (UL) TYPE TC-ER-HL 90°C DRY | |
| | | | 75°C WET 600V SUN RES DIR BUR OIL | |
| | | | RES I OR MTW OR WTTC 1000V OR AWM | |
| | | | 2587 OR cUL CIC-TC PVC/N 600V FT4 --- | |
| | | | LL257958 CSA AWM I/II A/B 90C 600V FT4 | |
| | | | - CE J DDD/YY | |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 18AWG (0.75 mm ²) Tray Rated Multi-Conductor Flexing Control Cable (Unshielded) | | | | | | | |
|---|--|-------------------------------|-------------------|-----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand (## x AWG) | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | |
| CF130US-07-04-1 | 4 | 18AWG (0.75 mm ²) | 24 x 30 | 0.33 | 20 | 0.06 | \$2.77 |
| | | | | | | | |
| CF130US-07-12-1 | 12 | 18AWG (0.75 mm ²) | 24 x 30 | 0.50 | 20 | 0.14 | \$5.69 |
| | | | | | | | |
| CF130US-07-18-1 | 18 | 18AWG (0.75 mm ²) | 24 x 30 | 0.58 | 20 | 0.20 | \$7.37 |
| | | | | | | | |
| CF130US-07-25-1 | 25 | 18AWG (0.75 mm ²) | 24 x 30 | 0.69 | 20 | 0.27 | \$8.94 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



16AWG (1.5 mm²) Tray Rated Cable CF130US Series Unshielded

| 16AWG (1.5 mm ²) Tray Rated Multi-Conductor Flexing Control Cable Specifications (Unshielded) | | | |
|---|---|----------------------|---|
| Conductors Gauge & Stranding | 16AWG (1.5 mm ²) 30/30 bare copper | Conductor Insulation | Mechanically high-quality, PVC/Nylon, black with white numbers, one green-yellow |
| Voltage Ratings | 600V per UL | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| | Tested to 3300V | Outer Jacket | Oil-resistant UV-resistant Gray PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. |
| Min. Bend Radius | e-Chain®, 8 x diameter | UV Resistance | Medium |
| | Flexible, 7.5 x diameter | Oil Resistance | Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4 |
| | Fixed, 5.0 x diameter | Flame Resistance | MTW: UL VW-1 and CSA FT4 TC-ER: UL 1685 and CSA FT4 |
| Temperature Ratings | e-Chain, +41°F to +176°F (5°C to +80°C) | Silicone-free | Free from silicone which can affect paint adhesion (following PV3.10.7 – status 1992) |
| | Flexible, +23°F to +176°F (-5°C to +80°C) | | UL: 22-10 AWG: Type MTW per UL 1063 18-10 AWG: Type TC-ER per UL 1277 |
| | Fixed, -4°F to +194°F (-20°C to +90°C) | | Lead Free; Following 2002/95/EC CE; Following 2014/35/EU Tray cable for exposed runs |
| Max. Velocity | Unsupported, 9.84 ft/s (3 m/s) | Approvals | Sunlight resistant Direct Burial Oil Resistant I Type WTTC: Wind Turbine Tray Cable |
| | Gliding, 6.56 ft/s (2 m/s) | | UL AWM 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT4 NEC section 500: For hazardous environments Class 1 and 2 Division 2 |
| Max. Acceleration | 65.6 ft/s² (20 m/s²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 30ft (9m) | Sample Print Legend | |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 16AWG (1.5 mm ²) Tray Rated Multi-Conductor Flexing Control Cable (Unshielded) | | | | | | | |
|--|--|------------------------------|-------------------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand (## x AWG) | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | |
| CF130US-15-05-1 | 5 | 16AWG (1.5 mm ²) | 30 x 30 | 0.39 | 20 | 0.09 | \$3.11 |
| | | | | | | | |
| CF130US-15-12-1 | 12 | 16AWG (1.5 mm ²) | 30 x 30 | 0.56 | 20 | 0.20 | \$8.41 |
| | | | | | | | |
| CF130US-15-18-1 | 18 | 16AWG (1.5 mm ²) | 30 x 30 | 0.65 | 20 | 0.28 | \$8.94 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



14AWG (2.5 mm²) Tray Rated Cable CF130US Series Unshielded

| 14AWG (2.5 mm ²) Tray Rated Multi-Conductor Flexing Control Cable Specifications (Unshielded) | | | |
|---|---|-----------------------------|--|
| Conductors Gauge & Stranding | 2.5 mm ² (14AWG) 50/30 bare copper | Conductor Insulation | Mechanically high-quality, PVC/Nylon, black with white numbers, one green-yellow |
| Voltage Ratings | 600V per UL | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| | Tested to 3300V | Outer Jacket | Oil-resistant UV-resistant Gray PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. |
| Min. Bend Radius | e-Chain®, 8 x diameter | UV Resistance | Medium |
| | Flexible, 7.5 x diameter | Oil Resistance | Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4) |
| | Fixed, 5.0 x diameter | Flame Resistance | MTW: UL VW-1 and CSA FT4 TC-ER: UL 1685 and CSA FT4 |
| Temperature Ratings | e-Chain, +41°F to +176°F (5°C to +80°C) | Silicone-free | Free from silicone which can affect paint adhesion (following PV3.10.7 – status 1992) UL: 22-10 AWG: Type MTW per UL 1063 18-10 AWG: Type TC-ER per UL 1277 Lead Free; Following 2002/95/EC CE; Following 2014/35/EU Tray cable for exposed runs Sunlight resistant Direct Burial Oil Resistant I Type WTTC: Wind Turbine Tray Cable UL AWM 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT4 NEC section 500: For hazardous environments Class 1 and 2 Division 2 |
| | Flexible, +23°F to +176°F (-5°C to +80°C) | | |
| | Fixed, -4°F to +194°F (-20°C to +90°C) | | |
| Max. Velocity | Unsupported, 9.84 ft/s (3 m/s) | Approvals | IGUS P/N CF130US-25-XX 14AWG ##/C E223775 (UL) TYPE TC-ER-HL 90°C DRY 75C WET 600V SUN RES DIR BUR OIL RES I OR MTW OR WTTC 1000V OR AWM 2587 OR cUL CIC-TC PVC/N 600V FT4 --- LL257958 CSA AWM I/II A/B 90C 600V FT4 - CE J DDD/YY |
| | Gliding, 6.56 ft/s (2 m/s) | | |
| Max. Acceleration | 65.6 ft/s ² (20 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 30ft (9m) | Sample Print Legend | |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 14AWG (2.5 mm ²) Tray Rated Multi-Conductor Flexing Control Cable (Unshielded) | | | | | | | |
|--|--|------------------------------|-------------------|-----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand (## x AWG) | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | |
| CF130US-25-04-1 | 4 | 14AWG (2.5 mm ²) | 50 x 30 | 0.39 | 20 | 0.10 | \$3.98 |
| | | | | | | | |
| CF130US-25-07-1 | 7 | 14AWG (2.5 mm ²) | 50 x 30 | 0.51 | 20 | 0.17 | \$8.58 |

* For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

** See web store for maximum cut lengths




Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



12AWG (4.0 mm²) Tray Rated Cable CF130US Series Unshielded

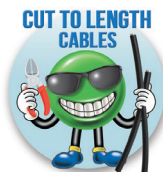
| 12AWG (4.0 mm ²) Tray Rated Multi-Conductor Flexing Control Cable Specifications (Unshielded) | | | |
|---|---|-----------------------------|--|
| Conductors Gauge & Stranding | 12AWG (4.0 mm ²) 56/28 bare copper | Conductor Insulation | Mechanically high-quality, PVC/Nylon, black with white numbers, one green-yellow |
| Voltage Ratings | 600V per UL | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| | Tested to 3300V | Outer Jacket | Oil-resistant UV-resistant Gray PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. |
| Min. Bend Radius | e-Chain®, 8 x diameter | UV Resistance | Medium |
| | Flexible, 7.5 x diameter | Oil Resistance | Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4) |
| | Fixed, 5.0 x diameter | Flame Resistance | MTW: UL VW-1 and CSA FT4 TC-ER: UL 1685 and CSA FT4 |
| Temperature Ratings | e-Chain, +41°F to +176°F (5°C to +80°C) | Silicone-free | Free from silicone which can affect paint adhesion (following PV3.10.7 – status 1992) UL: 22-10 AWG: Type MTW per UL 1063 18-10 AWG: Type TC-ER per UL 1277 Lead Free; Following 2002/95/EC CE; Following 2014/35/EU Tray cable for exposed runs Sunlight resistant Direct Burial Oil Resistant I Type WTTC: Wind Turbine Tray Cable UL AWM 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT4 NEC section 500: For hazardous environments Class 1 and 2 Division 2 |
| | Flexible, +23°F to +176°F (-5°C to +80°C) | | |
| | Fixed, -4°F to +194°F (-20°C to +90°C) | | |
| Max. Velocity | Unsupported, 9.84 ft/s (3 m/s) | Approvals | IGUS P/N CF130US-40-XX 12AWG ##/C E223775 (UL) TYPE TC-ER-HL 90°C DRY 75C WET 600V SUN RES DIR BUR OIL RES I OR MTW OR WTTC 1000V OR AWM 2587 OR cUL CIC-TC PVC/N 600V FT4 --- LL257958 CSA AWM I/II A/B 90C 600V FT4 - CE J DDD/YY |
| | Gliding, 6.56 ft/s (2 m/s) | | |
| Max. Acceleration | 65.6 ft/s ² (20 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 30ft (9m) | Sample Print Legend | |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | | |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 12AWG (4.0 mm ²) Tray Rated Multi-Conductor Flexing Control Cable (Unshielded) | | | | | | | |
|--|--|------------------------------|-------------------|----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand (## x AWG) | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF130US-40-04-1 | 4 | 12AWG (4.0 mm ²) | 56 x 28 | 0.49 | 20 | 0.15 | \$5.81 |

* For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

** See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



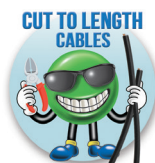
18AWG (0.75 mm²) Tray Rated Cable CF140US Series Shielded

| 18AWG (0.75 mm ²) Tray Rated Multi-Conductor Flexing Control Cable Specifications (Shielded) | | | |
|--|---|----------------------------|--|
| Conductors Gauge & Stranding | 18AWG (0.75 mm ²) 24/30 Finely stranded bundled bare copper wires. Designed in accordance with ASTM B174-95 | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| Voltage Ratings | 600V per UL | Inner Jacket | Low-adhesion PVC |
| | Tested to 3300V | Overall Shield | Tinned copper braid. 85% optical coverage |
| Min. Bend Radius | e-Chain®, 10.0 x diameter | Outer Jacket | Oil-resistant UV-resistant Gray PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. |
| | Flexible, 8.0 x diameter | UV Resistance | Medium |
| | Fixed, 7.5 x diameter | Oil Resistance | Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4) |
| Temperature Ratings | e-Chain, +41°F to +176°F (5°C to +80°C) | Flame Resistance | CSA AWM: FT4 |
| | Flexible, +23°F to +176°F (-5°C to +80°C) | Silicone-free | Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992) |
| | Fixed, -4°F to +194°F (-20°C to +90°C) | Approvals | UL; 22-10 AWG: UL Type MTW (Machine Tool Wire) 18-10 AWG: UL Type TC (Tray Cable) Lead Free; 2002/95/EC CE; In accordance with European Council Directive 73/23/EEC UL AWM: 2587 90 °C 600V CSA AWM: I/II A/B 90 °C 600V FT4 |
| Max. Velocity | Unsupported, 9.84 ft/s (3 m/s) | | |
| | Gliding, 6.56 ft/s (2 m/s) | | |
| Max. Acceleration | 65.6 ft/s ² (20 m/s ²) | Sample Print Legend | IGUS P/N CF140US-07-## 18 AWG XX/C SHIELDED E223775 (UL) TYPE TC-ER 90C DRY 75°C WET 600V SUN RES DIR BUR OIL RES I OR MTW OR WTTTC 1000V OR AWM 2587 --- LL257958 CSA AWM I/II A/B 90C 600V FT4 - CE J DDD/YY |
| Length of Travel | Unsupported travel distances and for gliding applications up to 30ft (9m) | | |
| Conductor Insulation | Mechanically high-quality, PVC/Nylon, black with white numbers, one green-yellow | | |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 18AWG (0.75 mm ²) Tray Rated Multi-Conductor Flexing Control Cable (Shielded) | | | | | | | |
|---|--|-------------------------------|-------------------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand (## x AWG) | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | |
| CF140US-07-04-1 | 4 | 18AWG (0.75 mm ²) | 24 x 30 | 0.40 | 20 | 0.09 | \$3.67 |
| | | | | | | | |
| CF140US-07-05-1 | 5 | 18AWG (0.75 mm ²) | 24 x 30 | 0.43 | 20 | 0.10 | \$4.30 |
| | | | | | | | |
| CF140US-07-12-1 | 12 | 18AWG (0.75 mm ²) | 24 x 30 | 0.57 | 20 | 0.20 | \$7.60 |
| | | | | | | | |
| CF140US-07-18-1 | 18 | 18AWG (0.75 mm ²) | 24 x 30 | 0.66 | 20 | 0.27 | \$9.12 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



CF211 and CF11 Series Continuous Flexing Control and Signal Cable



AutomationDirect offers Igus CF211 and CF11 series Continuous Flexing Control and Signal Cable for continuous flexing applications. These cables are available in sizes from 26AWG to 20AWG with shielded conductors and up to 4 twisted pairs. Individual conductors are bare copper and stranded for flexing applications. Conductor insulation is a mechanically high-quality color-coded TPE mixture. These cables are available in a halogen-free PUR, halogen-free PVC or standard PVC casing, all of which are low-adhesion highly abrasion resistant and adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2). All provide resistance to sunlight, oil penetration, and are flame retardant.

Cable are a excellent choice for connecting low-voltage signal like encoders, position sensors and analog signals or any application requiring a continuous flexing cable with a signal of less than 300 volt.

The Igus CF211 and CF11 series data cables are specifically designed, tested, and manufactured for continuous flexing, high mechanical load application requirements, and will provide a guaranteed service life between 5 million and 10 million cycles when operated within specified conditions*.

Features

- 0.14 mm² to 0.50 mm² (26AWG to 20AWG)
- Overall shielded constructions
- Low adhesion pressure extruded outer jacket that is oil resistant and flame retardant
- Rated for continuous flexing applications with high mechanical load requirements
- Guaranteed service life between 5 million and 10 million cycles when operated within specified conditions
- UL Recognized type AWM (appliance wiring material)
- Cut to length in 1 foot increments
- 3 year warranty* (see note 1)

| Cycles | | | | | 5 million | 7.5 million | 10 million |
|------------------------------|---------------|---------|-------------------|----------------------|------------------------|------------------------|------------------------|
| Temperature, from/to [°F] | v max. [ft/s] | | a max. [ft/s²] | Travel distance [ft] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] |
| | Unsupported | Gliding | | | | | |
| -13/5 | 16.41 | 9.84 | 164.1 | ≤ 328.1 | 10 | 11 | 12 |
| 5/158 | | | | | 7.5 | 8.5 | 9.5 |
| 158/176 | | | | | 10 | 11 | 12 |

Note 1

* and Series Guaranteed lifetime according to guarantee conditions



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable






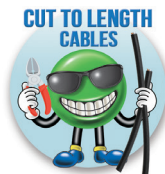
Continuous Flexing Control and Signal Cable CF11 Series (Shielded)

| Continuous Flexing Control and Signal Cable CF11 Series (Shielded) | | | |
|--|--|---------------------|--|
| Conductors Gauge & Stranding | 26AWG (0.14 mm²) to 24AWG (0.25 mm²) bare copper | Conductor Markings | Color code in accordance with DIN 47100 |
| Voltage Ratings | 300V per UL | Overall Shield | Aluminum/Polyester tape and extremely bend-resistant braiding made of tinned copper wires. Coverage approx. 70% linear, approx. 90% optical |
| | Tested to 1500V | Outer Jacket | Pressure extruded PVC mixture |
| Min. Bend Radius | e-Chain®, 6.8 x diameter | UV Resistance | Yes |
| | Flexible, 5 x diameter | Oil Resistance | Yes (following DIN EN 50363-10-2), Class 3 |
| | Fixed, 4 x diameter | Flame Retardant | Yes |
| Temperature Ratings | e-Chain, -31°F to +212°F (-35°C to +100°C) | Approvals | Halogen-free Following DIN EN 60754 REACH RoHS-II Cleanroom According to ISO Class 1. CE |
| | Flexible, -58°F to +212°F (-50°C to +100°C) | | |
| | Fixed, -67°F to +212°F (-55°C to +100°C) | | |
| Max. Velocity | Unsupported, 32.8 ft/s (10m/s) Gliding, 19.7 ft/s (6m/s) | | |
| Max. Acceleration | 328.1 ft/s² (100m/s²) | | |
| Length of Travel | Unsupported travels and up to 400m for gliding applications, Class 6 | Sample Print Legend | igus chainflex CF11.01.04.02 ... (4x(2x0.14)) EAC CE RoHS-II conform www.igus.de +++ chainflex cable works +++ |
| Conductor Insulation | TPE mixture | | |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| Continuous Flexing Control and Signal Cable Series CF11 (Shielded) | | | | | | | |
|--|-------------------------|-----|------------------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Twisted Pairs | AWG | Strand (# x AWG) | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>CF11-01-04-02-1</u> | 4 | 26 | 18 | 0.30 | 20 | 0.43 | \$5.49 |
| <u>CF11-02-01-02-1</u> | 1 | 24 | 32 | 0.24 | | 0.26 | \$3.71 |
| <u>CF11-02-02-02-1</u> | 2 | | | 0.26 | | 0.33 | \$4.80 |
| <u>CF11-02-03-02-1</u> | 3 | | | 0.31 | | 0.55 | \$6.40 |
| <u>CF11-02-04-02-1</u> | 4 | | | 0.33 | | 0.60 | \$8.08 |

* See web store for maximum cut lengths




Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



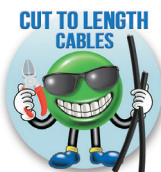
Continuous Flexing Control and Signal Cable CF211 Series (Shielded)

| Continuous Flexing Control and Signal Cable CF211 Series (Shielded) | | | |
|---|--|---------------------|--|
| Conductors Gauge & Stranding | 24AWG (0.25 mm²) to 20AWG (0.50 mm²) bare copper | Conductor Markings | Color code in accordance with DIN 47100 |
| Voltage Ratings | 300V per UL | Overall Shield | Aluminum/Polyester tape and extremely bend-resistant braiding made of tinned copper wires. Coverage approx. 70 % linear, approx. 90 % optical |
| | Tested to 1500V | Outer Jacket | Pressure extruded PVC mixture |
| Min. Bend Radius | e-Chain®, 7.5 x diameter | UV Resistance | Yes |
| | Flexible, 6 x diameter | Oil Resistance | Yes (following DIN EN 50363-10-2), Class 3 |
| | Fixed, 4 x diameter | Flame Retardant | Yes |
| Temperature Ratings | e-Chain, -13°F to +176°F (-25°C to +80°C) | Silicone-free | Yes |
| | Flexible, -40°F to +176°F (-40°C to +80°C) | Approvals | cURus AWM Style 2464 CSA REACH RoHS-II Cleanroom According to ISO Class 1. CE |
| | Fixed, -58°F to +176°F (-50°C to +80°C) | | |
| Max. Velocity | Unsupported, 16.40 ft/s (5m/s) Gliding, 9.84 ft/s (3m/s) | | |
| Max. Acceleration | 164.04 ft/s² (50m/s²) | | |
| Length of Travel | Unsupported travels and up to 100m for gliding applications, Class 5 | Sample Print Legend | igus chainflex CF211.02.04.02 ... (4x(2x0.25)) E310776 cяUus AWM Style 2464 VW-1 AWM I/II A/B 80°C 300V FT1 EAC/CTP CE RoHS-II conform www.igus.de +++ chainflex cable works +++ |
| Conductor Insulation | TPE mixture | | |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| Continuous Flexing Control and Signal Cable CF211 Series (Shielded) | | | | | | | |
|---|-------------------------|-----|-------------------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Twisted Pairs | AWG | Strand (## x AWG) | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>CF211-02-01-02-1</u> | 1 | 24 | 32 | 0.20 | 20 | 0.21 | \$1.48 |
| <u>CF211-02-02-02-1</u> | 2 | | | 0.24 | | 0.28 | \$2.39 |
| <u>CF211-02-04-02-1</u> | 4 | | | 0.31 | | 0.48 | \$3.36 |
| <u>CF211-03-03-02-1</u> | 3 | 22 | 42 | 0.31 | | 0.54 | \$3.28 |
| <u>CF211-05-01-02-1</u> | 1 | 20 | 28 | 0.22 | | 0.28 | \$1.57 |
| <u>CF211-05-02-02-1</u> | 2 | | | 0.28 | | 0.48 | \$2.79 |
| <u>CF211-05-03-02-1</u> | 3 | | | 0.35 | | 0.70 | \$3.54 |
| <u>CF211-05-04-02-1</u> | 4 | | | 0.37 | | 0.86 | \$4.89 |

* See web store for maximum cut lengths




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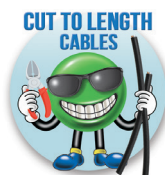
Continuous Flexing Control and Signal Cable CF211-PUR Series (Shielded)

| Continuous Flexing Control and Signal Cable CF211-PUR Series (Shielded) | | | |
|---|--|----------------------------|---|
| Conductors Gauge & Stranding | 24AWG (0.25 mm ²) to 20AWG (0.50 mm ²) bare copper | Conductor Markings | Color code in accordance with DIN 47100 |
| Voltage Ratings | 300V per UL | Overall Shield | Aluminum/Polyester tape and extremely bend-resistant braiding made of tinned copper wires. Coverage approx. 70% linear, approx. 90% optical |
| | Tested to 1500V | Outer Jacket | Pressure extruded PUR mixture |
| Min. Bend Radius | e-Chain®, 6.8 x diameter | UV Resistance | Yes |
| | Flexible, 5 x diameter | Oil Resistance | Yes (following DIN EN 50363-10-2), Class 3 |
| | Fixed, 4 x diameter | Flame Retardant | Yes |
| Temperature Ratings | e-Chain, -31°F to +212°F (-35°C to +100°C) | Silicone-free | Yes |
| | Flexible, -58°F to +212°F (-50°C to +100°C) | Approvals | cURus AWM Style 20233 CSA Halogen-free Following DIN EN 60754 REACH RoHS-II Cleanroom According to ISO Class 1. CE |
| | Fixed, -67°F to +212°F (-55°C to +100°C) | | |
| Max. Velocity | Unsupported, 32.9 ft/s (10m/s) | | |
| Max. Acceleration | Gliding, 19.7 ft/s (6m/s) | Sample Print Legend | igus chainflex CF211.PUR.02.04.02 (4x(2x0.25)) E310776 сЯUus AWM Style 20233 VW-1 AWM I/II A/B 80°C 300V FT1 DNV-GL 13 656-14 HH EAC/CTP CE RoHS-II conform www.igus.de +++ chainflex cable works +++ |
| | 328.1 ft/s ² (100m/s ²) | | |
| Length of Travel | Unsupported travels and up to 400m for gliding applications, Class 6 | | |
| Conductor Insulation | TPE mixture | | |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| Continuous Flexing Control and Signal Cable CF211-PUR Series (Shielded) | | | | | | | |
|--|-------------------------|-----|------------------|-----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Twisted Pairs | AWG | Strand (# x AWG) | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF211-P-02-01-02-1 | 1 | 24 | 32 | 0.20 | 20 | 0.20 | \$2.08 |
| CF211-P-02-02-02-1 | 2 | | | 0.24 | | 0.23 | \$3.46 |
| CF211-P-02-03-02-1 | 3 | | | 0.28 | | 0.42 | \$4.06 |
| CF211-P-02-04-02-1 | 4 | | | 0.30 | | 0.44 | \$4.63 |
| CF211-P-05-01-02-1 | 1 | 20 | 28 | 0.22 | | 0.27 | \$2.01 |
| CF211-P-05-02-02-1 | 2 | | | 0.28 | | 0.40 | \$3.56 |
| CF211-P-05-04-02-1 | 4 | | | 0.37 | | 0.80 | \$7.06 |

* See web store for maximum cut lengths





Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



16AWG (1.5 mm²) Flexing Control Cable CF140US Series Shielded

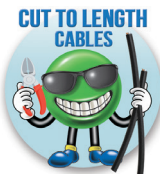
| 16AWG (1.5 mm ²) Tray Rated Multi-Conductor Flexing Control Cable Specifications (Shielded) | | | |
|---|--|----------------------------|---|
| Conductors Gauge & Stranding | 16AWG (1.5 mm ²) 30/30 Finely stranded bundled bare copper wires. Designed in accordance with ASTM B174-95 | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| Voltage Ratings | 600V per UL | Inner Jacket | Low-adhesion PVC |
| | Tested to 3300V | Overall Shield | Tinned copper braid. 85% optical coverage |
| Min. Bend Radius | e-Chain®, 10.0 x diameter | Outer Jacket | Oil-resistant UV-resistant Gray PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. |
| | Flexible, 8.0 x diameter | UV Resistance | Medium |
| | Fixed, 7.5 x diameter | Oil Resistance | Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4) |
| Temperature Ratings | e-Chain, +41°F to +176°F (5°C to +80°C) | Flame Resistance | CSAAWM: FT4 |
| | Flexible, +23°F to +176°F (-5°C to +80°C) | Silicone-free | Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992) |
| | Fixed, -4°F to +194°F (-20°C to +90°C) | Approvals | UL; 22-10 AWG: UL Type MTW (Machine Tool Wire) 18-10 AWG: UL Type TC (Tray Cable) Lead Free; 2002/95/EC CE; In accordance with European Council Directive 73/23/EEC UL AWM: 2587 90 °C 600V CSAAWM: I/II A/B 90 °C 600V FT4 |
| Max. Velocity | Unsupported, 9.84 ft/s (3 m/s) | | |
| | Gliding, 6.56 ft/s (2 m/s) | | |
| Max. Acceleration | 65.6 ft/s ² (20 m/s ²) | Sample Print Legend | IGUS P/N CF140US-15-## 16 AWG XX/C SHIELDED E223775 (UL) TYPE TC-ER 90C DRY 75°C WET 600V SUN RES DIR BUR OIL RES I OR MTW OR WTTC 1000V OR AWM 2587 --- LL257958 CSA AWM I/II A/B 90C 600V FT4 - CE J DDD/YY |
| Length of Travel | Unsupported travel distances and for gliding applications up to 30ft (9m) | | |
| Conductor Insulation | Mechanically high-quality, PVC/Nylon, black with white numbers, one green-yellow | | |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 16AWG (1.5 mm ²) Tray Rated Multi-Conductor Flexing Control Cable (Shielded) | | | | | | | |
|--|--|------------------------------|-------------------|----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand (## x AWG) | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF140US-15-03-1 | 3 | 16AWG (1.5 mm ²) | 30 x 30 | 0.41 | 20 | 0.09 | \$4.14 |
|  | | | | | | | |
| CF140US-15-04-1 | 4 | 16AWG (1.5 mm ²) | 30 x 30 | 0.43 | 20 | 0.11 | \$4.65 |

* For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

** See web store for maximum cut lengths




Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



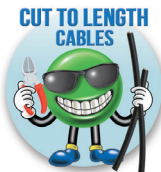
14AWG (2.5 mm²) Flexing Control Cable CF140US Series Shielded

| 14AWG (2.5 mm ²) Tray Rated Multi-Conductor Flexing Control Cable Specifications (Shielded) | | | |
|---|--|----------------------------|--|
| Conductors Gauge & Stranding | 14AWG (2.5 mm ²) 50/30 Finely stranded bundled bare copper wires. Designed in accordance with ASTM B174-95 | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| Voltage Ratings | 600V per UL | Inner Jacket | Low-adhesion PVC |
| | Tested to 3300V | Overall Shield | Tinned copper braid. 85% optical coverage |
| Min. Bend Radius | e-Chain®, 10.0 x diameter | Outer Jacket | Oil-resistant UV-resistant Gray PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. |
| | Flexible, 8.0 x diameter | UV Resistance | Medium |
| | Fixed, 7.5 x diameter | Oil Resistance | Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4) |
| Temperature Ratings | e-Chain, +41°F to +176°F (5°C to +80°C) | Flame Resistance | CSA AWM: FT4 |
| | Flexible, +23°F to +176°F (-5°C to +80°C) | Silicone-free | Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992) |
| | Fixed, -4°F to +194°F (-20°C to +90°C) | Approvals | UL; 22-10 AWG: UL Type MTW (Machine Tool Wire) 18-10 AWG: UL Type TC (Tray Cable) Lead Free; 2002/95/EC CE; In accordance with European Council Directive 73/23/EEC UL AWM: 2587 90 °C 600V CSA AWM: I/II A/B 90 °C 600V FT4 |
| Max. Velocity | Unsupported, 9.84 ft/s (3 m/s) | | |
| | Gliding, 6.56 ft/s (2 m/s) | | |
| Max. Acceleration | 65.6 ft/s ² (20 m/s ²) | Sample Print Legend | IGUS P/N CF140US-25-## 14 AWG XX/C SHIELDED E223775 (UL) TYPE TC-ER 90C DRY 75°C WET 600V SUN RES DIR BUR OIL RES I OR MTW OR WTTC 1000V OR AWM 2587 --- LL257958 CSA AWM I/II A/B 90C 600V FT4 - CE J DDD/YY |
| Length of Travel | Unsupported travel distances and for gliding applications up to 30ft (9m) | | |
| Conductor Insulation | Mechanically high-quality, PVC/Nylon, black with white numbers, one green-yellow | | |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 14AWG (2.5 mm ²) Tray Rated Multi-Conductor Flexing Control Cable (Shielded) | | | | | | | |
|--|--|------------------------------|-------------------|----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand (## x AWG) | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF140US-25-04-1 | 4 | 14AWG (2.5 mm ²) | 50 x 30 | 0.46 | 20 | 0.14 | \$6.25 |

* See web store for maximum cut lengths




Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



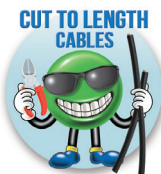
12AWG (4.0 mm²) Flexing Control Cable CF140US Series Shielded

| 12AWG (4.0 mm ²) Tray Rated Multi-Conductor Flexing Control Cable Specifications (Shielded) | | | |
|---|--|----------------------------|--|
| Conductors Gauge & Stranding | 12AWG (4.0 mm ²) 56/28 Finely stranded bundled bare copper wires. Designed in accordance with ASTM B174-95 | Conductor Markings | "#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4 |
| Voltage Ratings | 600V per UL | Inner Jacket | Low-adhesion PVC |
| | Tested to 3300V | Overall Shield | Tinned copper braid. 85% optical coverage |
| Min. Bend Radius | e-Chain®, 10.0 x diameter | Outer Jacket | Oil-resistant UV-resistant Gray PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. |
| | Flexible, 8.0 x diameter | UV Resistance | Medium |
| | Fixed, 7.5 x diameter | Oil Resistance | Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4 |
| Temperature Ratings | e-Chain, +41°F to +176°F (5°C to +80°C) | Flame Resistance | CSA AWM: FT4 |
| | Flexible, +23°F to +176°F (-5°C to +80°C) | Silicone-free | Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992 |
| | Fixed, -4°F to +194°F (-20°C to +90°C) | Approvals | UL; 22-10 AWG: UL Type MTW (Machine Tool Wire) 18-10 AWG: UL Type TC (Tray Cable) Lead Free; 2002/95/EC CE; In accordance with European Council Directive 73/23/EEC UL AWM: 2587 90 °C 600V CSA AWM: I/II A/B 90 °C 600V FT4 |
| Max. Velocity | Unsupported, 9.84 ft/s (3 m/s) | | |
| Max. Acceleration | Gliding, 6.56 ft/s (2 m/s) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 30ft (9m) | Sample Print Legend | IGUS P/N CF140US-40-## 12AWG XX/C SHIELDED E223775 (UL) TYPE TC-ER 90C DRY 75°C WET 600V SUN RES DIR BUR OIL RES I OR MTW OR WTTC 1000V OR AWM 2587 --- LL257958 CSA AWM I/II A/B 90C 600V FT4 - CE J DDD/YY |
| Conductor Insulation | Mechanically high-quality, PVC/Nylon, black with white numbers, one green-yellow | | |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 12AWG (4.0 mm ²) Tray Rated Multi-Conductor Flexing Control Cable (Shielded) | | | | | | | |
|--|--|------------------------------|-------------------|-----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand (## x AWG) | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF140US-40-04-1 | 4 | 12AWG (4.0 mm ²) | 56 x 28 | 0.57 | 20 | 0.20 | \$8.01 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Profibus-DP Cable-Shielded



Overview

AutomationDirect is pleased to offer the igus CFBUS series PVC cable for continuous flexing applications. This cable is available in a 24AWG twisted pair. Individual conductors are bare copper and stranded for flexing applications. Conductor insulation is a mechanically high-quality red and green TPE mixture. The cable's outer jacket is a low-adhesion pressure extruded Purple PVC mixture that provides resistance to sunlight, oil penetration, and is flame retardant.

The igus CFBUS Profibus-DP cable is specifically designed, tested, and manufactured for bus connection for machining units/packaging machines, handling and indoor cranes.

Features

- For medium mechanical load applications
- Outer jacket: PVC
- Overall shield
- Oil-resistant
- Flame resistance
- UV-resistant
- Indoor applications recommended, can be used in outdoor applications with temperatures >41°F
- Unsupported travel distances and for gliding applications up to 66ft (20m)
- Low 20 foot minimum length
- 3 year warranty



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable


| Cycles | | | | | 1 million | 3 million | 5 million |
|------------------------------|---------------|---------|------------------|----------------------|------------------------|------------------------|------------------------|
| Temperature, from/to [°F] | V max. [ft/s] | | A max. [ft/s] | Travel distance [ft] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] |
| | Unsupported | Gliding | | | | | |
| +41 / +59 | 9.84 | 6.56 | 98.43 | ≤ 65.62 | 15 | 16 | 17 |
| +59 / +140 | | | | | 12.5 | 13.5 | 14.5 |
| +140 / +158 | | | | | 15 | 16 | 17 |



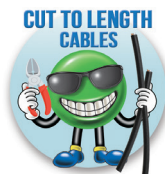
24AWG (0.25 mm²) Flexing Control Cable CFBUS-PVC Series Shielded

| 24AWG (0.25 mm ²) CFBUS-PVC Flexing Control Cable Specifications (Shielded) | | | |
|---|---|----------------------------|--|
| Conductors Gauge & Stranding | 24AWG (0.25 mm ²) 14/34 bare copper (according to EN 60228) | Conductor Markings | None |
| Voltage Ratings | 30V per UL | Overall Shield | Overall aluminized polyester foil shield 100% coverage, bending-resistant tinned copper braid. 80% optical coverage |
| | Tested to 500V | Outer Jacket | Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN VDE 0281 Part 13). Color: Purple (similar to RAL 4001) |
| Min. Bend Radius | e-Chain®, 12.5 x diameter | UV Resistance | Yes |
| | Flexible, 10.0 x diameter | Oil Resistance | Oil-resistant (following DIN EN 50363-4-1), Class 2 |
| | Fixed, 7.0 x diameter | Flame Resistance | According to IEC 60332-1-2, CEI 20-35, FT-1, VW-1 |
| Temperature Ratings | e-Chain, +41°F to +158°F (5°C to +70°C) | Silicone-free | Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992) |
| | Flexible, +23°F to +158°F (-5°C to +70°C) | Approvals | UL/CSA Style 1598 and 2571, 30 V, 80 °C NFPA 79; Complies to NFPA 79-2015 chapter 12.9 |
| | Fixed, +5°F to +158°F (-15°C to +70°C) | | EAC; Certified according to no. TC RU C-DE. ME77.B.01218 |
| Max. Velocity | Unsupported, 9.84 ft/s (3 m/s) | | CTP; Certified according to no. C-DE. B49.B.00416 |
| | Gliding, 6.56 ft/s (2 m/s) | Sample Print Legend | Lead Free; Following 2011/65/EU (RoHS-II) |
| Max. Acceleration | 98.4 ft/s ² (30 m/s ²) | | CEI; Following CEI 20-35 |
| Length of Travel | Unsupported travel distances and for gliding applications up to 66ft (20m), Class 3 | | Clean Room; According to ISO Class 1. |
| Conductor Insulation | Red, Green PVC with blue filler material | Sample Print Legend | Outer jacket material complies with CF240-02-24, tested by IPA according to standard 14644-1 |
| | | | CE; Following 2014/35/EG |
| | | | igus chainflex CFBUS.PVC.001 E310776 I cRUus AWM Style 2571 VW-1 AWM I/II A/B 80°C 30 V FT1 EAC/CTP CE --- conform RoHS-II conform www.igus.de +++ chainflex cable works |

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| 24AWG (0.25 mm ²) CFBUS-PVC Flexing Control Cable (Shielded) | | | | | | | |
|--|-------------------------|-------------------------------|-------------------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Twisted Pairs | AWG | Strand (## x AWG) | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CFBUS-PVC-001-1 | 1 | 24AWG (0.25 mm ²) | 14 x 34 | 0.33 | 20 | 0.2 | \$2.23 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Motor Supply Cable



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable

Overview

AutomationDirect is pleased to offer the igus CF30 and CF31 Series Motor Supply cable for continuous flexing applications. These cables are available in sizes from 16AWG to 2AWG with 4 unshielded (CF30 series) or 4 shielded (CF31 series) conductors. Individual conductors are bare copper and stranded for flexing applications. Conductor insulation is a mechanically high-quality black TPE mixture and individual conductors are marked with white numbers for easy identification. A convenient ground conductor is included in the conductor count of each cable and has green-yellow insulation. The cable's outer jacket is a low-adhesion pressure extruded PVC mixture that provides resistance to sunlight, oil penetration, and is flame retardant.

Unshielded Chainflex® cables have a tear strip underneath the outer jacket, shielded Chainflex® cables have it underneath the inner jacket. With a few easy steps, the jacket can be opened like a zipper to the desired length by pulling on the special tear strip. The outer jacket/inner jacket can then be removed from conductors. This not only saves time and effort for assemblers and electricians, but also means they have no need for additional tools. Cables are designed such that the strip does not cause damage to the jacket or conductors, even after millions of motion cycles.

The igus CF30 and CF31 motor supply cables are specifically designed, tested, and manufactured for continuous flexing, high mechanical load application requirements, and will provide a guaranteed service life between 5 million and 10 million cycles when operated within specified conditions*.

Features

- 1.5 mm² to 35.0 mm² (16AWG to 2AWG), 4 conductors including ground
- Unshielded and shielded constructions
- Individual conductors have black TPE insulation and are marked with white identification numbers
- Low adhesion pressure extruded PVC mixture outer jacket that is sunlight and oil resistant and flame retardant
- Green/yellow ground wire included
- Rated for continuous flexing applications with high mechanical load requirements
- Guaranteed service life between 5 million and 10 million cycles when operated within specified conditions
- UL Recognized type AWM (appliance wiring material)
- Cut to length in 1 foot increments
- 3 year warranty* (see note 1)



- Strip cables 50% faster: The tear strip is in the outer jacket for unshielded cables and inner jacket for shielded

| Cycles | | | | | 5 million | 7.5 million | 10 million |
|---------------------------|---------------|---------|-----------------------------|----------------------|---------------------|---------------------|---------------------|
| Temperature, from/to [°F] | v max. [ft/s] | | a max. [ft/s ²] | Travel distance [ft] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] |
| | Unsupported | Gliding | | | | | |
| +41 / +59 | 32.81 | 16.41 | 262.48 | ≤ 328.1 | 10 | 11 | 12 |
| +59 / +140 | | | | | 7.5 | 8.5 | 9.5 |
| +140 / +158 | | | | | 10 | 11 | 12 |

Note 1

* CF30 and CF31 Series Guaranteed lifetime according to guarantee conditions




Motor Supply Cable CF30 Series Unshielded

| 4 Conductor Motor Supply Cable CF30 Series Specifications (Unshielded) | | | |
|--|--|-----------------------------|---|
| Conductors Gauge & Stranding | 16AWG (30/30 bare copper strands) to 2AWG (280/26 bare copper strands) following EN 60228 | Conductor Insulation | Black TPE with green/yellow ground |
| Voltage Ratings | 1000V per UL Tested to 4000V | Conductor Markings | 1. U/L1/C/L+, 2. V/L2, 3. W/L3/D/L-, 4. green/yellow |
| Min. Bend Radius | e-Chain®, 7.5 x diameter Flexible*, 6.0 x diameter Fixed, 4.0 x diameter | Outer Jacket | Jet Black PVC |
| Temperature Ratings | e-Chain, +41°F to +158°F (+5°C to +70°C) Flexible*, +23°F to +158°F (-5°C to +70°C) Fixed, +5°F to +158°F (-15°C to +70°C) | UV Resistance | Yes |
| Max. Velocity | Unsupported, 32.81 ft/s (10 m/s) Gliding, 16.41 ft/s (5 m/s) | Oil Resistance | DIN EN50363-1, Class 2 |
| Max. Acceleration | 262.5 ft/s ² (80 m/s ²) | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | Silicone-free | Yes |
| Torsion | 90° rotation with 3.281 ft (1m) of cable length | Approvals | UL/CSA Style 10492 and 2570, 1000V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01218 CTP; Certified to no. C-DE. PB49.B.00416 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 2, outer jacket material, tested by IPA according to standard 14644-1 CE; Following 2014/35/EU igus chainflex CF30.xx.xx 4Gxx 600/1000V E310776 cRUus AWM Style 2570 VW-1 AWM I/II A/B 80°C 1000V FT1 CE RoHS-II conform www.igus.de +++chainflex cable works+++ |
| | | Sample Print Legend | |

* Per EN 60811-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| Motor Supply 4-Conductor Cable Selection | | | | | | | |
|---|--|------------------------------|------------------|----------------------------|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand (# x AWG) | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF30-15-04-1 | 4 | 16AWG (1.5 mm ²) | 30x30 | 0.33 | 20 | 0.07 | \$2.76 |
| CF30-25-04-1 | 4 | 14AWG (2.5 mm ²) | 50x30 | 0.41 | 20 | 0.11 | \$3.69 |
| CF30-40-04-1 | 4 | 12AWG (4.0 mm ²) | 56x28 | 0.47 | 20 | 0.17 | \$5.26 |
| CF30-60-04-1 | 4 | 10AWG (6.0 mm ²) | 84x28 | 0.55 | 20 | 0.24 | \$7.48 |
| CF30-100-04-1 | 4 | 8AWG (10.0 mm ²) | 80x26 | 0.69 | 10 | 0.41 | \$12.84 |
| CF30-160-04-1 | 4 | 6AWG (16.0 mm ²) | 128x26 | 0.83 | 10 | 0.62 | \$18.09 |
| CF30-250-04-1 | 4 | 4AWG (25 mm ²) | 200x26 | 1.00 | 10 | 0.95 | \$26.84 |
| CF30-350-04-1 | 4 | 2AWG (35 mm ²) | 280x26 | 1.14 | 10 | 1.30 | \$39.88 |

* See web store for maximum cut length



Please Note: Our prices on Motor Supply Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

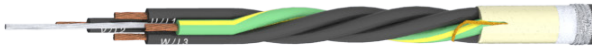


Motor Supply Cable CF31 Series Shielded

| 4 Conductor Motor Supply Cable CF31 Series Specifications (Shielded) | | | |
|--|---|----------------------------|---|
| Conductors Gauge & Stranding | 16AWG (30/30 bare copper strands) to 2AWG (280/26 bare copper strands) following EN 60228 | Conductor Markings | 1. U/L1/C/L+, 2. V/L2, 3. W/L3/D/L-, 4. green/yellow |
| Voltage Ratings | 1000V per UL | Inner Jacket | Tan PVC |
| | Tested to 4000V | Shield | Copper braid 90% coverage |
| Min. Bend Radius | e-Chain®, 7.5 x diameter | Outer Jacket | Jet Black PVC |
| | Flexible*, 6.0 x diameter | UV Resistance | Yes |
| | Fixed, 4.0 x diameter | Oil Resistance | DIN EN50363-1, Class 2 |
| Temperature Ratings | e-Chain, +41°F to +158°F (+5°C to +70°C) | Flame Retardant | According to IEC 60332-1-2, CEI 20-35, VW-1, FT-1 |
| | Flexible*, +23°F to +158°F (-5°C to +70°C) | Silicone-free | Yes |
| | Fixed, +5°F to +158°F (-15°C to +70°C) | Approvals | UL/CSA Style 10492 and 2570, 1000V, 80°C NFPA 79; Following NFPA 79-2012 chapter 12.9 EAC; Certified to no. TC RU C-DE. ME77.B.01255 CTP; Certified to no. C-DE. PB49.B.00420 Lead Free; Following 2011/65/EU (RoHS-II) CEI; Following CEI 20-35 Clean Room; According to ISO Class 2, outer jacket material, tested by IPA according to standard 14644-1 CE; Following 2014/35/EU |
| Max. Velocity | Unsupported, 32.81 ft/s (10 m/s) Gliding, 16.41 ft/s (5 m/s) | | |
| Max. Acceleration | 262.5 ft/s ² (80 m/s ²) | | |
| Length of Travel | Unsupported travel distances and for gliding applications up to 328ft (100m) | Sample Print Legend | igus chainflex CF31.xx.xx (4Gxx) 600/1000V E310776 cRUus AWM Style 2570 VW-1 AWM I/II A/B 80°C 1000V FT1 CE RoHS-II conform www.igus.de +++chainflex cable works+++ |
| Conductor Insulation | Black PVC with green/yellow ground | | |

* Per EN 60811-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

| Motor Supply 4-Conductor Cable Selection | | | | | | | |
|---|--|------------------------------|------------------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand (# x AWG) | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| CF31-15-04-1 | 4 | 16AWG (1.5 mm ²) | 30x30 | 0.41 | 20 | 0.11 | \$4.99 |
| CF31-25-04-1 | 4 | 14AWG (2.5 mm ²) | 50x30 | 0.47 | 20 | 0.16 | \$5.93 |
| CF31-40-04-1 | 4 | 12AWG (4.0 mm ²) | 56x28 | 0.53 | 20 | 0.23 | \$8.31 |
| CF31-60-04-1 | 4 | 10AWG (6.0 mm ²) | 84x28 | 0.63 | 20 | 0.33 | \$11.36 |
| CF31-100-04-1 | 4 | 8AWG (10.0 mm ²) | 80x26 | 0.81 | 10 | 0.56 | \$16.72 |
| CF31-160-04-1 | 4 | 6AWG (16.0 mm ²) | 128x26 | 0.93 | 10 | 0.76 | \$23.40 |
| CF31-250-04-1 | 4 | 4AWG (25 mm ²) | 200x26 | 1.12 | 10 | 1.15 | \$35.81 |
| CF31-350-04-1 | 4 | 2AWG (35 mm ²) | 280x26 | 1.28 | 10 | 1.54 | \$51.08 |

* See web store for maximum cut length



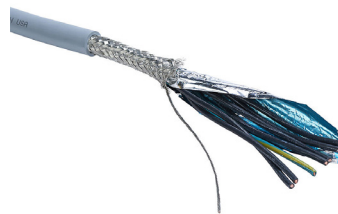
Please Note: Our prices on Motor Supply Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



LUTZE SUPERFLEX® PVC Control Cable



Unshielded High Flexing Control Cable



Shielded High Flexing Control Cable

LUTZE SUPERFLEX® control cable from AutomationDirect is available in sizes from 21AWG to 12AWG with 3 to 34 unshielded conductors. Individual conductors are bare copper and stranded for flexibility, with black PVC/Nylon insulation and marked with numbers for easy identification. A convenient insulated ground conductor, green with a yellow stripe, is included in the conductor count of each cable.

Well suited for articulated drag chain (C-tracks) installations where moderate to high performance is required. Designed for flexing in short to medium length drag chains.

LUTZE SUPERFLEX® PVC is offered with High Glide TPE insulation and with a specially formulated PVC jacket. The PVC outer jacket is resistant to sunlight, oil, and moisture penetration, making this cable suitable for indoor wet and dry applications or outdoor installations.

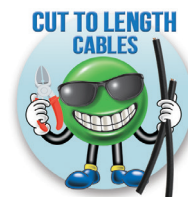
With multiple ratings and approvals, LUTZE SUPERFLEX® PVC multi-conductor control cable has the versatility to meet a wide range of industrial applications. These flexible multi-conductor cables provide an economical way to organize and simplify control wiring in machines and facilities. Suitable for continuous flexing applications, these cables are ideal for both stationary and flexing applications with limited mechanical stress and free movement without any tensile stress, loads or forced movements.

Available cut to length in 1 foot increments with a 20 foot minimum length.

Features

- 21AWG to 12AWG, 3 to 34 conductors including an equal size green/yellow ground
- Unshielded and shielded constructions
- Individual conductors have black PVC/TPE insulation and are marked with identification numbers
- Oil resistant PVC outer jacket
- UV resistant PVC outer jacket
- Multiple ratings and approvals include cUL AWM Style 2586; CE, RoHS, REACH
- Flexible for ease of installation
- Designed for linear constant motion
- Ideal for C-Track dragchain installations
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- Made in the USA

| Flex Cycles | | | | | |
|--------------------|---------------------|----------------|--------|----------------------|------------|
| | Traveling Distances | Bending Radius | Speed | Acceleration | Cycles |
| A148 Series | < 16ft / 5m | > 12 Ø | < 3m/s | < 5m/s ² | 10,000,000 |
| | < 49ft / 15m | > 10 Ø | < 5m/s | < 10m/s ² | 5,000,000 |
| A149 Series | < 16ft / 5m | > 15 Ø | < 3m/s | < 5m/s ² | 10,000,000 |
| | < 49ft / 15m | > 12 Ø | < 5m/s | < 10m/s ² | 5,000,000 |





0.5 mm² (21AWG) Unshielded Continuous Flexing Control Cable

0.5 mm² (21AWG) Continuous Flexing Control Cable Specifications (Unshielded)

| | | | |
|---|---|----------------------------|---|
| Conductors Gauge & Stranding | 0.5 mm ² (21AWG) 28x0.15 bare copper | Outer Jacket | Gray PVC |
| Voltage Ratings | 600V per UL | UV Resistance | Yes, UL 1581 |
| | Tested to 3000V | Oil Resistance | Yes |
| Min. Bend Radius | Moving, 7.5 x diameter | Flame Retardant | Per UL VW-1, FT-1, DIN EN 50265-2-1 FT1 |
| | Fixed, 4.0 x diameter | Silicone-free | Yes |
| Temperature Ratings | Moving, 5°F to +194°F (-15°C to +90°C) | Approvals | cUL AWM Style 2586, CE, RoHS, REACH |
| | Fixed, -40°F to +221°F (-40°C to +105°C) | Sample Print Legend | LUTZE SUPERFLEX® N PVC CONSTANT FLEXING CABLE OIL RESISTANT FRPP/ PVC A14820XX XG0.5 MM2 (AWG21/XC) E197090 cURus AWM STYLE 2586 105C 600V VW-1 AWM I/II A/B 105C 600V FT1 ROHS DATE CODE CE-40 |
| Conductor Insulation | TPE High Glide with green/yellow ground | | |
| Conductor Markings | Black with White numbers | | |

0.5 mm² (21AWG) Continuous Flexing Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|-------------------|--|-----------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| | | | | | | | |
| A1482003-1 | 3 | 0.5 mm ² (21AWG) | 28 | 0.205 | 20 | 0.029 | \$0.99 |
| | | | | | | | |
| A1482004-1 | 4 | 0.5 mm ² (21AWG) | 28 | 0.220 | 20 | 0.034 | \$1.59 |
| | | | | | | | |
| A1482005-1 | 5 | 0.5 mm ² (21AWG) | 28 | 0.240 | 20 | 0.042 | \$2.14 |
| | | | | | | | |
| A1482007-1 | 7 | 0.5 mm ² (21AWG) | 28 | 0.283 | 20 | 0.058 | \$2.55 |
| | | | | | | | |
| A1482012-1 | 12 | 0.5 mm ² (21AWG) | 28 | 0.339 | 20 | 0.083 | \$3.78 |



* See web store for maximum cut lengths



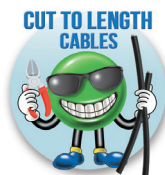
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



0.5 mm² (21AWG) Unshielded Continuous Flexing Control Cable

| 0.5 mm ² (21AWG) Continuous Flexing Control Cable (Unshielded) | | | | | | | |
|--|--|-----------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>A1482018-1</u> | 18 | 0.5 mm ² (21AWG) | 28 | 0.406 | 20 | 0.125 | \$4.85 |
|  | | | | | | | |
| <u>A1482025-1</u> | 25 | 0.5 mm ² (21AWG) | 28 | 0.496 | 20 | 0.177 | \$6.23 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



1.0 mm² (18AWG) Unshielded Continuous Flexing Control Cable

1.0 mm² (18AWG) Continuous Flexing Control Cable Specifications (Unshielded)

| | | | |
|---|---|----------------------------|---|
| Conductors Gauge & Stranding | 1.0 mm ² (18AWG) 56x0.15 bare copper | Outer Jacket | Gray PVC |
| Voltage Ratings | 600V per UL | UV Resistance | Yes, UL 1581 |
| | Tested to 3000V | Oil Resistance | Yes |
| Min. Bend Radius | Moving, 7.5 x diameter | Flame Retardant | Per UL VW-1, FT-1, DIN EN 50265-2-1 FT1 |
| | Fixed, 4.0 x diameter | Silicone-free | Yes |
| Temperature Ratings | Moving, 5°F to +194°F (-15°C to +90°C) | Approvals | cUL AWM Style 2586, CE, RoHS, REACH |
| | Fixed, -40°F to +221°F (-40°C to +105°C) | Sample Print Legend | LUTZE SUPERFLEX® N PVC CONSTANT FLEXING CABLE OIL RESISTANT FRPP/ PVC A14818XX XG0.5 MM2 (AWG18/XC) E197090 cURus AWM STYLE 2586 105C 600V VW-1 AWM I/II A/B 105C 600V FT1 ROHS DATE CODE CE-40 |
| Conductor Insulation | TPE High Glide with green/yellow ground | | |
| Conductor Markings | Black with White numbers | | |

1.0 mm² (18AWG) Continuous Flexing Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
|--------------------------|--|-----------------------------|--------|-----------------------------|---------------------------|----------------------------|----------------|
| | | | | | | | |
| <u>A1481803-1</u> | 3 | 1.0 mm ² (18AWG) | 56 | 0.240 | 20 | 0.044 | \$1.96 |
| | | | | | | | |
| <u>A1481804-1</u> | 4 | 1.0 mm ² (18AWG) | 56 | 0.264 | 20 | 0.053 | \$2.33 |
| | | | | | | | |
| <u>A1481805-1</u> | 5 | 1.0 mm ² (18AWG) | 56 | 0.283 | 20 | 0.065 | \$2.68 |
| | | | | | | | |
| <u>A1481807-1</u> | 7 | 1.0 mm ² (18AWG) | 56 | 0.335 | 20 | 0.092 | \$3.47 |
| | | | | | | | |
| <u>A1481812-1</u> | 12 | 1.0 mm ² (18AWG) | 56 | 0.417 | 20 | 0.141 | \$4.71 |




* See web store for maximum cut lengths



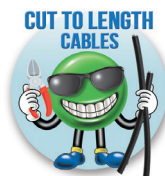
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



1.0 mm² (18AWG) Unshielded Continuous Flexing Control Cable

| 1.0 mm ² (18AWG) Continuous Flexing Control Cable (Unshielded) | | | | | | | |
|--|--|-----------------------------|--------|-----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>A1481818-1</u> | 18 | 1.0 mm ² (18AWG) | 56 | 0.500 | 20 | 0.211 | \$6.78 |
|  | | | | | | | |
| <u>A1481825-1</u> | 25 | 1.0 mm ² (18AWG) | 56 | 0.602 | 20 | 0.291 | \$9.42 |
|  | | | | | | | |
| <u>A1481834-1</u> | 34 | 1.0 mm ² (18AWG) | 56 | 0.685 | 20 | 0.392 | \$12.42 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

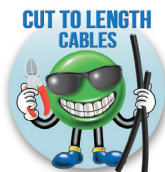


1.5 mm² (16AWG) Unshielded Continuous Flexing Control Cable

| 1.5 mm ² (16AWG) Continuous Flexing Control Cable Specifications (Unshielded) | | | |
|--|---|----------------------------|---|
| Conductors Gauge & Stranding | 1.5 mm ² (16AWG) 82x0.15 bare copper | Outer Jacket | Gray PVC |
| Voltage Ratings | 600V per UL | UV Resistance | Yes, UL 1581 |
| | Tested to 3000V | Oil Resistance | Yes |
| Min. Bend Radius | Moving, 7.5 x diameter | Flame Retardant | Per UL VW-1, FT-1, DIN EN 50265-2-1 FT1 |
| | Fixed, 4.0 x diameter | Silicone-free | Yes |
| Temperature Ratings | Moving, 5°F to +194°F (-15°C to +90°C) | Approvals | cUL AWM Style 2586, CE, RoHS, REACH |
| | Fixed, -40°F to +221°F (-40°C to +105°C) | Sample Print Legend | LUTZE SUPERFLEX® N PVC CONSTANT FLEXING CABLE OIL RESISTANT FRPP/ PVC A14816XX XG1.5 MM2 (AWG16/XC) E197090 cURus AWM STYLE 2586 105C 600V VW-1 AWM I/II A/B 105C 600V FT1 ROHS DATE CODE CE-40 |
| Conductor Insulation | TPE High Glide with green/yellow ground | | |
| Conductor Markings | Black with White numbers | | |

| 1.5 mm ² (16AWG) Continuous Flexing Control Cable (Unshielded) | | | | | | | |
|---|--|-----------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | |
| A1481603-1 | 3 | 1.5 mm ² (16AWG) | 82 | 0.276 | 20 | 0.059 | \$2.41 |
| | | | | | | | |
| A1481604-1 | 4 | 1.5 mm ² (16AWG) | 82 | 0.303 | 20 | 0.073 | \$2.83 |
| | | | | | | | |
| A1481605-1 | 5 | 1.5 mm ² (16AWG) | 82 | 0.331 | 20 | 0.090 | \$3.37 |
| | | | | | | | |
| A1481607-1 | 7 | 1.5 mm ² (16AWG) | 82 | 0.402 | 20 | 0.132 | \$4.23 |
| | | | | | | | |
| A1481612-1 | 12 | 1.5 mm ² (16AWG) | 82 | 0.500 | 20 | 0.203 | \$6.43 |



* See web store for maximum cut lengths



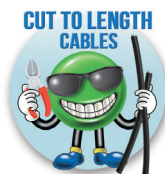
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



1.5 mm² (16AWG) Unshielded Continuous Flexing Control Cable

| 1.5 mm ² (16AWG) Continuous Flexing Control Cable (Unshielded) | | | | | | | |
|--|--|-----------------------------|--------|-----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>A1481618-1</u> | 18 | 1.5 mm ² (16AWG) | 82 | 0.583 | 20 | 0.294 | \$9.32 |
|  | | | | | | | |
| <u>A1481625-1</u> | 25 | 1.5 mm ² (16AWG) | 82 | 0.717 | 20 | 0.417 | \$12.91 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

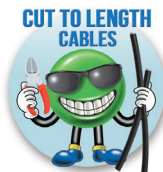


2.5 mm² (14AWG) Unshielded Continuous Flexing Control Cable

| 2.5 mm ² (14AWG) Continuous Flexing Control Cable Specifications (Unshielded) | | | |
|--|--|----------------------------|---|
| Conductors Gauge & Stranding | 2.5 mm ² (14AWG) 134x0.15 bare copper | Outer Jacket | Gray PVC |
| Voltage Ratings | 600V per UL | UV Resistance | Yes, UL 1581 |
| | Tested to 3000V | Oil Resistance | Yes |
| Min. Bend Radius | Moving, 7.5 x diameter | Flame Retardant | Per UL VW-1, FT-1, DIN EN 50265-2-1 FT1 |
| | Fixed, 4.0 x diameter | Silicone-free | Yes |
| Temperature Ratings | Moving, 5°F to +194°F (-15°C to +90°C) | Approvals | cUL AWM Style 2586, CE, RoHS, REACH |
| | Fixed, -40°F to +221°F (-40°C to +105°C) | Sample Print Legend | LUTZE SUPERFLEX® N PVC CONSTANT FLEXING CABLE OIL RESISTANT FRPP/ PVC A14814XX XG2.5 MM2 (AWG14/XC) E197090 cURus AWM STYLE 2586 105C 600V VW-1 AWM I/II A/B 105C 600V FT1 ROHS DATE CODE CE-40 |
| Conductor Insulation | TPE High Glide with green/yellow ground | | |
| Conductor Markings | Black with White numbers | | |

| 2.5 mm ² (14AWG) Continuous Flexing Control Cable (Unshielded) | | | | | | | |
|---|--|-----------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | |
| <u>A1481404-1</u> | 4 | 2.5 mm ² (14AWG) | 134 | 0.339 | 20 | 0.102 | \$3.86 |
| | | | | | | | |
| <u>A1481405-1</u> | 5 | 2.5 mm ² (14AWG) | 134 | 0.382 | 20 | 0.132 | \$4.64 |
| | | | | | | | |
| <u>A1481407-1</u> | 7 | 2.5 mm ² (14AWG) | 134 | 0.469 | 20 | 0.194 | \$6.15 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



4mm² (12AWG) Unshielded Continuous Flexing Control Cable

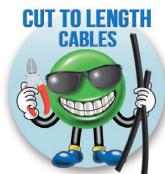
4mm² (12AWG) Continuous Flexing Control Cable Specifications (Unshielded)

| | | | |
|---|--|----------------------------|---|
| Conductors Gauge & Stranding | 4mm² (12AWG) 224x0.15 bare copper | Outer Jacket | Gray PVC |
| Voltage Ratings | 600V per UL | UV Resistance | Yes, UL 1581 |
| | Tested to 3000V | Oil Resistance | Yes |
| Min. Bend Radius | Moving, 7.5 x diameter | Flame Retardant | Per UL VW-1, FT-1, DIN EN 50265-2-1 FT1 |
| | Fixed, 4.0 x diameter | Silicone-free | Yes |
| Temperature Ratings | Moving, 5°F to +194°F (-15°C to +90°C) | Approvals | cUL AWM Style 2586, CE, RoHS, REACH |
| | Fixed, -40°F to +221°F (-40°C to +105°C) | Sample Print Legend | LUTZE SUPERFLEX® N PVC CONSTANT FLEXING CABLE OIL RESISTANT FRPP/ PVC A14812XX XG4.0 MM2 (AWG12/XC) E197090 cURus AWM STYLE 2586 105C 600V VW-1 AWM I/II A/B 105C 600V FT1 ROHS DATE CODE CE-40 |
| Conductor Insulation | TPE High Glide with green/yellow ground | | |
| Conductor Markings | Black with White numbers | | |

4mm² (12AWG) Continuous Flexing Control Cable (Unshielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|-----------------------------------|--|--------------------------|--------|----------------------------|--------------------------|----------------------------|----------------|
| | | | | | | | |
| <u>A1481204-1</u> | 4 | 4mm ² (12AWG) | 224 | 0.433 | 20 | 0.180 | \$6.37 |
| | | | | | | | |
| <u>A1481207-1</u> | 7 | 4mm ² (12AWG) | 224 | 0.591 | 20 | 0.328 | \$10.34 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

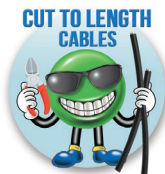


0.5mm² (20AWG) Shielded Continuous Flexing Control Cable

| 0.5mm ² (20AWG) Continuous Flexing Control Cable Specifications (Shielded) | | | |
|---|--|-----------------------------|---|
| Conductors Gauge & Stranding | 0.5 mm2 (20AWG) 28×0.15 bare copper | Conductor Insulation | TPE High Glide with green/yellow ground |
| Voltage Ratings | 600V per UL | Conductor Markings | Black with White numbers |
| | Tested to 3000V | Outer Jacket | Gray PVC |
| Min. Bend Radius | Moving, 10.0 x diameter | UV Resistance | Yes, UL 1581 |
| | Fixed, 6.0 x diameter | Oil Resistance | Yes |
| Temperature Ratings | Moving, 5°F to +194°F (-15°C to +90°C) | Flame Retardant | Per UL VW-1, FT-1, DIN EN 50265-2-1 FT1 |
| | Fixed, -40°F to +221°F (-40°C to +105°C) | Silicone-free | Yes |
| | | Approvals | cUL AWM Style 2586, CE, RoHS, REACH |
| | | Sample Print Legend | LUTZE SUPERFLEX® N PVC CONSTANT FLEXING CABLE OIL RESISTANT FRPP/ PVC A14920XX XG0.5 MM2 (AWG20/XC) E197090 cURus AWM STYLE 2586 105C 600V VW-1 AWM I/II A/B 105C 600V FT1 ROHS DATE CODE CE-40 |

| 0.5mm ² (20AWG) Continuous Flexing Control Cable (Shielded) | | | | | | | |
|--|--|-----|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | |
| <u>A1492003-1</u> | 3 | 20 | 28 | 0.264 | 20 | 0.053 | \$2.38 |
| | | | | | | | |
| <u>A1492004-1</u> | 4 | 20 | 28 | 0.280 | 20 | 0.060 | \$2.69 |
| | | | | | | | |
| <u>A1492005-1</u> | 5 | 20 | 28 | 0.307 | 20 | 0.074 | \$3.01 |
| | | | | | | | |
| <u>A1492007-1</u> | 7 | 20 | 28 | 0.354 | 20 | 0.098 | \$3.43 |

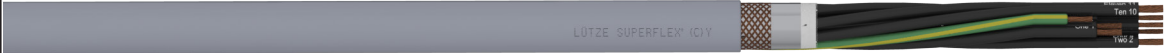
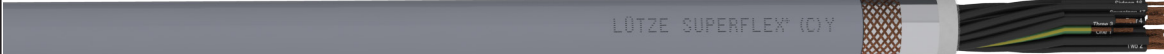
* See web store for maximum cut lengths



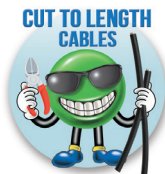
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



0.5mm² (20AWG) Shielded ContinuousFlexing Control Cable

| 0.5mm ² (20AWG) Continuous Flexing Control Cable (Shielded) | | | | | | | |
|--|--|-----|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>A1492012-1</u> | 12 | 20 | 28 | 0.429 | 20 | 0.141 | \$4.82 |
|  | | | | | | | |
| <u>A1492018-1</u> | 18 | 20 | 28 | 0.492 | 20 | 0.194 | \$6.29 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



1.0 mm² (18AWG) Shielded Continuous Flexing Control Cable

1.0 mm² (18AWG) Continuous Flexing Control Cable Specifications (Shielded)

| | | | |
|---|---|-----------------------------|---|
| Conductors Gauge & Stranding | 1.0 mm ² (18AWG) 56×0.15 bare copper | Conductor Insulation | TPE High Glide with green/yellow ground |
| Voltage Ratings | 600V per UL | Conductor Markings | Black with White numbers |
| | Tested to 3000V | Outer Jacket | Gray PVC |
| Min. Bend Radius | Moving, 10.0 x diameter | UV Resistance | Yes, UL 1581 |
| | Fixed, 6.0 x diameter | Oil Resistance | Yes |
| | | Flame Retardant | Per UL VW-1, FT-1, DIN EN 50265-2-1 FT1 |
| Temperature Ratings | Moving, 5°F to +194°F (-15°C to +90°C) | Silicone-free | Yes |
| | Fixed, -40°F to +221°F (-40°C to +105°C) | Approvals | cUL AWM Style 2586, CE, RoHS, REACH |
| | | Sample Print Legend | LUTZE SUPERFLEX® N PVC CONSTANT FLEXING CABLE OIL RESISTANT FRPP/ PVC A14918XX XG1.0 MM2 (AWG18/XC) E197090 cURus AWM STYLE 2586 105C 600V VW-1 AWM I/II A/B 105C 600V FT1 ROHS DATE CODE CE-40 |

1.0 mm² (18AWG) Multi-Conductor Flexing Control Cable (Shielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|----------------------------|--|-----|--------|----------------------------|--------------------------|----------------------------|----------------|
| | | | | | | | |
| A1491803-1 | 3 | 18 | 56 | 0.303 | 20 | 0.074 | \$2.76 |
| | | | | | | | |
| A1491804-1 | 4 | 18 | 56 | 0.331 | 20 | 0.089 | \$3.26 |
| | | | | | | | |
| A1491805-1 | 5 | 18 | 56 | 0.354 | 20 | 0.105 | \$3.77 |
| | | | | | | | |
| A1491807-1 | 7 | 18 | 56 | 0.429 | 20 | 0.151 | \$4.61 |

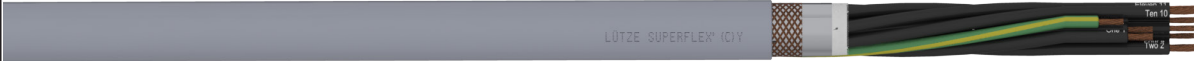

* See web store for maximum cut lengths



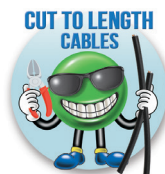
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



1.0 mm² (18AWG) Shielded Continuous Flexing Control Cable

| 1.0 mm ² (18AWG) Continuous Flexing Control Cable (Shielded) | | | | | | | |
|--|--|-----|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| <u>A1491812-1</u> | 12 | 18 | 56 | 0.508 | 20 | 0.213 | \$6.54 |
|  | | | | | | | |
| <u>A1491818-1</u> | 18 | 18 | 56 | 0.579 | 20 | 0.293 | \$8.75 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

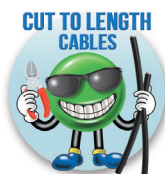


1.5 mm² (16AWG) Shielded Continuous Flexing Control Cable

| 1.5 mm ² (16AWG) Continuous Flexing Control Cable Specifications (Shielded) | | | |
|--|--|-----------------------------|---|
| Conductors Gauge & Stranding | 1.5mm2 (16AWG) 82x0.15 bare copper | Conductor Insulation | TPE High Glide with green/yellow ground |
| Voltage Ratings | 600V per UL | Conductor Markings | Black with White numbers |
| | Tested to 3000V | Outer Jacket | Gray PVC |
| Min. Bend Radius | Moving, 10.0 x diameter | UV Resistance | Yes, UL 1581 |
| | Fixed, 6.0 x diameter | Oil Resistance | Yes |
| Temperature Ratings | Moving, 5°F to +194°F (-15°C to +90°C) | Flame Retardant | Per UL VW-1, FT-1, DIN EN 50265-2-1 FT1 |
| | Fixed, -40°F to +221°F (-40°C to +105°C) | Silicone-free | Yes |
| | | Approvals | cUL AWM Style 2586, CE, RoHS, REACH |
| | | Sample Print Legend | LUTZE SUPERFLEX® N PVC CONSTANT FLEXING CABLE OIL RESISTANT FRPP/ PVC A14916XX XG1.5 MM2 (AWG16/XC) E197090 cURus AWM STYLE 2586 105C 600V VW-1 AWM I/II A/B 105C 600V FT1 ROHS DATE CODE CE-40 |

| 1.5 mm ² (16AWG) Continuous Flexing Control Cable (Shielded) | | | | | | | |
|---|--|-----|--------|-----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | | | | | | | |
| A1491603-1 | 3 | 16 | 82 | 0.346 | 20 | 0.098 | \$3.32 |
| | | | | | | | |
| A1491604-1 | 4 | 16 | 82 | 0.378 | 20 | 0.118 | \$4.10 |
| | | | | | | | |
| A1491605-1 | 5 | 16 | 82 | 0.421 | 20 | 0.147 | \$4.73 |
| | | | | | | | |
| A1491607-1 | 7 | 16 | 82 | 0.488 | 20 | 0.201 | \$5.88 |
| | | | | | | | |
| A1491612-1 | 12 | 16 | 82 | 0.579 | 20 | 0.285 | \$8.36 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



2.5 mm² (14AWG) Shielded Continuous Flexing Control Cable

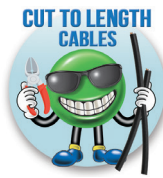
2.5 mm² (14AWG) Continuous Flexing Control Cable Specifications (Shielded)

| | | | |
|---|--|-----------------------------|---|
| Conductors Gauge & Stranding | 2.5 mm ² (14AWG) 132 x 0.15 bare copper | Conductor Insulation | TPE High Glide with green/yellow ground |
| Voltage Ratings | 600V per UL Tested to 3000V | Conductor Markings | Black with White numbers |
| Min. Bend Radius | Moving, 10.0 x diameter Fixed, 6.0 x diameter | Outer Jacket | Gray PVC |
| Temperature Ratings | Moving, 5°F to +194°F (-15°C to +90°C) Fixed, -40°F to +221°F (-40°C to +105°C) | UV Resistance | Yes, UL 1581 |
| | | Oil Resistance | Yes |
| | | Flame Retardant | Per UL VW-1, FT-1, DIN EN 50265-2-1 FT1 |
| | | Silicone-free | Yes |
| | | Approvals | cUL AWM Style 2586, CE, RoHS, REACH |
| | | Sample Print Legend | LUTZE SUPERFLEX® N PVC CONSTANT FLEXING CABLE OIL RESISTANT FRPP/ PVC A14914XX XG2.5 MM2 (AWG14/XC) E197090 cULus AWM STYLE 2586 105C 600V VW-1 AWM I/II A/B 105C 600V FT1 ROHS DATE CODE CE-40 |

2.5 mm² (14AWG) Continuous Flexing Control Cable (Shielded)

| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|-------------------|--|-----|--------|-----------------------------|---------------------------|----------------------------|----------------|
| | | | | | | | |
| A1491404-1 | 4 | 14 | 134 | 0.433 | 20 | 0.146 | \$5.11 |
| | | | | | | | |
| A1491405-1 | 5 | 14 | 134 | 0.472 | 20 | 0.200 | \$5.98 |
| | | | | | | | |
| A1491407-1 | 7 | 14 | 134 | 0.551 | 20 | 0.271 | \$7.85 |

* See web store for maximum cut lengths

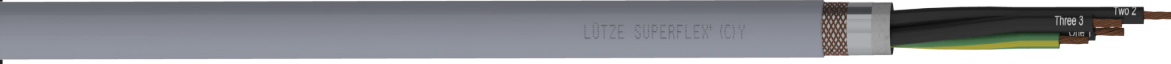


Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



4mm² (12AWG) Shielded Continuous Flexing Control Cable

| 4mm ² (12AWG) Continuous Flexing Control Cable Specifications (Shielded) | | | |
|---|--|-----------------------------|---|
| Conductors Gauge & Stranding | 4 mm2 (12AWG) 224×0.15 bare copper | Conductor Insulation | TPE High Glide with green/yellow ground |
| Voltage Ratings | 600V per UL | Conductor Markings | Black with White numbers |
| | Tested to 3000V | Outer Jacket | Gray PVC |
| Min. Bend Radius | Moving, 10.0 x diameter | UV Resistance | Yes, UL 1581 |
| | Fixed, 6.0 x diameter | Oil Resistance | Yes |
| Temperature Ratings | Moving, 5°F to +194°F (-15°C to +90°C) | Flame Retardant | Per UL VW-1, FT-1, DIN EN 50265-2-1 FT1 |
| | Fixed, -40°F to +221°F (-40°C to +105°C) | Silicone-free | Yes |
| | | Approvals | cUL AWM Style 2586, CE, RoHS, REACH |
| | | Sample Print Legend | LUTZE SUPERFLEX® N PVC CONSTANT FLEXING CABLE OIL RESISTANT FRPP/ PVC A14812XX XG4.0 MM2 (AWG12/XC) E197090 cURus AWM STYLE 2586 105C 600V VW-1 AWM I/II A/B 105C 600V FT1 ROHS DATE CODE CE-40 |

| 4mm ² (12AWG) Continuous Flexing Control Cable (Shielded) | | | | | | | |
|--|--|-----|--------|----------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Conductors (includes ground) | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| A1491204-1 | 4 | 12) | 224 | 0.520 | 20 | 0.254 | \$7.50 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Industrial Ethernet Cable

Quabbin DataMax® Extreme Industrial Ethernet Cable *



Features

- Available in Category 5e and 6/6a
- In compliance with TIA 568-C.2 and TIA 1005
- Designed for use in EtherNet/IP systems **
- 26 AWG & 24AWG stranded or 22 AWG solid
- 2 or 4 twisted pairs
- Unshielded or overall braid and foil shields
- Rugged jacket for excellent chemical, moisture, and flame resistance, and exceptional low temperature flexibility
- UL Type CMX OUTDOOR – CM and UL AWM Style 2463 (80°C, 600V)
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- Made in the USA

* DataMax is a registered trademark of Quabbin Wire and Cable Corporation.

** EtherNet/IP is a trademark of ODVA, Inc.

Many industrial applications expose cables to hazards not present in commercial data cabling installations. Although a cable suited for commercial applications may initially work in a harsh industrial environment, it could quickly fail when used in an industrial applications. While commercial grade cables may have a low initial product cost, downtime due to premature failure can be avoided by using a cable that is specifically designed and tested for industrial applications.

Quabbin DataMax Extreme Industrial Ethernet cable jackets were developed to survive the many industrial hazards that commercial jackets will not.

Furthermore, commercial ethernet cables have a tube jacket surrounding the conductor pairs with room within for the pairs to move around and even untwist in flexing applications resulting in early mechanical or electrical failure of the cable.

DataMax Extreme continuous flexing cable jackets are pressure extruded over the cable core, effectively "locking" the conductor pairs in place. This type of jacket construction provides very stable electrical performance, even when the cable is impacted, bent, or repeatedly flexed. Pressure extrusion also provides a very smooth, round, and firm jacket profile that is crush resistant and ideal for obtaining a reliable termination and seal when installing connectors.

Quabbin has performed extensive testing on their pressure extruded jacketed DataMax Extreme Continuous Flexing Industrial Ethernet cables. Samples are subjected to 10 million cycles in a flex testing device that simulates an unsupported bend, simulating a situation the cable would be exposed to on a robotic arm. The unsupported bend test is much more abusive than a C-Track or Tick-tock test, both of which add protection to the cable by supporting the bend. Quabbin DataMax Extreme Industrial Ethernet cable provides superior design and construction that will withstand the rigors of continuous flexing applications and the harsh environments found in industrial installations. Quabbin DataMax Extreme Continuous Flexing Industrial Ethernet cable performs above industry standards, thereby reducing downtime and increasing productivity.

DataMax Extreme Industrial Ethernet cables fully comply with TIA 568-C.2 and TIA 1005 industrial communication specifications and are designed for use in EtherNet/IP systems.

Description

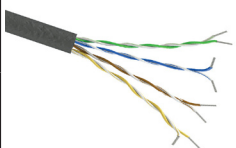
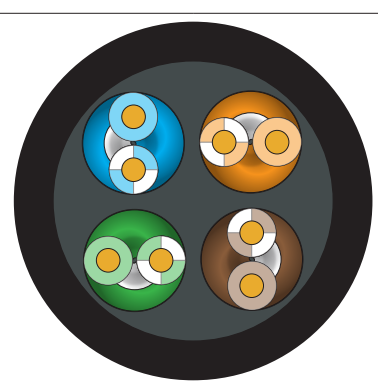
AutomationDirect offers Quabbin DataMax Extreme Industrial Ethernet cable in 2 and 4 pair, unshielded and shielded constructions. Conductors are color coded high density polyethylene insulation. Shielded constructions include both a tinned copper braid shield and aluminized polyester foil overall shield. All constructions feature a rugged jacket with excellent moisture, chemical, UV and weathering resistance, exceptional low-temperature flexibility, and good flame and fire resistance. Some are specifically designed and constructed for continuous flexing applications. The DataMax Extreme Continuous Flexing cables have been tested for a minimum of 1 million cycles (10x cable O.D. minimum radius), a minimum of 10 million cycles (20x cable O.D. minimum radius), and a minimum of 3 million cycles torsion test. Agency approvals include UL Type CMX OUTDOOR - CM, and UL AWM Style 2463 (80°C, 600V).

Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable



Cat5e Industrial Ethernet

Q5941-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|--|---------------------------|--|--------------------------|---|----------------|
| | | Q5941-1 | Cat5e industrial Ethernet | Semi-flexible | 25 | 0.04 | \$0.79 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 22 AWG | | Conductor Stranding | | Solid Bare Copper | |
| Conductor Material | | Bare Copper | | Conductor Insulation Wall Thickness | | 0.010 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.025 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.045 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.090 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.267 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Black | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.037 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Unshielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | QUABBIN DATAMAX EXTREME CAT 5E 350 MHZ U/UTP HORIZONTAL CABLE P/N (P/N PER CHART 1) (UL) PLTC 22 AWG 75C OIL RES I FT4 OR C(UL) US CMX OUTDOOR-CMR 75C SUN RES OR AWM 2463 80C 600V -- CAT 5e TIA-568.2-D -- CE RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.67in | | | | | |
| Cabled Core Diameter | | 0.193 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω, 1 - 350MHz | | UL Classification | | Type CMX Outdoor - CM or AWM Style 2463 | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | UL E118830 for CMX, CM; UL E69976 for AWM, UL E70148 for PLTC, RoHS | |
| Resistance, Max. | | 17.2 Ω DC, per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 350 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | Per Chart 2 | |
| Return Loss | | 1 ≤ f < 10 MHz 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz 25 dB MIN 20 ≤ f ≤ 200 MHz 25 - 8.6 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 350 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 350 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 350 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 350 MHz: 534 + 36/√f | | | | | |
| Delay Skew | | 1 ≤ f < 350 MHz: < 25ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

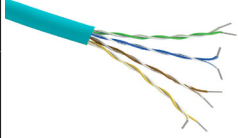
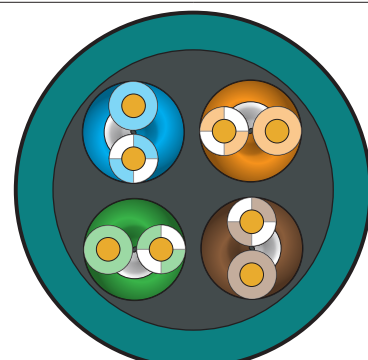
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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Cat5e Industrial Ethernet

Q5942-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|--|---------------------------|--|--------------------------|---|----------------|
| | | Q5942-1 | Cat5e industrial Ethernet | Semi-flexible | 25 | 0.04 | \$0.79 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 22 AWG | | Conductor Stranding | | Solid Bare Copper | |
| Conductor Material | | Bare Copper | | Conductor Insulation Wall Thickness | | 0.010 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.025 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.045 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.090 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.267 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Teal | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.037 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Unshielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | QUABBIN DATAMAX EXTREME CAT 5E 350 MHZ U/UTP HORIZONTAL CABLE P/N (P/N PER CHART 1) (UL) PLTC 22 AWG 75C OIL RES I FT4 OR C(UL) US CMX OUTDOOR-CMR 75C SUN RES OR AWM 2463 80C 600V -- CAT 5e TIA-568.2-D -- CE RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.67in | | | | | |
| Cabled Core Diameter | | 0.193 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω, 1 - 350MHz | | UL Classification | | Type CMX Outdoor - CM or AWM Style 2463 | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | UL E118830 for CMX, CM; UL E69976 for AWM, UL E70148 for PLTC, RoHS | |
| Resistance, Max. | | 17.2 Ω DC, per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 350 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | Per Chart 2 | |
| Return Loss | | 1 ≤ f < 10 MHz 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz 25 dB MIN 20 ≤ f ≤ 200 MHz 25 - 8.6 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 350 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 350 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 350 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 350 MHz: 534 + 36/√f | | | | | |
| Delay Skew | | 1 ≤ f < 350 MHz: < 25ns | | | | | |

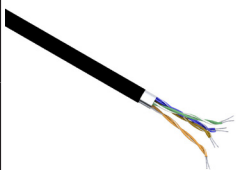
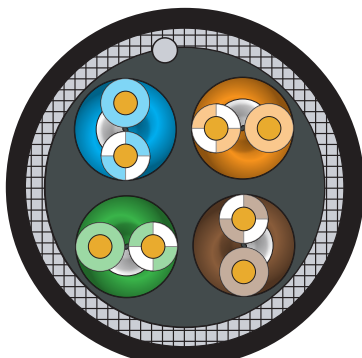
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat5e Industrial Ethernet



Q5730-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|---------------------------|--|--------------------------|---|----------------|
| | | Q5730-1 | Cat5e industrial Ethernet | Semi-flexible | 20 | 0.03 | \$1.44 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.010 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.016 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.039 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.078 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.220 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.010 in, nominal | |
| Temperature Rating | | -40 to 75 °C (-40 to +167 °F) | | Jacket Material | | polyurethane | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Shielded | | Oil Resistance | | No | |
| Drain | | Yes | | Flame Retardant | | No | |
| Conductor Insulation Material | | Polyolefin | | Sample Print Legend | | QUABBIN DATAMAX EXTREME DURABLE INDUSTRIAL ETHERNET PATCH CORD CAT 5e SF/UTP P/N xxxx--CE RoHS --(LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.22in | | | | | |
| Cabled Core Diameter | | 0.149 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ±15 Ω1 -100 MHz | | UL Classification | | N/A | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | MEETS EU DIRECTIVE 2011/65/EU (RoHS II) | |
| Resistance, Max. | | 42.6 Ω DC, per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.5[1.967√f+ 0.023(f) + 0.050/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤100 MHz: 25 -8.6 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 100 MHz: 534 + 36/√f | | | | | |
| Delay Skew | | 1 ≤ f < 100 MHz: < 25ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

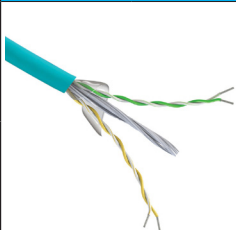
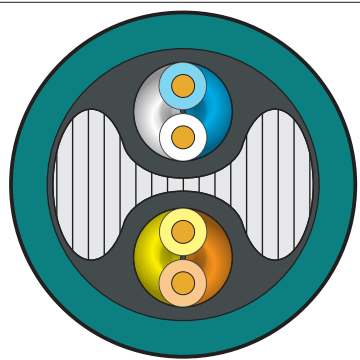


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Cat5e Industrial Ethernet Continuous Flexing



Q5772-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|--|--------|--|---------------------------|--|--------------------------|--|----------------|
| | | Q5772-1 | Cat5e industrial Ethernet | Continuous Flexing | 20 | 0.02 | \$0.70 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7/32-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.008 in, nominal | |
| Conductor Assembly | | 2 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Orange, White/Orange | | Insulated Conductor Diameter | | 0.039 in, nominal | |
| | Pair 2 | Green, White/Green | | Twisted Conductor Diameter | | 0.078 in, nominal | |
| | Pair 3 | N/A | | Overall Cable Diameter | | 0.240 in, nominal | |
| | Pair 4 | N/A | | Jacket Color | | Teal | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.032 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | flame retardant thermoplastic elastomer (FR-TPE) pressure extruded | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Unshielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX INDUSTRIAL ETHERNET/IP PATCH CORD CAT5e U/UTP P/N xxxx -- C(UL)US TYPE CMX OUTDOOR - CM 4PR 24 AWG 75C SUN RES OR AWM 2463 80C 600V -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.40in | | | | | |
| Cabled Core Diameter | | 0.176 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω | | UL Classification | | Type CMX Outdoor - CM or AWM Style 2463 | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | UL E118830 for CMX, CM; UL E69976 for AWM, RoHS | |
| Resistance, Max. | | 26.0 Ω DC, per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f < 100 MHz: 1.2*(1.967 SQRT(f) + 0.023(f) + 0.05/SQRT(f)) dB Max | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 6 LOG (f) dB MIN* 10 ≤ f < 20 MHz: 26dB MIN* 20 ≤ f ≤ 100 MHz: 26 - 5 LOG(f/20) dB MIN* | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | N/A | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | N/A | | | | | |
| TCL | | 1 ≤ f < 100 MHz: 30 - 10*LOG(f/100) dB; 40dB Max | | | | | |
| ELTCTL | | 1 ≤ f < 30 MHz: >35 - 20*LOG(f/100) dB | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 100 MHz: 534 + 36/√f | | | | | |
| Delay Skew | | 1 ≤ f < 100 MHz: < 25ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat5e Industrial Ethernet Continuous Flexing



Q5752-1 Cable Specifications

| | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|--|--------|--|---------------------------|--|--------------------------|---|----------------|
| | | Q5752-1 | Cat5e industrial Ethernet | Continuous Flexing | 20 | 0.03 | \$0.81 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7/32-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.008 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.039 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.080 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.248 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Teal | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.032 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | flame retardant thermoplastic elastomer (FR-TPE) pressure extruded | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Unshielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX INDUSTRIAL ETHERNET/IP PATCH CORD CAT5e U/ UTP P/N xxxx -- C(UL)US TYPE CMX OUTDOOR - CM 4PR 24 AWG 75C SUN RES OR AWM 2463 80C 600V -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE | |
| Minimum Bend Radius | | 2.48in | | | | | |
| Cabled Core Diameter | | 0.184 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω | | UL Classification | | Type CMX Outdoor - CM or AWM Style 2463 | |
| Capacitance | | 12.8 pF/ft @ 1MHz; Nominal | | Approvals** | | UL E118830 for CMX, CM; UL E69976 for AWM, RoHS | |
| Resistance, Max. | | 14.0 Ω DC, per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f < 100 MHz: 1.2*(1.967 SQRT(f) + 0.023(f) + 0.05/SQRT(f)) dB Max | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 6 LOG (f) dB MIN* 10 ≤ f < 20 MHz: 26dB MIN* 20 ≤ f ≤ 100 MHz: 26 - 5 LOG(f/20) dB MIN* | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | | | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 30 MHz: 73 - 15 Log(f) dB MIN, (40dB MAX)* 30 ≤ f ≤ 100 MHz: 80.4 - 20 LOG(f) dB MIN | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 50 - 20 LOG(f) dB MIN, (40dB Max)* | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 100 MHz: 534 + 36/√f | | | | | |
| Delay Skew | | 1 ≤ f < 100 MHz: < 25ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

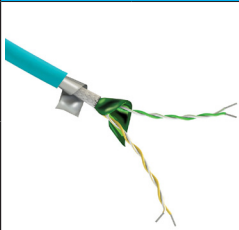
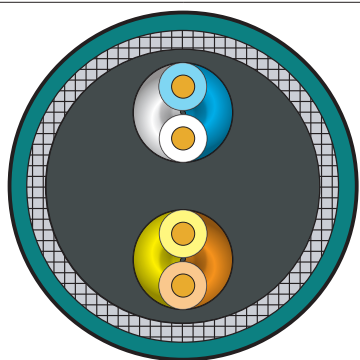


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Industrial Ethernet Continuous Flexing



Q5025-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|--|--------|---|---------------------------|--|--------------------------|---|----------------|
| | | Q5025-1 | Cat5e industrial Ethernet | Continuous Flexing | 20 | 0.04 | \$1.34 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7/32-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.011 in, nominal | |
| Conductor Assembly | | 2 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Orange, White/Orange | | Insulated Conductor Diameter | | 0.047 in, nominal | |
| | Pair 2 | Green, White/Green | | Twisted Conductor Diameter | | 0.092 in, nominal | |
| | Pair 3 | N/A | | Overall Cable Diameter | | 0.265 in, nominal | |
| | Pair 4 | N/A | | Jacket Color | | Teal | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.036 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | flame retardant thermoplastic elastomer (FR-TPE) pressure extruded | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX INDUSTRIAL ETHERNET/IP PATCH CORD CAT5e SF/UTP P/N P/N xxxx -- C(UL)US TYPE CMX OUTDOOR - CM 4PR 24 AWG 75C SUN RES OR AWM 2463 80C 600V -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.65in | | | | | |
| Cabled Core Diameter | | 0.160 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω | | UL Classification | | Type CMX Outdoor - CM or AWM Style 2463 | |
| Capacitance | | 12.8 pF/ft @ 1MHz; Nominal | | Approvals** | | UL E118830 for CMX, CM; UL E69976 for AWM, RoHS | |
| Resistance, Max. | | 26.5 Ω DC per 1000ft @ 20°C (68°F) | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.2[1.967 √f + 0.023(f) + 0.050/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 6 LOG (f) dB MIN* 10 ≤ f < 20 MHz: 26 dB MIN* 20 ≤ f ≤ 100 MHz: 26 - 5 LOG(f/20) dB MIN* | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | N/A | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | N/A | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 1 ≤ f ≤ 100 MHz: <25ns | | | | | |

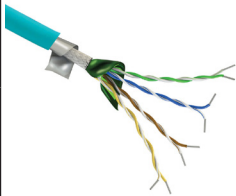
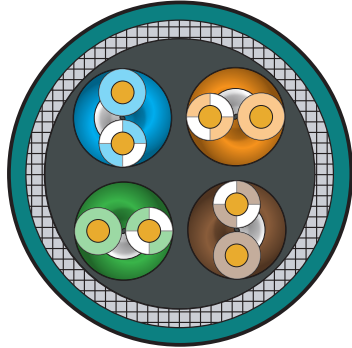
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Industrial Ethernet Continuous Flexing



Q5090-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|--|--------|---|---------------------------|--|--------------------------|---|----------------|
| | | Q5090-1 | Cat5e industrial Ethernet | Continuous Flexing | 20 | 0.04 | \$1.46 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7/32-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.011 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.047 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.092 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.290 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Teal | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.036 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | flame retardant thermoplastic elastomer (FR-TPE) pressure extruded | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX INDUSTRIAL ETHERNET/IP PATCH CORD CAT5e SF/UTP P/N P/N xxxx -- C(UL)US TYPE CMX OUTDOOR - CM 4PR 24 AWG 75C SUN RES OR AWM 2463 80C 600V -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.90in | | | | | |
| Cabled Core Diameter | | 0.197 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω | | UL Classification | | Type CMX Outdoor - CM or AWM Style 2463 | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | UL E118830 for CMX, CM; UL E69976 for AWM, RoHS | |
| Resistance, Max. | | 14.0 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.2[1.967 √f + 0.023(f) + 0.050/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 6 LOG (f) dB MIN* 10 ≤ f < 20 MHz: 26 dB MIN* 20 ≤ f ≤ 100 MHz: 26 - 5 LOG(f/20) dB MIN* | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 1 ≤ f ≤ 100 MHz: <25ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

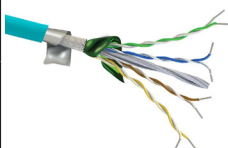
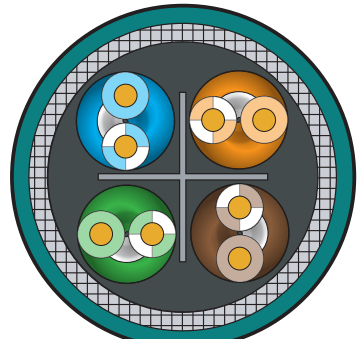


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6/6A Industrial Ethernet Continuous Flexing



Q5026-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------------------|--|--------------------------|--|----------------|
| | | Q5026-1 | Cat6/6a industrial Ethernet | Continuous Flexing | 25 | 0.04 | \$1.66 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.036 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.072 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.275 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Teal | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.040 in, nominal | |
| Temperature Rating | | -40 to 75 °C (-40 to 167 °F) | | Jacket Material | | TPE | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX INDUSTRIAL ETHERNET/IP PATCH CORD CAT 6/6a SF/UTP P/N 5026 -- C(UL)US TYPE CMX OUTDOOR - CM 4PR 26 AWG 75C SUN RES -- CE RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.75in | | | | | |
| Cabled Core Diameter | | 0.176 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω (1-100 MHz), | | UL Classification | | Type CMX Outdoor - CM or AWM Style 2463 | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | UL E118830 for CMX, CM, RoHS | |
| Resistance, Max. | | 42.6 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.5[1.82 √f + 0.0091(f) + 0.25/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 6 LOG (f) dB MIN* 10 ≤ f < 20 MHz: 26 dB MIN* 20 ≤ f ≤ 100 MHz: 26 - 5 LOG(f/20) dB MIN* 100 ≤ f ≤ 250 MHz: 25 - 8.6 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 4 ≤ f ≤ 500 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

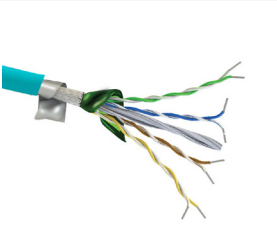
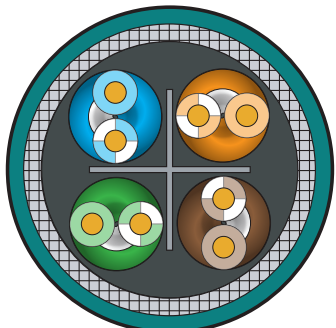


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6/6A Industrial Ethernet Continuous Flexing



Q5922-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|--|--------|---|-----------------------------|--|--------------------------|---|----------------|
| | | Q5922-1 | Cat6/6a industrial Ethernet | Continuous Flexing | 25 | 0.05 | \$1.77 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.011 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.046 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.092 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.325 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Teal | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.040 in, nominal | |
| Temperature Rating | | -40 to 75 °C (-40 to 167 °F) | | Jacket Material | | TPE | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX INDUSTRIAL ETHERNET/IP CAT 6/6a SF/UTP PATCH CORD P/N xxxx -- U.S. PATENT NO. US 8,487,184 B2 -- C(UL)US TYPE CMX OUTDOOR - CM 24 AWG 75C SUN RES OR AWM 2463 80C 600V -- CAT 6a TIA-568.2-D -- CE RoHS --(LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 3.25in | | | | | |
| Cabled Core Diameter | | 0.228 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω (1-100 MHz), | | UL Classification | | Type CMX Outdoor - CM or AWM Style 2463 | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | UL E118830 for CMX, CM; UL E69976 for AWM, RoHS | |
| Resistance, Max. | | 26.2 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.2[1.82 √f + 0.0091(f) + 0.25/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 6 LOG (f) dB MIN* 10 ≤ f < 20 MHz: 26 dB MIN* 20 ≤ f ≤ 100 MHz: 26 - 5 LOG(f/20) dB MIN* 100 ≤ f ≤ 250 MHz: 25 - 8.6 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 4 ≤ f ≤ 500 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

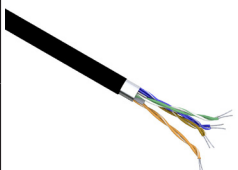
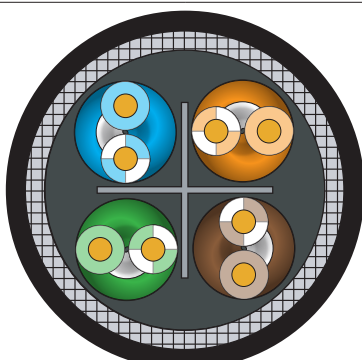


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6/6A Industrial Ethernet Continuous Flexing



Q5919-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------------------|--|--------------------------|---|----------------|
| | | Q5919-1 | Cat6/6a industrial Ethernet | Continuous Flexing | 20 | 0.03 | \$1.72 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.036 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.072 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.239 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.022 in, nominal | |
| Temperature Rating | | -40 to 75 °C (-40 to 167 °F) | | Jacket Material | | polyurethane | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Shielded | | Oil Resistance | | No | |
| Drain | | No | | Flame Retardant | | No | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX INDUSTRIAL ETHERNET/IP PATCH CORD CAT 6/6a SF/UTP P/N 5919 4PR 26AWG -- U.S. PATENT NO. US 8,487,184 B2 -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.39in | | | | | |
| Cabled Core Diameter | | 0.176 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω (1-100 MHz); 100 ± 20 Ω 100 - 500 MHz | | UL Classification | | N/A | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | CE, RoHS | |
| Resistance, Max. | | 42.6 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.5[1.82 √f + 0.0091(f) + 0.25/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 6 LOG (f) dB MIN* 10 ≤ f < 20 MHz: 26 dB MIN* 20 ≤ f ≤ 100 MHz: 26 - 5 LOG(f/20) dB MIN* 100 ≤ f ≤ 500 MHz: 25 - 8.6 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 44.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 500 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

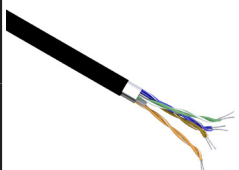
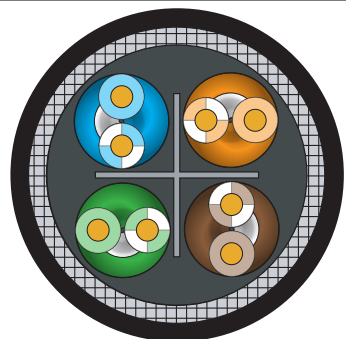


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6/6A Industrial Ethernet Continuous Flexing



Q5936-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------------------|--|--------------------------|---|----------------|
| | | Q5936-1 | Cat6/6a industrial Ethernet | Continuous Flexing | 20 | 0.05 | \$1.92 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.011 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.046 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.092 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.291 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.022 in, nominal | |
| Temperature Rating | | -40 to 75 °C (-40 to 167 °F) | | Jacket Material | | polyurethane | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Shielded | | Oil Resistance | | No | |
| Drain | | No | | Flame Retardant | | No | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX INDUSTRIAL ETHERNET/IP CAT 6/6a SF/UTP PATCH CORD P/N 5936 4PR 24 AWG -- U.S. PATENT NO. US 8,487,184 B2 -- CAT 6a TIA-568.2-D -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.91in | | | | | |
| Cabled Core Diameter | | 0.228 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω (1-100 MHz), 100 ± 20 Ω 100 - 500 MHz | | UL Classification | | N/A | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | CE, RoHS | |
| Resistance, Max. | | 26.2 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.2[1.82 √f + 0.0091(f) + 0.25/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 6 LOG (f) dB MIN* 10 ≤ f < 20 MHz: 26 dB MIN* 20 ≤ f ≤ 100 MHz: 26 - 5 LOG(f/20) dB MIN* 100 ≤ f ≤ 500 MHz: 25 - 8.6 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 44.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 500 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

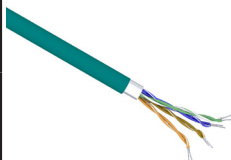
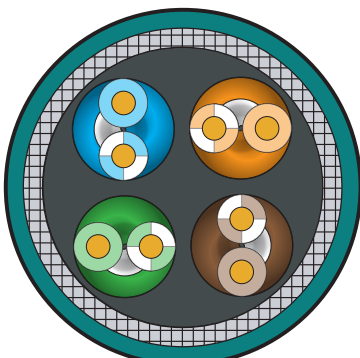


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Industrial Ethernet Continuous Flexing



Q5077-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|--|---------------------------|--|--------------------------|---|----------------|
| | | Q5077-1 | Cat5e industrial Ethernet | Continuous Flexing | 20 | 0.03 | \$1.30 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.037 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.143 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.245 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Teal | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.035 in, nominal | |
| Temperature Rating | | -40 to 75 °C (-40 to 167 °F) | | Jacket Material | | Zero Halogen Flame Retardant (ZHFR) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX ZERO HALOGEN INDUSTRIAL ETHERNET/IP PATCH CORD CAT 5e SF/UTP P/N -- C(ETL)US TYPE CMX OIL RES I 26 AWG 75C -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 1.00in | | | | | |
| Cabled Core Diameter | | 0.143 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω 1 – 100 MHz | | UL Classification | | NEC (ETL) Type CMX, CEC C(ETL) Type CMX | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cETLus, CE, RoHS | |
| Resistance, Max. | | 42.6 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 – 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.5[1.967 √f + 0.023(f) + 0.050/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 6 LOG(f) dB MIN* 10 ≤ f < 20 MHz: 26 dB MIN* 20 ≤ f ≤ 100 MHz: 26 – 5 LOG(f/20) dB MIN* | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 20.8 – 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 35.3 – 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 32.3 – 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 100 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 100 MHz: <25 ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com


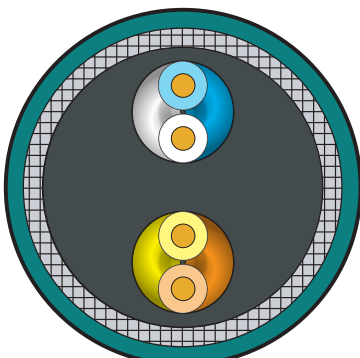


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Industrial Ethernet Continuous Flexing



Q5082-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|--|---------------------------|--|--------------------------|--|----------------|
| | | Q5082-1 | Cat5e industrial Ethernet | Continuous Flexing | 20 | 0.03 | \$1.38 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 2 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Orange, White/Orange | | Insulated Conductor Diameter | | 0.037 in, nominal | |
| | Pair 2 | Green, White/Green | | Twisted Conductor Diameter | | 0.120 in, nominal | |
| | Pair 3 | N/A | | Overall Cable Diameter | | 0.233 in, nominal | |
| | Pair 4 | N/A | | Jacket Color | | Teal | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.046 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | Zero Halogen Flame Retardant (ZHFR) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX ZERO HALOGEN INDUSTRIAL ETHERNET/IP PATCH CORD CAT 5e SF/UTP P/N -- C(ETL)US TYPE CMX OIL RES I 26 AWG 75C -- CE RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 1.00in | | | | | |
| Cabled Core Diameter | | 0.120 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω 1 – 100 MHz | | UL Classification | | NEC (ETL) Type CMX, CEC C(ETL) Type CMX | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cETLus, CE, RoHS | |
| Resistance, Max. | | 42.6 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 – 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.5[1.967 √f + 0.023(f) + 0.050/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 6 LOG(f) dB MIN* 10 ≤ f < 20 MHz: 26 dB MIN* 20 ≤ f ≤ 100 MHz: 26 – 5 LOG(f/20) dB MIN* | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | N/A | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 35.3 – 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | N/A | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 100 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 100 MHz: <25 ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

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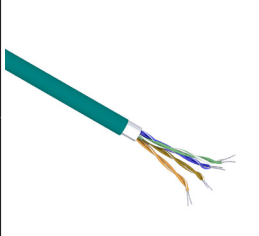
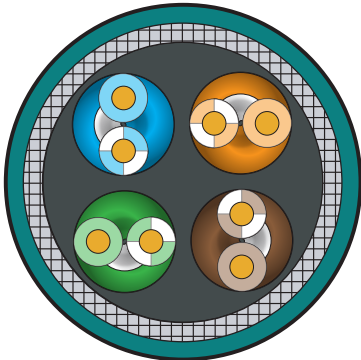


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Industrial Ethernet Continuous Flexing



Q5088-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|--|---------------------------|--|--------------------------|--|----------------|
| | | Q5088-1 | Cat5e industrial Ethernet | Continuous Flexing | 20 | 0.04 | \$1.26 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.037 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.143 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.245 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Teal | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.037 in, nominal | |
| Temperature Rating | | -40 to 75 °C (-40 to 167 °F) | | Jacket Material | | TPE | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | No | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX INDUSTRIAL ETHERNET/IP PATCH CORD CAT 5e SF/UTP P/N (xxxx) – U.S. PATENT NO. US 8,487,184 B2 – C(UL)US TYPE CMX OUTDOOR - CM 4PR 26 AWG 75C SUN RES – RoHS – (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 1.00in | | | | | |
| Cabled Core Diameter | | 0.143 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω 1 – 100 MHz | | UL Classification | | NEC (UL) Type CMX, CEC C(UL) Type CMX | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, CE, RoHS | |
| Resistance, Max. | | 42.6 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 – 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.5[1.967 √f + 0.023(f) + 0.050/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 6 LOG(f) dB MIN* 10 ≤ f < 20 MHz: 26 dB MIN* 20 ≤ f ≤ 100 MHz: 26 – 5 LOG(f/20) dB MIN* | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 20.8 – 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 35.3 – 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 32.3 – 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 100 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 100 MHz: <25 ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

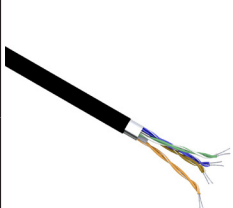
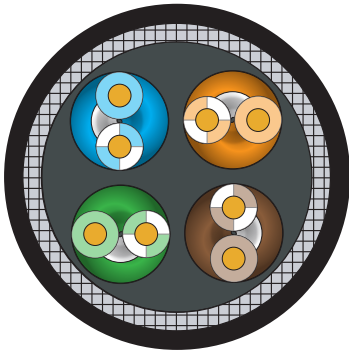


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6a Industrial Ethernet Continuous Flexing



Q5123-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|--|---------------------------|--|--------------------------|--|----------------|
| | | Q5123-1 | Cat6a industrial Ethernet | Continuous Flexing | 20 | 0.04 | \$1.71 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.036 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.072 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.269 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.037 in, nominal | |
| Temperature Rating | | -40 to 75 °C (-40 to 167 °F) | | Jacket Material | | Zero Halogen Flame Retardant (ZHFR) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX ZERO HAOGEN INDUSTRIAL ETHERNET/IP PATCH CORD CAT 6a SF/UTP 5123 (QWC 5123 --C(ETL) US TYPE CMX OIL RES I 26 AWG 75C CM 4PR 26 AWG 75C -- CE RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 1.00in | | | | | |
| Cabled Core Diameter | | 0.176 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω 1 – 100 MHz | | UL Classification | | NEC (ETL) Type CMX, CEC C(ETL) Type CMX | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cETLus, CE, RoHS | |
| Resistance, Max. | | 42.6 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.5[1.82 √(f) + 0.0091(f) + 0.25/√(f)] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz:20 + 6 LOG(f) dB MIN* 10 ≤ f < 20 MHz:26 dB MIN* 20 ≤ f ≤ 100 MHz:26 - 5 LOG(f/20) dB MIN* 100 < f ≤ 250 MHz:25 - 8.6 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 44.3 - 15 LOG (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 4 ≤ f ≤ 500 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45 ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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DataMax® Ethernet Cables

Quabbin DataMax Ethernet Cable

The Quabbin DataMax® Category network cables are proudly made in the USA and are available in Cat5e, 6, 6a or 6e. These cables are offered in 26AWG or 24AWG stranded tinned copper or bare solid copper in shielded or unshielded constructions. Designed to be round and smooth, Quabbin DataMax® Category network cables are compatible with most popular plugs for quick termination and easy installation.

When it comes to network cable, flexibility can mean many different things. The first and most obvious is the ease with which it bends. The importance behind having a pliable cable has to do with installation and cabinet routing. Flexibility allows easy manipulation between devices while increasing the durability, which is important when considering a lifetime of "moves & changes" that can occur in a dynamic network environment. Durability is paramount in allowing these changes to take place without compromising the cable.

The Quabbin DataMax® Category network cables exceed the requirements of ANSI/TIA-568-C.2, are compatible with Cat 5e and 6 hardware, and are suitable for applications from 10 Base-T to 1000 Base-T (Gigabit Ethernet).

Also available are Quabbin DataMax® MIL-spec Cat6 cables with black low smoke PVC jacket and special conductor insulations colors.

* DataMax is a registered trademark of Quabbin Wire and Cable Corporation.

** EtherNet/IP is a trademark of ODVA, Inc.

Features

- Available in Category 5e, 6, 6e, and 6a
- In compliance with TIA 568-C.2 and TIA 1005
- Designed for use in EtherNet/IP systems **
- 4 twisted pairs
- Unshielded or overall foil shields
- UL Type CM and UL AWM Style 2463 (80°C, 600V)
- Some cables available with conductor color code for MIL spec applications
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- Made in the USA



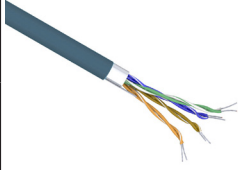
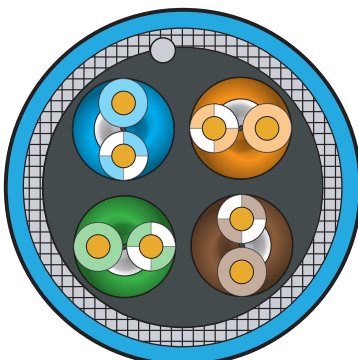
Click on the thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
for a short introduction on our cut to length cable



Cat5e Ethernet



Q2906-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------|--|--------------------------|--|----------------|
| | | Q2906-1 | Cat5e Ethernet | Semi-flexible | 20 | 0.02 | \$0.54 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.010 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.039 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.078 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.212 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Blue | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.024 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | No | |
| Drain | | Yes | | Flame Retardant | | No | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | QUABBIN DATAMAX 5e SCREENED 100 OHM PATCH CORD ISO 11801 P/N xxxx -- TYPE CMR C(UL)US 26 AWG 75C -- ETL VERIFIED TO TIA568.2-D CAT 5e -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.22in | | | | | |
| Cabled Core Diameter | | 0.162 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω, 1 - 100MHz | | UL Classification | | (UL) Type CMR | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, ETL, RoHS | |
| Resistance, Max. | | 42.0 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 200 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.5[1.967√f+ 0.023(f) + 0.050/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 200 MHz: 25 - 8.6 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 200 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 200 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 200 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 100 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f < 100 MHz: < 25 ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

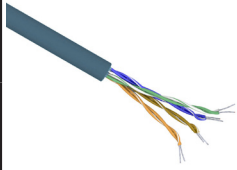
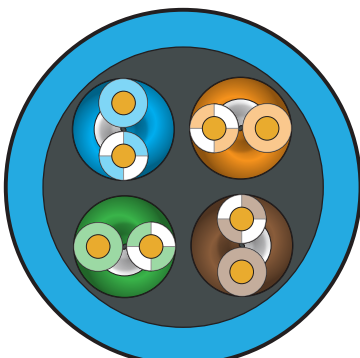


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Ethernet



Q5506-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------|--|--------------------------|--|----------------|
| | | Q5506-1 | Cat5e Ethernet | Semi-flexible | 20 | 0.02 | \$0.43 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.007 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.038 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.076 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.215 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Blue | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.039 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Unshielded | | Oil Resistance | | No | |
| Drain | | No | | Flame Retardant | | No | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | QUABBIN DATAMAX 5E 350 MHZ ISO 11801 PATCH CORD P/N xxxx--(UL) TYPE CMR 24 AWG 75C --CSA LL51726 TYPE CMG 60C --ETL VERIF. TIA-568-C.2 CAT 5e --RoHS --(LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 1.00in | | | | | |
| Cabled Core Diameter | | 0.162 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100Ω ±15Ω, 1 - 350MHz | | UL Classification | | (UL) Type CMR, (CSA) Type CMG | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | UL, CSA, ETL, RoHS | |
| Resistance, Max. | | 26.0 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 200 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.2[1.967√f + 0.023(f) + 0.050/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8.6 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 200 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 200 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 200 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 100 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f < 100 MHz: < 25 ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Ethernet



| Q5943-1 Cable Specifications | | | | | | | | |
|--|-------------|---|-----------------|--|--|--------------------------|--|----------------|
| | Part Number | | Wire/Cable Type | | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | Q5943-1 | | Cat5e Ethernet | | Semi-flexible | 20 | 0.03 | \$0.64 |
| Physical Properties | | | | | | | | |
| Conductor Gauge | | 24 AWG | | | Conductor Stranding | | Solid Bare Copper | |
| Conductor Material | | Bare Copper | | | Conductor Insulation Wall Thickness | | 0.008 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | | Bare Conductor Diameter | | 0.022 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | | Insulated Conductor Diameter | | 0.038 in, nominal | |
| | Pair 2 | Orange, White/Orange | | | Twisted Conductor Diameter | | 0.076 in, nominal | |
| | Pair 3 | Green, White/Green | | | Overall Cable Diameter | | 0.230 in, nominal | |
| | Pair 4 | Brown, White/Brown | | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | | Jacket Thickness | | 0.033 in, nominal | |
| Temperature Rating | | -40 to 75 °C (-40 to 167 °F) | | | Jacket Material | | PVC | |
| Plenum | | No | | | Sunlight Resistant | | Yes | |
| Shield | | Unshielded | | | Oil Resistance | | No | |
| Drain | | No | | | Flame Retardant | | No | |
| Conductor Insulation Material | | Polyethylene | | | Sample Print Legend | | QUABBIN DATAMAX 5E 350 MHZ ISO 11801 PATCH CORD P/N xxxx--(UL) TYPE CMR 24 AWG 75C --CSA LL51726 TYPE CMG 60C --ETL VERIF. TIA-568-C.2 CAT 5e --RoHS --(LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.30in | | | | | | |
| Cabled Core Diameter | | 0.164 in | | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | | |
| Impedance | | 100 ± 200 Ω (1 - 200 MHz) | | | UL Classification | | (UL) Type CMR, & CMX | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | | Approvals** | | cULus, ETL, RoHS | |
| Resistance, Max. | | 26.2 Ω DC per 1000ft | | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 200 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | | Insertion Loss | | 1 ≤ f ≤ 200 MHz: 1.967 √f + 0.023(f) + 0.050/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 200 MHz: 25 - 7 LOG(f/20) dB MIN | | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 200 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 200 MHz: 35.3 - 15 LOG(f/100) dB MIN | | | Cross Section | | | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 200 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | | |
| TCL | | N/A | | | | | | |
| ELTCTL | | N/A | | | | | | |
| Velocity of Propagation | | 0.68 | | | | | | |
| Delay | | 1 ≤ f ≤ 200 MHz: 534 + 36/√f ns MAX | | | | | | |
| Delay Skew | | 1 ≤ f ≤ 200 MHz: <25 ns | | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

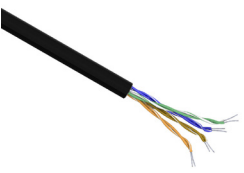
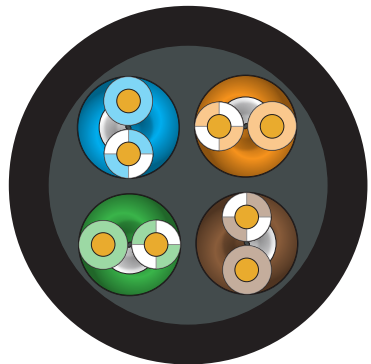
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Industrial Ethernet



| Q5944-1 Cable Specifications | | | | | | | |
|---|--------|---|---------------------------|--|--------------------------|---|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | | Q5944-1 | Cat5e industrial Ethernet | Flexible | 20 | 0.03 | \$0.67 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.008 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.039 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.078 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.234 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.033 in, nominal | |
| Temperature Rating | | -40 to 75 °C (-40 to 167 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Unshielded | | Oil Resistance | | No | |
| Drain | | No | | Flame Retardant | | No | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME TOUGH CAT 5e 350MHZ U/UTP PATCH CABLE P/N 5944 C(UL) US CMX OUTDOOR - CMR 24 AWG 75C SUN RES -- CAT 5e TIA - 568.2-D -- CE RoHS -- (LOT DESIGNATOR)(SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 1.00in | | | | | |
| Cabled Core Diameter | | 0.168 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 350 MHz) | | UL Classification | | NEC (UL) Type CMX, CEC C(UL) Type CMX | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, CE, RoHS | |
| Resistance, Max. | | 26.5 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 350 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 350 MHz: 1.2[1.967 √f + 0.023(f) + 0.050/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 350 MHz: 25 - 8.6 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 350 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 350 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 350 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 350 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 350 MHz: <25ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

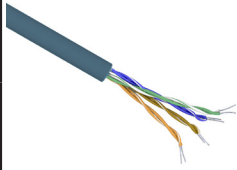
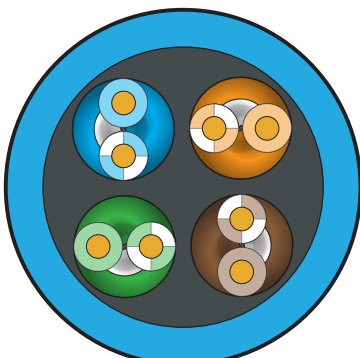


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6e Ethernet



Q2206-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------|--|--------------------------|--|----------------|
| | | Q2206-1 | Cat6e Ethernet | Semi-flexible | 20 | 0.02 | \$0.49 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.007 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.039 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.078 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.220 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Blue | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.024 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Unshielded | | Oil Resistance | | No | |
| Drain | | No | | Flame Retardant | | No | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | QUABBIN DATAMAX 6E 600 MHZ ENHANCED PATCH CORDP/N xxxx – (UL) TYPE CMR 24 AWG 75C – CSA LL51726 TYPE CMG 60C -- TIA-568.2-D CAT 6 -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.67in | | | | | |
| Cabled Core Diameter | | 0.160 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 100 MHz) | | UL Classification | | (UL) Type CMR/CMG, (CSA) Type CMG | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, CSA, RoHS | |
| Resistance, Max. | | 42.6 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.2[1.808 √f + 0.017(f) + 0.2/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 500 MHz: 25 - 8.6 LOG(f/20) dB MINPS | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 250 MHz: 47.8 - 15 LOG(f/100) dB MIN 250 < f ≤ 500 MHz: 44.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 250 MHz: 45.3 - 15 LOG(f/100) dB MIN 250 < f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 500 MHz: 30 - 10 LOG(f/100) dB MIN | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 500 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45 ns MAX | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

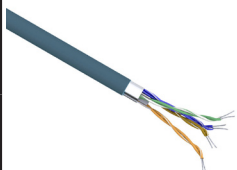
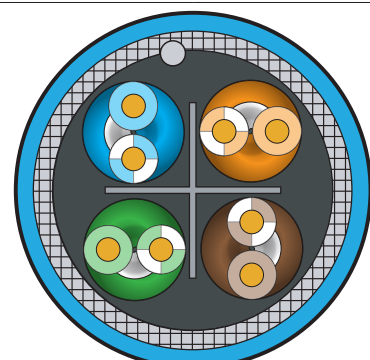


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6 Ethernet



Q2936-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|--|-----------------|--|--------------------------|--|----------------|
| | | Q2936-1 | Cat6 Ethernet | Semi-flexible | 20 | 0.02 | \$0.72 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.036 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.072 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.235 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Blue | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.024 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | No | |
| Drain | | Yes | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | QUABBIN DATAMAX 6 F/UTP 100 OHM PATCH CORD P/N xxxx -- TYPE CMR C(UL) US CMG 4 PR 26 AWG SHIELDED 75C -- FT4/IEEE 1202 -- CAT 6 TIA-568.2-D -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.35in | | | | | |
| Cabled Core Diameter | | 0.208 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 350 MHz) | | UL Classification | | (UL) Type CMR/CMG | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cETLus, RoHS | |
| Resistance, Max. | | 26.0 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 250 MHz: 27.8 – 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 250 MHz: 1.5[1.808√f + 0.017(f) + 0.2/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 250 MHz: 25 – 8.6 LOG(f/20) dB MIN 1 ≤ f ≤ 250 MHz: 44.3 – 15 LOG(f/100) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 250 MHz: 24.8 – 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 250 MHz: 42.3 – 15 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 250 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 250 MHz: <45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

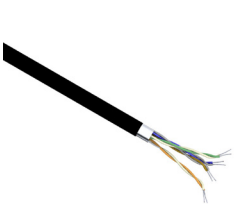
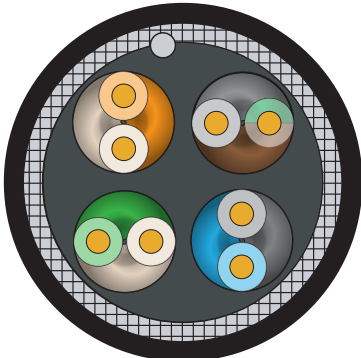
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6 Ethernet

Q2045-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------|--|--------------------------|---|----------------|
| | | Q2045-1 | Cat6 Ethernet | Semi-flexible | 20 | 0.02 | \$1.10 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 28 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.008 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.015 in, nominal | |
| Color Code | Pair 1 | Natural, Orange | | Insulated Conductor Diameter | | 0.031 in, nominal | |
| | Pair 2 | Gray, Brown | | Twisted Conductor Diameter | | 0.062 in, nominal | |
| | Pair 3 | Natural, Green | | Overall Cable Diameter | | 0.186 in, nominal | |
| | Pair 4 | Gray, Blue | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.021 in, nominal | |
| Temperature Rating | | -20 to 105 °C (-4 to 221 °F) | | Jacket Material | | PVC | |
| Plenum | | Yes | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | Yes | | Flame Retardant | | No | |
| Conductor Insulation Material | | Foamed FEP | | Sample Print Legend | | QUABBIN DATAMAX MINI-6 F/UTP PATCH CORD P/N xxxx -- PATENT PENDING -- C(ETL)US TYPE CMP 28 AWG 105C -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 1.86in | | | | | |
| Cabled Core Diameter | | 0.145 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 250 MHz) | | UL Classification | | NEC (ETL) TYPE CMP CEC C(ETL) TYPE CMP | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cETLus, RoHS | |
| Resistance, Max. | | 68.2 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 250 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 250 MHz: 1.95 [1.808 √f + 0.017(f) + 0.2/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 2 MHz: 17 + 9.5 LOG(f) dB MIN 2 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f < 250 MHz: 25 - 8.6 LOG(f) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 250 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 250 MHz: 44.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 250 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 250 MHz: 30 - 10 LOG(f/100) dB MIN | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 250 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 250 MHz: <45ns MAX | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

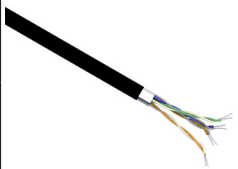
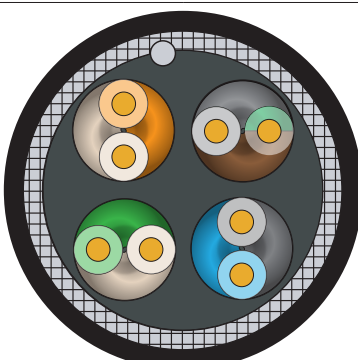


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6 Ethernet



Q2067-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------|--|--------------------------|--|----------------|
| | | Q2067-1 | Cat6 Ethernet | Semi-flexible | 20 | 0.03 | \$0.99 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.010 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Natural, Orange | | Insulated Conductor Diameter | | 0.039 in, nominal | |
| | Pair 2 | Gray, Brown | | Twisted Conductor Diameter | | 0.078 in, nominal | |
| | Pair 3 | Natural, Green | | Overall Cable Diameter | | 0.223 in, nominal | |
| | Pair 4 | Gray, Blue | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.021 in, nominal | |
| Temperature Rating | | -20 to 105 °C (-4 to 221 °F) | | Jacket Material | | PVC | |
| Plenum | | Yes | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | Yes | | Flame Retardant | | No | |
| Conductor Insulation Material | | Foamed FEP | | Sample Print Legend | | QUABBIN DATAMAX CAT 6 F/UTP PATCH CORD P/N xxxx -- PATENT PENDING -- C(ETL)US TYPE CMP 26 AWG 105C -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.23in | | | | | |
| Cabled Core Diameter | | 0.181 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 250 MHz) | | UL Classification | | NEC (ETL) TYPE CMP CEC C(ETL) TYPE CMP | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cETLus, RoHS | |
| Resistance, Max. | | 42.6 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 250 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 250 MHz: 1.5 [1.808 √f + 0.017(f) + 0.20/√f] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 250 MHz: 25 - 8.6 LOG(f/20) dB MIN 20 ≤ f < 250 MHz: 25 - 8.6 LOG(f) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 250 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 250 MHz: 44.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 250 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 250 MHz: 30 - 10 LOG(f/100) dB MIN | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 250 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 250 MHz: <45ns MAX | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

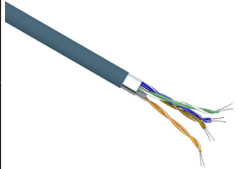
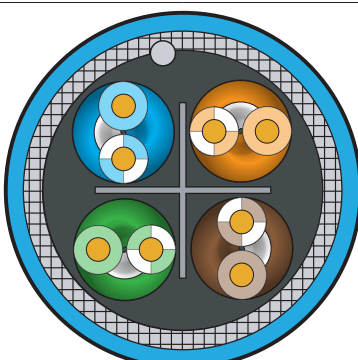


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6a Ethernet



Q2948-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------|--|--------------------------|--|----------------|
| | | Q2948-1 | Cat6a Ethernet | Semi-flexible | 20 | 0.02 | \$0.76 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.036 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.072 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.235 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Blue | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.024 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | No | |
| Drain | | Yes | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | QUABBIN DATAMAX 6a F/UTP 100 OHM PATCH CORD P/N xxxx -- TYPE CMR C(UL) US CMG 4 PR 26 AWG SHIELDED 75C -- FT4/IEEE 1202 -- CAT 6a TIA-568.2-D -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.35in | | | | | |
| Cabled Core Diameter | | 0.208 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 200 MHz) | | UL Classification | | (UL) Type CMR/CMG | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, RoHS | |
| Resistance, Max. | | 26.0 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 – 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.5[1.82√(f) + 0.0091(f) + 0.25/√(f)] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 500 MHz: 25 – 8.6 LOG(f/20) dB MIN 1 ≤ f ≤ 500 MHz: 44.3 – 15 LOG(f/100) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | N/A | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 – 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 24.8 – 20 LOG(f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 500 MHz: 534 + 36/√(f) ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45ns MAX | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

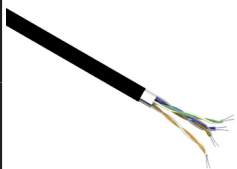
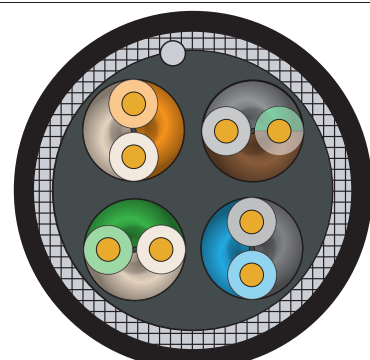
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6a Ethernet

Q2034-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------|--|--------------------------|--|----------------|
| | | Q2034-1 | Cat6a Ethernet | Semi-flexible | 20 | 0.02 | \$1.16 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 28 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.008 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.015 in, nominal | |
| Color Code | Pair 1 | Natural, Orange | | Insulated Conductor Diameter | | 0.031 in, nominal | |
| | Pair 2 | Gray, Brown | | Twisted Conductor Diameter | | 0.062 in, nominal | |
| | Pair 3 | Natural, Green | | Overall Cable Diameter | | 0.186 in, nominal | |
| | Pair 4 | Gray, Blue | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.021 in, nominal | |
| Temperature Rating | | -20 to 105 °C (-4 to 221 °F) | | Jacket Material | | PVC | |
| Plenum | | Yes | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | Yes | | Flame Retardant | | No | |
| Conductor Insulation Material | | Foamed FEP | | Sample Print Legend | | QUABBIN DATAMAX MINI-6a F/UTP PATCH CORD P/N xxxx -- PATENT PENDING -- C(ETL)US TYPE CMP 28 AWG 105C -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 1.86in | | | | | |
| Cabled Core Diameter | | 0.145 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 500 MHz) | | UL Classification | | NEC (ETL) TYPE CMP CEC C(ETL) TYPE CMP | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cETLus, RoHS | |
| Resistance, Max. | | 68.2 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.95[1.82 √f + 0.0091(f) + 0.25/√f] dB | |
| Return Loss | | 1 ≤ f < 2 MHz: 17 + 9.5 LOG(f) dB MIN 2 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f < 500 MHz: 25 - 8.6 LOG(f) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 44.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 500 MHz: 30 - 10 LOG(f/100) dB MIN | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 500 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45ns MAX | | | | | |

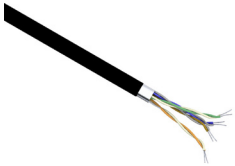
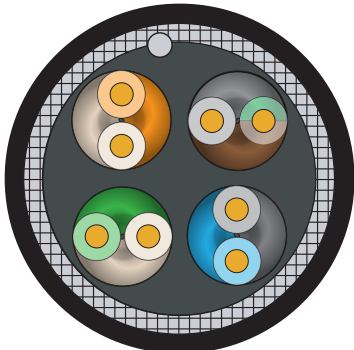
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6a Ethernet



Q2056-1 Cable Specifications

| Q2056-1 Cable Specifications | | | | | | |
|--|-------------------------|---|--|--------------------------|---|----------------|
|  | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | Q2056-1 | Cat6a Ethernet | Semi-flexible | 20 | 0.02 | \$1.18 |
| Physical Properties | | | | | | |
| Conductor Gauge | | 26 AWG | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | Conductor Insulation Wall Thickness | | 0.010 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Natural, Orange | Insulated Conductor Diameter | | 0.039 in, nominal | |
| | Pair 2 | Gray, Brown | Twisted Conductor Diameter | | 0.078 in, nominal | |
| | Pair 3 | Natural, Green | Overall Cable Diameter | | 0.223 in, nominal | |
| | Pair 4 | Gray, Blue | Jacket Color | | Black | |
| Voltage Rating | | 300V | Jacket Thickness | | 0.021 in, nominal | |
| Temperature Rating | | -20 to 105 °C (-4 to 221 °F) | Jacket Material | | PVC | |
| Plenum | | Yes | Sunlight Resistant | | No | |
| Shield | | Shielded | Oil Resistance | | Yes | |
| Drain | | Yes | Flame Retardant | | No | |
| Conductor Insulation Material | | Foamed FEP | Sample Print Legend | | QUABBIN DATAMAX CAT 6a F/UTP PATCH CORD P/N xxxx -- PATENT PENDING -- C(ETL)US TYPE CMP 26 AWG 105C -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.33in | | | | |
| Cabled Core Diameter | | 0.181 in | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 100 MHz) 100 ± 20 Ω (100 - 500 MHz) | UL Classification | | NEC (ETL) TYPE CMP CEC C(ETL) TYPE CMP | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | Approvals** | | cETLus, RoHS | |
| Resistance, Max. | | 42.6 Ω DC per 1000ft | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.5[1.82 √f + 0.0091(f) + 0.25/√f] dB | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 250 MHz: 25 - 8.6 LOG(f/20) dB MIN | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 44.3 - 15 LOG(f/100) dB MIN | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | |
| TCL | | 1 ≤ f ≤ 500 MHz: 30 - 10 LOG(f/100) dB MIN | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | |
| Velocity of Propagation | | 0.68 | | | | |
| Delay | | 1 ≤ f ≤ 500 MHz: 534 + 36/√f ns MAX | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45ns MAX | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

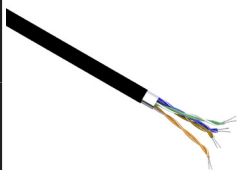
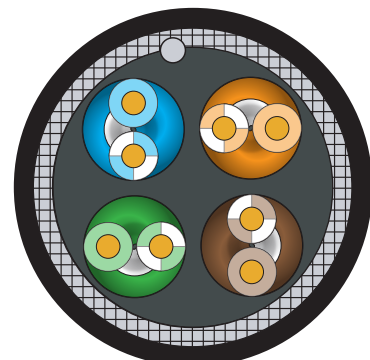
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6 Ethernet

Q2025-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------|--|--------------------------|---|----------------|
| | | Q2025-1 | Cat6 Ethernet | Semi-flexible | 20 | 0.02 | \$0.91 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.011 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.041 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.081 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.230 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.023 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | low smoke zero halogen (LSZH) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | No | |
| Drain | | Yes | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX LSZH 6 F/ UTP PATCH CORD P/N xxxxx -- PATENT PENDING -- C(UL)US TYPE CM-LS 26 AWG 75C -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.30in | | | | | |
| Cabled Core Diameter | | 0.177 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 250 MHz) | | UL Classification | | NEC (UL) TYPE CM-LS; CEC C(UL) TYPE CM-LS | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, RoHS | |
| Resistance, Max. | | 42.6 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 250 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 250 MHz: 1.5[1.808√(f + 0.017(f + 0.2)√(f))] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 250 MHz: 25 - 8.6 LOG(f/20) dB MINPS | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 250 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 250 MHz: 44.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 250 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 250 MHz: 30 - 10 LOG(f/100) | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 250 MHz: 534 + 36/√(f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 250 MHz: <45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat6 Ethernet



Q2260-1 Cable Specifications

| | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|--|--------|---|-----------------|--|--------------------------|---|----------------|
| | | Q2260-1 | Cat6 Ethernet | Semi-flexible | 20 | 0.01 | \$0.63 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 28 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.005 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.015 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.025 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.049 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.155 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.020 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | low smoke zero halogen (LSZH) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Unshielded | | Oil Resistance | | No | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX LSZH MINI-6 U/UTP PATCH CORD P/N xxxx -- C(UL)US TYPE CM-LS 28 AWG 75C -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 1.50in | | | | | |
| Cabled Core Diameter | | 0.118 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 250 MHz) | | UL Classification | | NEC (UL) TYPE CM-LS; CEC C(UL) TYPE CM-LS | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, RoHS | |
| Resistance, Max. | | 68.2 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 250 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 250 MHz: 1.87[1.808√(f + 0.017(f + 0.2)√(f))] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 250 MHz: 25 - 8.6 LOG(f/20) dB MINPS | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 250 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 250 MHz: 44.3 - 15 LOG(f/100) dB MIN | | Cross Section | | | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 250 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 250 MHz: 30 - 10 LOG(f/100) | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 250 MHz: 534 + 36/√(f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 250 MHz: <45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

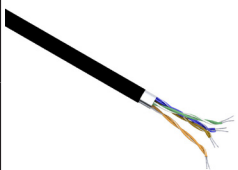
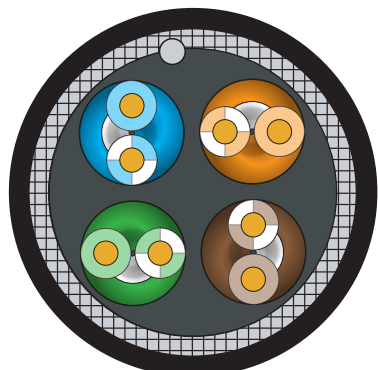


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6a Ethernet



Q2270-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------|--|--------------------------|--|----------------|
| | | Q2270-1 | Cat6a Ethernet | Semi-flexible | 20 | 0.02 | \$0.74 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 28 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.008 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.015 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.033 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.064 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.190 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.023 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | low smoke zero halogen (LSZH) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | No | |
| Drain | | Yes | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX LSZH MINI-6a F/UTP PATCH CORD P/N xxxx --PATENT NO. US 9,355,759 B2-C(UL)US TYPE CM-LS 28 AWG 75C --RoHS --(LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 1.90in | | | | | |
| Cabled Core Diameter | | 0.146 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 500 MHz) | | UL Classification | | NEC (UL) TYPE CM-LS; CEC C(UL) TYPE CM-LS | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, RoHS | |
| Resistance, Max. | | 68.2 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.95[1.82√(f + 0.0091(f + 0.25/√(f)) dB MAX | |
| Return Loss | | 1 ≤ f < 2 MHz: 17 + 9.5 LOG(f) dB MIN 2 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 44.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 500 MHz: 30 - 10 LOG(f/100) dB MIN, 40 dB MIN | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 500 MHz: 534 + 36/√(f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

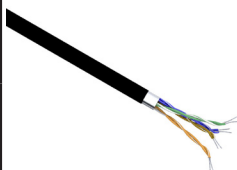
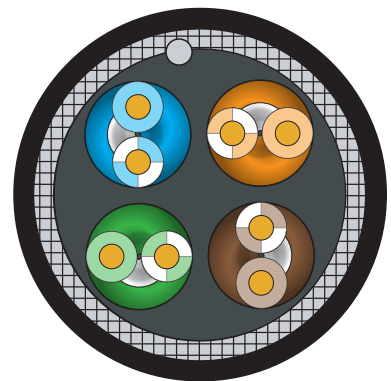
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat6a Ethernet

Q2279-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------|--|--------------------------|--|----------------|
| | | Q2279-1 | Cat6a Ethernet | Semi-flexible | 20 | 0.02 | \$0.84 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-Stranded Tinned Copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.011 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.041 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.081 in, nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.230 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.023 in, nominal | |
| Temperature Rating | | -20 to 75 °C (-4 to 167 °F) | | Jacket Material | | low smoke zero halogen (LSZH) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Shielded | | Oil Resistance | | No | |
| Drain | | Yes | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX LSZH 6a F/UTP PATCH CORD P/N xxxx -- PATENT PENDING -- C(UL)US TYPE CM-LS 26 AWG 75C -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | 2.30in | | | | | |
| Cabled Core Diameter | | 0.180 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 ± 15 Ω (1 - 100 MHz) 100 ± 20 Ω (100 - 500 MHz) | | UL Classification | | NEC (UL) TYPE CM-LS; CEC C(UL) TYPE CM-LS | |
| Capacitance | | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, RoHS | |
| Resistance, Max. | | 42.6 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.5[1.82√(f + 0.0091(f + 0.25/√(f)))] dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 500 MHz: 25 - 8.6 LOG(f/20) dB MINPS | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 44.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 500 MHz: 30 - 10 LOG(f/100) dB MIN, 40 dB MIN | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | | |
| Velocity of Propagation | | 0.68 | | | | | |
| Delay | | 1 ≤ f ≤ 500 MHz: 534 + 36/√(f) ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Continuous Flexing Profinet Cable



Features

- Designed and tested for continuous flexing Industrial applications
- Profinet Type B & C
- Designed for EtherNet/IP™ systems **
- 22AWG, 2 twisted pairs with color coded high density polyethylene insulation
- Overall braid and foil shields
- Pressure extruded TPE jacket for excellent chemical, moisture, and exceptional low temperature flexibility
- Mechanical properties tests include:
 - » minimum of 1 million cycles (10x cable O.D. minimum radius)
 - » minimum of 10 million cycles (20x cable O.D. minimum radius)
 - » minimum of 3 million cycles torsion test
- UL Type PLTC
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- Made in the USA

* DataMax is a registered trademark of Quabbin Wire and Cable Corporation.

** EtherNet/IP is a trademark of ODVA, Inc.

Quabbin DataMax® Extreme Profinet Cable*

Many industrial applications expose cables to hazards not present in commercial data cabling installations.

Although a cable suited for commercial applications may initially work in a harsh industrial environment, it will quickly fail when used in continuous flexing applications. While commercial grade cables may have a low initial product cost, downtime due to premature failure can be avoided by using a cable that is specifically designed and tested for continuous flexing industrial applications.

Typical Profinet cables have a tube jacket surrounding the conductor pairs with room within for the pairs to move around and even untwist in flexing applications, resulting in early mechanical or electrical failure of the cable. Quabbin DataMax Industrial Profinet cable jackets were developed to survive the many industrial hazards that commercial jackets will not. DataMax cable jackets are pressure extruded over the cable core, effectively "locking" the conductor pairs in place. This type of jacket construction provides very stable electrical performance, even when the cable is impacted, bent, or repeatedly flexed. Pressure extrusion also provides a very smooth, round, and firm jacket profile that is crush resistant and ideal for obtaining a reliable termination and seal when installing connectors.

Quabbin has performed extensive testing on their pressure extruded jacketed DataMax Industrial Profinet cables. Samples are subjected to up to 10 million cycles in a flex testing device that simulates an unsupported bend, simulating a situation the cable would be exposed to on a robotic arm. The unsupported bend test is much more abusive than a C-Track or Tick-tock test, both of which add protection to the cable by supporting the bend.

Quabbin DataMax Industrial Profinet cable provides superior design and construction that will withstand the rigors of continuous flexing applications and the harsh environments found in industrial installations. Quabbin DataMax Industrial Profinet cable performs above industry standards, thereby reducing downtime and increasing productivity. DataMax Industrial Profinet cables fully comply POE and CAT 5e industrial communication specifications.

Description

DataMax Extreme Industrial Profinet cables are a two pair shielded construction with 22AWG twisted pair conductors and 7/30 stranded tinned copper with color coded high density polyethylene insulation. polyethylene insulation. Shielded constructions include both a tinned copper braid shield and aluminized polyester foil overall shield. Available in a pressure extruded Thermoplastic Elastomer (TPE) jacket with excellent moisture, chemical, UV and weathering resistance, exceptional low-temperature flexibility, and good flame and fire resistance. Specifically designed and constructed for continuous flexing applications, DataMax Extreme cables have been tested for a minimum of 1 million cycles (10x cable O.D. minimum radius), a minimum of 10 million cycles (20x cable O.D. minimum radius), and a minimum of 3 million cycles torsion test. Agency approvals include UL Type CMX OUTDOOR - CM, and UL AWM Style 2463 (80°C, 600V).

Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable

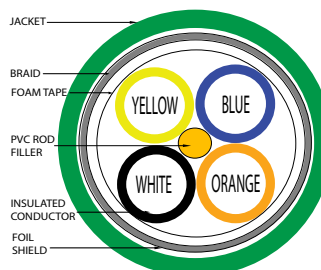


Continuous Flexing PROFINET Cable

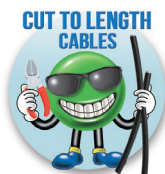
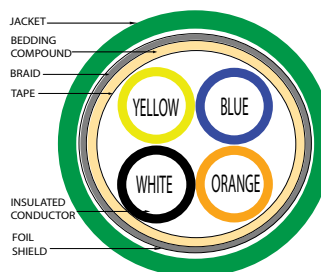
| Continuous Flexing PROFINET Cable Selection | | | | | | | | |
|---|-----------------|--------------------------|--------|--------------|---|---|----------------------------|----------------|
| Part Number | Wiring Standard | Minimum Cut Length (ft)* | Shield | No. of Pairs | Pair Colors | Description | Approximate Weight (lb/ft) | Price per foot |
| <u>Q5094-1</u> | Cat5e | 20ft (6m) | Foil | 2 | Pair 1 - White / Blue Pair 2 - Yellow / Orange | Quabbin continuous flexing Profinet cable, shielded, PLTC and CL3, 4 conductors, 22 AWG, tinned copper, polyethylene conductor insulation material, white, blue, yellow and orange, TPE jacket, green, cut to length. | 0.0390 | \$1.34 |
| <u>Q5099-1</u> | | 20ft (6m) | | 2 | Pair 1 - White / Blue Pair 2 - Yellow / Orange | Quabbin continuous flexing Profinet cable, shielded, PLTC-ER and CM, 4 conductors, 22 AWG, tinned copper, polyethylene conductor insulation material, white, blue, yellow and orange, TPE jacket, green, cut to length. | 0.0569 | \$1.44 |

* See web store for maximum cut lengths

Q5094 Series



Q5099 Series



Please Note: Our prices on Continuous Flexing IE Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Continuous Flexing PROFINET Cable - Shielded

| Continuous Flexing PROFINET Cable Specifications | | | |
|--|---------------|---|--|
| | | Physical Properties | |
| | | Q5094 Series | Q5099 Series |
| Conductor Gauge and Stranding | | 22 AWG 7/30 stranded tinned copper; 2 twisted pairs | 22 AWG 7/30 stranded tinned copper; 2 twisted pairs |
| Assembly | | (4) color coded wires cabled together with a Polyvinylchloride (PVC) rod fill (0.27" ± 0.005") and wrapped with a foam Polypropylene (PP) tape to form a cable core | (4) color coded wires cabled together wrapped with a clear Polyester tape embedded within a core of Thermoplastic Elastomer. |
| Jacket | | Thermoplastic Elastomer, Green (CR #70) | |
| Jacket Insulation Thickness | | 0.035 inch; Nominal | 0.047 inch; Nominal |
| Shield | | An overall shield of 38 AWG tinned copper braid (80% min. coverage), shall be applied over the cable core. A second shield of overall aluminized polyester foil shield (foil in, 100% coverage) shall be applied over the braid | |
| Cable Overall Diameter | | 0.250 inch; Nominal | 0.305 inch; Nominal |
| Temp/Voltage | | 75°C & 80°C (167°F & 176°F) | 75°C (167°F) |
| Minimum Temperature Rating | | -40°C (-40°F) | |
| Plenum | | No | |
| Sunlight Resistant | | Yes | |
| Static Minimum Bend Radius | | 8 x cable O.D. | |
| Conductor Insulation | | High Density Polyethylene (HDPE) | |
| Color Code | Pair 1 | White & Blue | White & Blue |
| | Pair 2 | Yellow & Orange | Yellow & Orange |
| Bare Conductor Diameter | | 0.030 inch; Nominal | |
| Conductor Insulation Thickness | | 0.018 inch; Nominal | 0.010 inch; Nominal |
| Insulated Conductor Diameter | | 0.066 ± 0.001 inch; Nominal | 0.050 ± 0.001 inch; Nominal |
| Cabled Core Diameter | | 0.160 inch; Nominal | 0.190 inch; Nominal |
| Shield + Cabled Core Diameter | | 0.180 inch; Nominal | 0.208 inch; Nominal |
| Print Legend | | QUABBIN DATAMAX INDUSTRIAL PROFINET TYPE B AND C CAT 5E SHIELDED P/N 5094 -- (UL) TYPE PLTC OR CL3 4C 22 AWG SF/QUAD 75C SUNLIGHT RESISTANT OIL RES I & II OR AWM 2463 80C 600V -- CE RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | QUABBIN DATAMAX EXTREME HIGH FLEX PROFINET TYPE B AND C CAT 5E SHIELDED P/N 5099 (UL) TYPE PLTC-ER 4C 22 AWG SF/QUAD 75C SUN RES -40C OR C(UL)US TYPE CM -- CE RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) |
| | | Performance | |
| Flex Life * | | 1 million cycles minimum (10x cable O.D. minimum radius) | |
| | | 10 million cycles minimum (20x cable O.D. minimum radius) | |
| Torsion Test** | | 3 million cycles minimum | |
| Cutting/ Machine Oil Resistance *** | | Tensile strength retention 80%; Nominal Elongation retention 100%; Nominal | N/A |

* 126 Cycles per minute, @ 20°C

** 1lb load, 360 degrees, 71 cycles per minute, @20C

*** Per Quabbin test report #TR 08-0001

Continuous Flexing PROFINET Cable - Shielded

| Continuous Flexing PROFINET Cable Specifications | | |
|--|--|--|
| Electrical Characteristics (for 100 meters of cable) | | |
| | Q5094 Series | Q5099 Series |
| Impedance, Characteristic | $1 \leq f \leq 100 \text{ MHz}$ 100 $\pm 15 \Omega$ TYPICAL | |
| Impedance, | N/A | $1 \leq f \leq 100 \text{ MHz}$ 10f m Ω /m |
| Mutual Capacitance (max) | 5.6 nF/100m @ 1 kHz @ 20°C | |
| Capacitance Unbalanced (max) | Pair-to-ground 330 pF/100m AT 1 kHz @ 20°C | |
| DC Resistance (max) | 17.5 Ω per 1000ft @ 20°C (68°F) | |
| DC Resistance Unbalanced (max) | 5% @ 20°C (68°F) | |
| Voltage Rating (max) | 600V | 300V |
| Dielectric Withstand, Min. | 2000V RMS | 1500V RMS |
| Return Loss | $1 \leq f < 10 \text{ MHz}$ 20 + 5 LOG (f) dB MIN* $10 \leq f < 20 \text{ MHz}$ 25 dB MIN* $20 \leq f \leq 100 \text{ MHz}$ 25 - 8.6 LOG(f/20) dB MIN* | |
| Near End Crosstalk (NEXT) | $1 \leq f \leq 100 \text{ MHz}$ 35.3 - 15 LOG(f/100) dB MIN | |
| Power Sum Near End Crosstalk (PSNEXT) | N/A | |
| Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | N/A | |
| Attenuation Crosstalk Ratio, Far End (ACRF) | $1 \leq f \leq 100 \text{ MHz}$ 23.8 - 20 LOG(f/100) dB MIN | |
| Insertion Loss | $1 \leq f \leq 100 \text{ MHz}$ $1.02(1.967 \sqrt{f} + 0.023(f) + 0.050/\sqrt{f})$ dB MAX** | |
| Propagation Delay | $1 \leq f \leq 100 \text{ MHz}$ 534 + 36/ \sqrt{f} ns MAX | |
| Propagation Delay Skew | $1 \leq f \leq 100 \text{ MHz}$ < 20ns | |
| Coupling Attenuation Per IEC 62153-4-9 | $30 \leq f \leq 100 \text{ MHz}$ ≥ 60 dB MIN | |
| Tested Length | P. O. E. Compliant (802.3af) to 100 meters (328 feet) when installed per recommendations in TIA TSB-184 Cable will meet CAT5e channel requirements up to 100 meter length | |
| Agency Approvals | NEC (UL) TYPE PLTC NEC (UL) TYPE CL3 UL AWM 2463 | NEC (UL) TYPE PLTC-ER NEC (UL) TYPE CM CEC C(UL) TYPE CM |

* Per ODVA Volume 2 EtherNet/IP

** 2% HIGHER THAN HORIZONTAL CABLE SPECIFICATION PER TIA 568-C.2

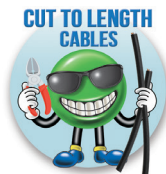
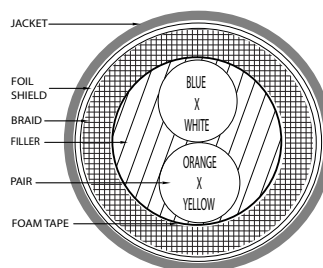
NOTE: All testing conducted off the reel.

Continuous Flexing PROFINET Cable

| Continuous Flexing PROFINET Cable Selection | | | | | | | | |
|---|-----------------|--------------------------|--------|--------------|---|-------------|----------------------------|----------------|
| Part Number | Wiring Standard | Minimum Cut Length (ft)* | Shield | No. of Pairs | Pair Colors | Description | Approximate Weight (lb/ft) | Price per foot |
| <u>Q5924-1</u> | Cat5e | 20ft (6m) | Foil | 2 | Pair 1 - Blue - White Pair 2 - Orange - Yellow | | 0.0494 | \$1.44 |

* See web store for maximum cut lengths

Q5924 Series



Please Note: Our prices on Continuous Flexing IE Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Continuous Flexing PROFINET Cable - Shielded

| Continuous Flexing PROFINET Cable Specifications | | |
|--|--------|--|
| | | Physical Properties |
| | | Q5924 Series |
| Conductor Gauge and Stranding | | 22 AWG 19/.0058 stranded tinned copper; 2 twisted pairs |
| Assembly | | Assembly Individual conductors twisted into pairs |
| Jacket | | Green Thermoplastic Elastomer, (TPE) |
| Jacket Insulation Thickness | | 0.042 inch; Nominal |
| Shield | | 38AWG tinned copper braid, aluminized polyester foil shield (100% coverage) |
| Cable Overall Diameter | | 0.233 inch; Nominal |
| Temp/Voltage | | 75°C & 80°C (167°F & 176°F) |
| Minimum Temperature Rating | | -40°C (-40°F) |
| Plenum | | Yes |
| Sunlight Resistant | | Yes |
| Static Minimum Bend Radius | | 8 x cable O.D. |
| Conductor Insulation | | High Density Polyethylene (HDPE) |
| Color Code | Pair 1 | White & Blue |
| | Pair 2 | Yellow & Orange |
| Bare Conductor Diameter | | 0.028 inch; Nominal |
| Conductor Insulation Thickness | | 0.013 inch; Nominal |
| Insulated Conductor Diameter | | 0.054 ± 0.001 inch; Nominal |
| Cabled Core Diameter | | 0.233 inch; Nominal |
| Shield + Cabled Core Diameter | | 0.180 inch; Nominal |
| Print Legend | | QUABBIN DATAMAX INDUSTRIAL PROFINET TYPE B AND C CAT 5E SHIELDED P/N 5924 -- U.S. PATENT NO. US 8,487,184 B2 -- (UL) TYPE PLTC 2PR 22 AWG SF/UTP 75C SUNLIGHT RESISTANT OIL RES I & II OR ITC OR AWM 2463 80C 600V -- P-07- KA140018-MSHA -- CE RoHS --(LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) |
| Performance | | |
| Flex Life * | | 1 million cycles minimum (10x cable O.D. minimum radius) |
| | | 10 million cycles minimum (20x cable O.D. minimum radius) |
| Torsion Test** | | 3 million cycles minimum |
| Cutting/ Machine Oil Resistance *** | | Tensile strength retention 80%; Nominal Elongation retention 100%; Nominal |

* 126 Cycles per minute, @ 20°C

** 1lb load, 360 degrees, 71 cycles per minute, @20C

*** Per Quabbin test report #TR 08-0001

Continuous Flexing PROFINET Cable - Shielded

| Continuous Flexing PROFINET Cable Specifications | |
|---|--|
| Electrical Characteristics (for 100 meters of cable) | |
| | Q5924 Series |
| Impedance 1-100 MHz | 100 ±15 Ω TYPICAL |
| Mutual Capacitance (max) | 13.5 pF/ft @ 1 MHz |
| Capacitance Unbalanced (max) | Pair-to-ground 330 pF/100m AT 1 kHz @ 20°C |
| DC Resistance (max) | 15.9 Ω per 1000ft @ 20°C (68°F) |
| Voltage Rating (max) | 600V |
| Dielectric Withstand, Min. | 2000V RMS |
| Return Loss | $1 \leq f < 10 \text{ MHz}$ 20 + 5 LOG (f) dB MIN* $10 \leq f < 20 \text{ MHz}$ 25 dB MIN* $20 \leq f \leq 100 \text{ MHz}$ 25 - 7 LOG(f/20) dB MIN* |
| Near End Crosstalk (NEXT) | $1 \leq f \leq 100 \text{ MHz}$ 35.3 - 15 LOG(f/100) dB MIN |
| Power Sum Near End Crosstalk (PSNEXT) | N/A |
| Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | N/A |
| Attenuation Crosstalk Ratio, Far End (ACRF) | $1 \leq f \leq 100 \text{ MHz}$ 23.8 - 20 LOG(f/100) dB MIN |
| Insertion Loss | $1 \leq f \leq 100 \text{ MHz}$ $1.02(1.967 \sqrt{f} + 0.023(f) + 0.050/\sqrt{f})$ dB MAX** |
| Propagation Delay | $1 \leq f \leq 100 \text{ MHz}$ 534 + 36/√f ns MAX |
| Propagation Delay Skew | $1 \leq f \leq 100 \text{ MHz}$ < 20ns per IEC 61156-5 |
| Coupling Attenuation Per IEC 62153-4-9 | $30 \leq f \leq 100 \text{ MHz}$ ≥ 80dB MIN |
| Tested Length | P. O. E. Compliant (802.3af) to 100 meters (328 feet) when installed per recommendations in TIA TSB-184 Cable will meet CAT5e channel requirements up to 100 meter length |
| Agency Approvals | UL AWM 2463 (80C 600V) NEC (UL) TYPE PLTC NEC (UL) TYPE ITC Pennsylvania D.E.P. - MSHA EU CE MARK: MEETS EU DIRECTIVE 2011/65/EU (RoHS II) |

* Per ODVA Volume 2 EtherNet/IP

** 2% HIGHER THAN HORIZONTAL CABLE SPECIFICATION PER TIA 568-C.2

NOTE: All testing conducted off the reel.



LUTZE Industrial Ethernet Cables

LUTZE Industrial Ethernet Cables



Many industrial applications expose cables to hazards that are not present in commercial data cabling installations. Although a cable suited for commercial applications may initially work in a harsh industrial environment, it could quickly fail when used in an industrial application. While commercial grade cables may have a low initial product cost, downtime due to premature failure can be avoided by using a cable that has been designed and tested for the industrial environment. LUTZE's Industrial Ethernet cables were developed to survive the many industrial hazards that commercial cables will not, such as oils, harsh chemicals and cleaning agents often associated with the factory floor.

There are more than just physical hazards to overcome in an industrial application; electrical threats pose an issue for Ethernet cables as well. The presence of EMF/EMI can create a real issue for communication networks and where you can use a shielded commercial product. In most cases, the shielding provided is a single layer of foil which is adequate for installation away from the factory floor. However, when dealing with electrical noise generated by motors and switching equipment, commercial cables struggle to meet the demands of a typical industrial environment. The Industrial Ethernet cables from LUTZE are made with both a foil layer and a tinned copper braid to provide superior noise rejection compared to the commercial counterparts.

Furthermore, commercial Ethernet cables have a tube jacket surrounding the conductor pairs with room within for the pairs to move around and even untwist in applications requiring constant motion. This results in early mechanical or electrical failure of the cable. LUTZE continuous flexing Industrial Ethernet cable have a jacket that is pressure extruded over the cable core, effectively "locking" the conductor pairs in place. This type of jacket construction provides very stable electrical performance, even when the cable is impacted, bent, or repeatedly flexed. Pressure extrusion also provides a very smooth, round, and firm jacket profile that is crush resistant and ideal for obtaining a reliable termination and seal when installing connectors.

Features

- Available in Category 5e, 6 and 6a
- In compliance with TIA 568-C.2 and TIA 1005
- Designed for use in EtherNet/IP systems *
- 26-22 AWG stranded or 22 AWG solid
- 2 or 4 twisted pairs
- Shielded constructions
- Rugged TPE and PVC jacket options
- UL Type CMX OUTDOOR – CM and UL AWM Style 2463 (80°C, 600V)
- Cut to length in 1-foot increments
- Low 20-foot minimum length

* EtherNet/IP is a trademark of ODVA, Inc.

Description

AutomationDirect offers Lutze Industrial Ethernet cable in 2 and 4 pair, unshielded and shielded constructions. Conductors are color coded high density polyethylene insulation. Shielded constructions include both a tinned copper braid shield and aluminized polyester foil overall shield. All constructions feature a rugged jacket with excellent moisture, chemical, UV and weathering resistance, exceptional low-temperature flexibility, and good flame and fire resistance. Some are specifically designed and constructed for continuous flexing applications. Agency approvals include UL Type CMX OUTDOOR, UL Type CMG/PLTC, UL AWM Style 2570, and UL AWM Style 20201.

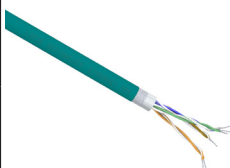
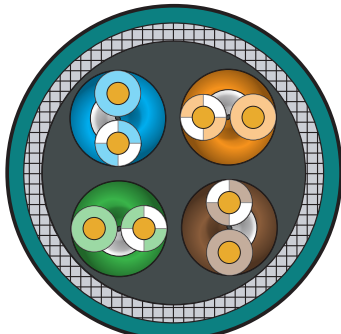
Click on the thumbnail to the right or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable



Cat6a Industrial Ethernet Cable

Continuous Flexing



| A1040030-1 Cable Specifications | | | | | | | |
|---|--------|---|---------------------------|--|--------------------------|--|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | | A1040030-1 | Cat6a industrial Ethernet | Continuous Flexing | 20 | 0.05 | \$3.46 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7-stranded tinned copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.011 in; nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.023 in; nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.045 in; nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.090 in; nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.322 in; nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Teal | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.033 in; nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | TPE | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | | Sample Print Legend | | www.lutze.com Part# A1040030 LUTZE MOTIONFLEX ETHERNET CAT6A SF/UTP TPE (4-PAIR AWG24) E319350 c(UL) CMX OUTDOOR CMR 75C SUN RES OR AWM STYLE 2463 80C 600 V OIL RES II RoHS <Date Code YYWW> CE-59 <SEQ. FT MARK> | |
| Minimum Bend Radius | | Moving: 3.22in Fixed: 2.42in | | | | | |
| Cabled Core Diameter | | 0.256 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance (1-100 MHz) | | 100 Ω 1 – 100 MHz | | UL Classification | | (cULus) TYPE CMX Outdoor/CMR; (cURus) TYPE CMG | |
| Capacitance | | 17.2 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, uURus,CE, RoHS | |
| Resistance, Max. | | 24.5 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.82 √(f) + 0.0091(f) + 0.25/√(f)) dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 500 MHz: 25 - 7.0 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 44.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 250 MHz: 30 - 10 LOG(f/100) dB MIN | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | | |
| Velocity Of Propagation | | 0.67 | | | | | |
| Delay | | 4 ≤ f ≤ 500 MHz: 534 + 36/√(f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <45ns/100m | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

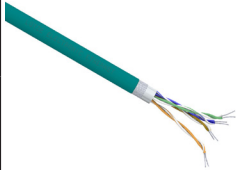
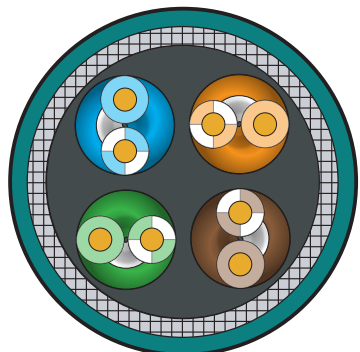
Please Note: Our prices on Continuous Flexing IE Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Industrial Ethernet Cable



SYSTEMATIC TECHNOLOGY

A104349-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|---------------------------|--|--------------------------|---|----------------|
| | | A104349-1 | Cat5e industrial Ethernet | Flexible | 20 | 0.06 | \$2.96 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 22 AWG | | Conductor Stranding | | 7-stranded tinned copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.013 in; nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.029 in; nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.055 in; nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | 0.110 in; nominal | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.338 in; nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Teal | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.039 in; nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Shielded | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Special Polyolefin | | Sample Print Legend | | LÜTZE ELECTRONIC ETHERNET (C) PVC 104349 (4×(2×AWG22/1) Cat 5e E331628 (UL) TYPE PLTC 75°C FT4 or c(UL)us TYPE CMX OUTDOOR-CMR 75°C or c(UR)us AWM STYLE 2570 80°C 600V I/II A/B FT1 RoHS YYWW CE-44 Meters | |
| Minimum Bend Radius | | 2.03in | | | | | |
| Cabled Core Diameter | | 0.258 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance (1-100 MHz) | | 100 Ω 1 – 100 MHz | | UL Classification | | (cULus) TYPE CMX Outdoor/CMG/PLTC or AWM Style 2570; NEC (cURus) Class I and II, Div. 2; Class 1 Div. 2 | |
| Capacitance | | 13.72 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, cURus, CE, RoHS | |
| Resistance, Max. | | 32.4 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.967 √f + 0.023(f) + 0.050/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 7.0 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 100 MHz: 30 - 10 LOG(f/100) dB MIN | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | | |
| Velocity Of Propagation | | 0.72 | | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 100 MHz: <25ns/100m | | | | | |


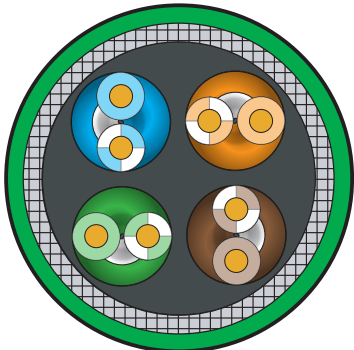
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat6a Industrial Ethernet Cable



SYSTEMATIC TECHNOLOGY

| A104338-1 Cable Specifications | | | | | | |
|---|---------------------------|---|--|--------------------------|--|----------------|
|  | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | A104338-1 | Cat6a industrial Ethernet | Flexible | 20 | 0.04 | \$2.24 |
| Physical Properties | | | | | | |
| Conductor Gauge | | 26 AWG | Conductor Stranding | | 7-stranded bare copper | |
| Conductor Material | | Bare Copper | Conductor Insulation Wall Thickness | | 0.019 in; nominal | |
| Conductor Assembly | | 4 twisted pairs | Bare Conductor Diameter | | 0.010 in; nominal | |
| Color Code | Pair 1 | Blue, White/Blue | Insulated Conductor Diameter | | 0.048 in; nominal | |
| | Pair 2 | Orange, White/Orange | Twisted Conductor Diameter | | 0.096 in; nominal | |
| | Pair 3 | Green, White/Green | Overall Cable Diameter | | 0.252 in; nominal | |
| | Pair 4 | Brown, White/Brown | Jacket Color | | Green | |
| Voltage Rating | | 300V | Jacket Thickness | | 0.030 in; nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | Jacket Material | | PVC | |
| Plenum | | No | Sunlight Resistant | | No | |
| Shield | | Shielded | Oil Resistance | | Yes | |
| Drain | | No | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Special Polyolefin | Sample Print Legend | | <LÜTZE logo> ELECTRONIC ETHERNET (C) PVC 104338 (4x(2xAWG26/7)) Cat 6A E331628 c(UL)us CMG 75°C RoHS <date YYWW> UKCA CE-44 <metermarking>m | |
| Minimum Bend Radius | | 1.51in | | | | |
| Cabled Core Diameter | | 0.192 in | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | |
| Impedance (1-100 MHz) | | 100 Ω 1 – 100 MHz | UL Classification | | (cULus) TYPE CMG | |
| Capacitance | | 14.94 pF/ft @ 1MHz; Nominal | Approvals** | | cULus, CE, RoHS | |
| Resistance, Max. | | 76.8 Ω DC per 1000ft | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.82 √(f) + 0.0091(f) + 0.25/√(f)) dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 500 MHz: 25 - 7.0 LOG(f/20) dB MIN | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 44.3 - 15 LOG(f/100) dB MIN | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | |
| TCL | | 1 ≤ f ≤ 250 MHz: 30 - 10 LOG(f/100) dB MIN | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | |
| Velocity Of Propagation | | 0.77% | | | | |
| Delay | | 4 ≤ f ≤ 500 MHz: 534 + 36/√(f ns MAX | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <25ns/100m | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

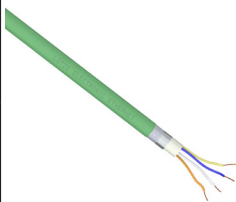
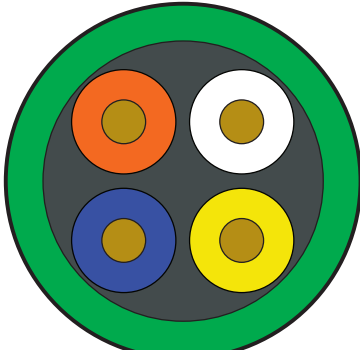
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Profinet Type B Cable



SYSTEMATIC TECHNOLOGY

A104307-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|-----------------|--|--------------------------|---|----------------|
| | | A104307-1 | Profinet Type B | Flexible | 20 | 0.04 | \$1.86 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 22 AWG | | Conductor Stranding | | 7-stranded tinned copper | |
| Conductor Material | | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.015 in; nominal | |
| Conductor Assembly | | 1 star quad | | Bare Conductor Diameter | | 0.029 in; nominal | |
| Color Code | Pair 1 | White, Blue | | Insulated Conductor Diameter | | 0.059 in; nominal | |
| | Pair 2 | Yellow, Orange | | Twisted Conductor Diameter | | 0.118 in; nominal | |
| | Pair 3 | N/A | | Overall Cable Diameter | | 0.256 in; nominal | |
| | Pair 4 | N/A | | Jacket Color | | Green | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.039 in; nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | Yes | |
| Shield | | Overall Aluminized Polyester Foil And Tinned Copper Braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Special Polyolefin | | Sample Print Legend | | <LÜTZE logo> ELECTRONIC ETHERNET (C) PVC 104307 (2x2xAWG22/7) PROFINET TYPE B Cat 5e E336436 (UL) TYPE PLTC FT4 or c(UL)us TYPE CMG 75°C or <logo cURus> AWM STYLE 20201 60°C 600V I/II A/B FT1 RoHS <date YYYY> UKCA CE-44 <metermarking>m | |
| Minimum Bend Radius | | 1.54in | | | | | |
| Cabled Core Diameter | | 0.182 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance (1-100 MHz) | | 100 Ω 1 – 100 MHz | | UL Classification | | (cULus) TYPE CMG/PLTC or AWM Style 20201; (cURus) Class I and II, Div. 2; Class 1 Div. 2 | |
| Capacitance | | 15.2 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, cURus, CE, RoHS | |
| Resistance, Max. | | 29.5 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.967 √f + 0.023(f) + 0.050/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 7.0 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | | 1 ≤ f ≤ 100 MHz: 30 - 10 LOG(f/100) dB MIN | | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | | |
| Velocity Of Propagation | | 65% | | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√(f ns MAX | | | | | |
| Delay Skew | | 1 ≤ f ≤ 100 MHz: <20ns/100m | | | | | |

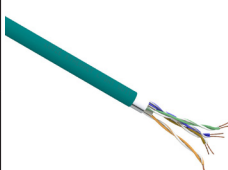
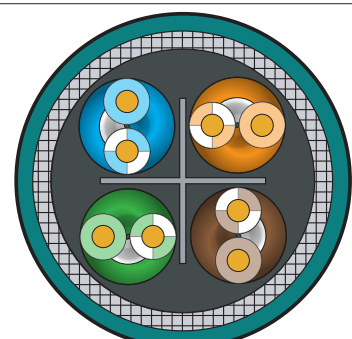
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat6 Industrial Ethernet Cable



SYSTEMATIC TECHNOLOGY

| A1040006-1 Cable Specifications | | | | | | |
|---|----------------------------|---|--|--------------------------|--|----------------|
|  | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | A1040006-1 | Cat6 industrial Ethernet | Semi-flexible | 20 | 0.06 | \$2.97 |
| Physical Properties | | | | | | |
| Conductor Gauge | | 22 AWG | Conductor Stranding | | solid bare copper | |
| Conductor Material | | Bare Copper | Conductor Insulation Wall Thickness | | 0.017 in; nominal | |
| Conductor Assembly | | 4 twisted pairs | Bare Conductor Diameter | | 0.025 in; nominal | |
| Color Code | Pair 1 | Blue, White/Blue | Insulated Conductor Diameter | | 0.059 in; nominal | |
| | Pair 2 | Orange, White/Orange | Twisted Conductor Diameter | | 0.118 in; nominal | |
| | Pair 3 | Green, White/Green | Overall Cable Diameter | | 0.368 in; nominal | |
| | Pair 4 | Brown, White/Brown | Jacket Color | | Teal | |
| Voltage Rating | | 600V | Jacket Thickness | | 0.040 in; nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | Jacket Material | | PVC | |
| Plenum | | No | Sunlight Resistant | | Yes | |
| Shield | | Shielded | Oil Resistance | | Yes | |
| Drain | | No | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | Sample Print Legend | | www.lutze.com Part# A1040006 LUTZE ELECTRONIC ETHERNET CAT6 FTP PVC 4-PAIR AWG22 E331083 c(UL)US CMX OUTDOOR CMR 75C SUN RES OR TYPE PLTC OR AWM STYLE 21695 80C 600 V OIL RESISTANT RoHS 1938 CE-59 1000FT | |
| Minimum Bend Radius | | 2.76in | | | | |
| Cabled Core Diameter | | 0.288 in | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | |
| Impedance (1-100 MHz) | | 100 Ω 1 – 100 MHz | UL Classification | | (cULus) TYPE CMR/CMX Outdoor/PLTC or AWM Style 21695; (cURus) Class I and II, Div. 2; Class 1 Div. 2 | |
| Capacitance | | 15.5 pF/ft @ 1MHz; Nominal | Approvals** | | cULus, cURus, CE, RoHS | |
| Resistance, Max. | | 16.6 Ω DC per 1000ft | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 250 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | Insertion Loss | | 1 ≤ f ≤ 250 MHz: 1.808 √f + 0.017(f) + 0.20/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 250 MHz: 25 - 7.0 LOG(f/20) dB MIN | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 250 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 250 MHz: 44.3 - 15 LOG(f/100) dB MIN | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 250 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | |
| TCL | | 1 ≤ f ≤ 250 MHz: 30 - 10 LOG(f/100) dB MIN | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | |
| Velocity Of Propagation | | 0.61 | | | | |
| Delay | | 4 ≤ f ≤ 250 MHz: 534 + 36/√(f ns MAX | | | | |
| Delay Skew | | 1 ≤ f ≤ 250 MHz: <45ns/100m | | | | |

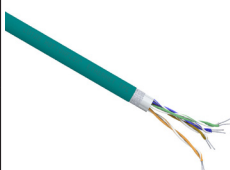
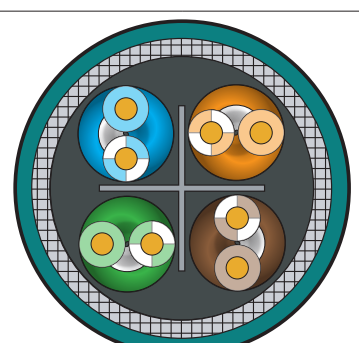
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat5e Industrial Ethernet Cable

Continuous Flexing



| A1040020-1 Cable Specifications | | | | | | |
|---|---|----------------------------------|--|--------------------------|--|----------------|
|  | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | A1040020-1 | Cat5e industrial Ethernet | Continuous Flexing | 20 | 0.05 | \$3.02 |
| Physical Properties | | | | | | |
| Conductor Gauge | | 24 AWG | Conductor Stranding | | 7-stranded tinned copper | |
| Conductor Material | | Tinned Copper | Conductor Insulation Wall Thickness | | 0.011 in; nominal | |
| Conductor Assembly | | 4 twisted pairs | Bare Conductor Diameter | | 0.024 in; nominal | |
| Color Code | Pair 1 | Blue, White/Blue | Insulated Conductor Diameter | | 0.046 in; nominal | |
| | Pair 2 | Orange, White/Orange | Twisted Conductor Diameter | | 0.092 in; nominal | |
| | Pair 3 | Green, White/Green | Overall Cable Diameter | | 0.299 in; nominal | |
| | Pair 4 | Brown, White/Brown | Jacket Color | | Teal | |
| Voltage Rating | | 600V | Jacket Thickness | | 0.033 in; nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | Jacket Material | | TPE | |
| Plenum | | No | Sunlight Resistant | | Yes | |
| Shield | | Shielded | Oil Resistance | | Yes | |
| Drain | | No | Flame Retardant | | Yes | |
| Conductor Insulation Material | | High-density Polyethylene (HDPE) | Sample Print Legend | | www.lutze.com Part# A1040020 LUTZE MOTIONFLEX ETHERNET CAT5e SF/UTP TPE (4-PAIR AWG24) E319350 c(UL) CMX OUTDOOR CMR 75C SUN RES OR AWM STYLE 2463 80C 600 V OIL RES II RoHS <Date Code YYWW> CE-59 <SEQ. FT MARK> | |
| Minimum Bend Radius | | Moving: 2.99in Fixed: 2.24in | | | | |
| Cabled Core Diameter | | 0.234 in | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | |
| Impedance (1-100 MHz) | 100 Ω 1 – 100 MHz | | UL Classification | | (cULus) TYPE CMR/CMX Outdoor or AWM Style 2463; (cURus) TYPE CMG | |
| Capacitance | 15.2 pF/ft @ 1MHz; Nominal | | Approvals** | | cULus, cURus,CE, RoHS | |
| Resistance, Max. | 24.5 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.967 √f + 0.023(f) + 0.050/√f dB MAX | |
| Return Loss | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 7.0 LOG(f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | 1 ≤ f ≤ 100 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | 1 ≤ f ≤ 100 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | 1 ≤ f ≤ 100 MHz: 30 - 10 LOG(f/100) dB MIN | | | | | |
| ELTCTL | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | | |
| Velocity Of Propagation | 0.66 | | | | | |
| Delay | 4 ≤ f ≤ 100 MHz: 534 + 36/√(f ns MAX | | | | | |
| Delay Skew | 1 ≤ f ≤ 100 MHz: <45ns/100m | | | | | |


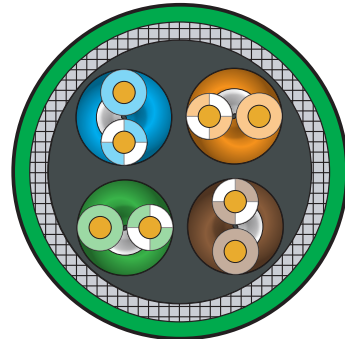
* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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Cat6a Industrial Ethernet/Profinet

| A104397-1 Cable Specifications | | | | | | |
|---|---------------------------|---|--|---------------------------|--|----------------|
|  | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
| | A104397-1 | Cat6a industrial Ethernet Profinet | Flexible | 20 | 0.09 | \$4.15 |
| Physical Properties | | | | | | |
| Conductor Gauge | | 22 AWG | Conductor Stranding | | solid bare copper | |
| Conductor Material | | Bare Copper | Conductor Insulation Wall Thickness | | 0.017 in; nominal | |
| Conductor Assembly | | 4 twisted pairs | Bare Conductor Diameter | | 0.025 in; nominal | |
| Color Code | Pair 1 | Blue, White/Blue | Insulated Conductor Diameter | | 0.059 in; nominal | |
| | Pair 2 | Orange, White/Orange | Twisted Conductor Diameter | | 0.118 in; nominal | |
| | Pair 3 | Green, White/Green | Overall Cable Diameter | | 0.378 in; nominal | |
| | Pair 4 | Brown, White/Brown | Jacket Color | | Green | |
| Voltage Rating | | 600V | Jacket Thickness | | 0.028 in; nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | Jacket Material | | PVC | |
| Plenum | | No | Sunlight Resistant | | Yes | |
| Shield | | Shielded | Oil Resistance | | Yes | |
| Drain | | No | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Special Polyolefin | Sample Print Legend | | LUTZE ELECTRONIC® ETHERNET (C) PVC 104397 (4x(2xAWG22)) CAT6A E331083 XX (UL) TYPE PLTC FT4 or CMG 75 °C or c(UR)us AWM STYLE 2570 600 V RoHS <Date Code YYWW> CE-XX <FT MARK> | |
| Minimum Bend Radius | | 2.27in | | | | |
| Cabled Core Diameter | | 0.248 in | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | |
| Impedance (1-100 MHz) | | 100 Ω 1 – 100 MHz | UL Classification | | (cULus) TYPE CMG/PLTC or AWM Style 2570; (cURus) Class I and II, Div. 2; Class 1 Div. 2 | |
| Capacitance | | 13.1 pF/ft @ 1MHz; Nominal | Approvals** | | cULus, uURus,CE, RoHS | |
| Resistance, Max. | | 33.1 Ω DC per 1000ft | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 27.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1.82 √(f) + 0.0091(f) + 0.25/√(f)) dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 500 MHz: 25 - 7.0 LOG(f/20) dB MIN | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 24.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 44.3 - 15 LOG(f/100) dB MIN | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 42.3 - 15 LOG(f/100) dB MIN | | | | |
| TCL | | 1 ≤ f ≤ 250 MHz: 30 - 10 LOG(f/100) dB MIN | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | |
| Velocity Of Propagation | | 74% | | | | |
| Delay | | 4 ≤ f ≤ 500 MHz: 534 + 36/√(f ns MAX | | | | |
| Delay Skew | | 1 ≤ f ≤ 500 MHz: <20ns/100m | | | | |

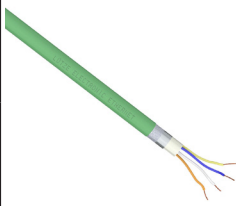
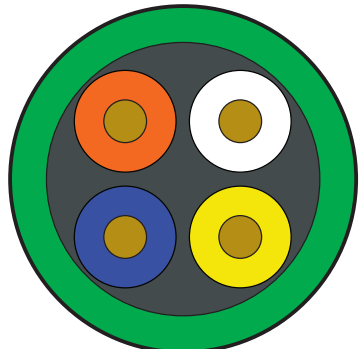
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Profinet Type A Cable



SYSTEMATIC TECHNOLOGY

| A104301-1 Cable Specifications | | | | | | |
|---|---------------------------|---|--|--------------------------|--|----------------|
|  | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | A104301-1 | Profinet Type A | Flexible | 20 | 0.04 | \$1.60 |
| Physical Properties | | | | | | |
| Conductor Gauge | | 22 AWG | Conductor Stranding | | solid bare copper | |
| Conductor Material | | Bare Copper | Conductor Insulation Wall Thickness | | 0.015 in; nominal | |
| Conductor Assembly | | 1 star quad | Bare Conductor Diameter | | 0.029 in; nominal | |
| Color Code | Pair 1 | White, Blue | Insulated Conductor Diameter | | 0.057 in; nominal | |
| | Pair 2 | Yellow, Orange | Twisted Conductor Diameter | | 0.114 in; nominal | |
| | Pair 3 | N/A | Overall Cable Diameter | | 0.256 in; nominal | |
| | Pair 4 | N/A | Jacket Color | | Green | |
| Voltage Rating | | 600V | Jacket Thickness | | 0.037 in; nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | Jacket Material | | PVC | |
| Plenum | | No | Sunlight Resistant | | Yes | |
| Shield | | Overall Aluminized Polyester Foil And Tinned Copper Braid | Oil Resistance | | Yes | |
| Drain | | No | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Special Polyolefin | Sample Print Legend | | <LÜTZE logo> ELECTRONIC ETHERNET (C) PVC 104301 (2x2xAWG22/1) PROFINET TYPE A Cat 5e E336436 (UL) TYPE PLTC FT4 or c(UL) us TYPE CMG 75°C or <logo cURus> AWM STYLE 20201 60°C 600V I/II A/B FT1 RoHS <date YYWW> UKCA CE-44 <metermarking> | |
| Minimum Bend Radius | | 1.54in | | | | |
| Cabled Core Diameter | | 0.181 in | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | |
| Impedance (1-100 MHz) | | 100 Ω 1 – 100 MHz | UL Classification | | (cULus) TYPE CMG/PLTC or AWM Style 20201; (cURus) Class I and II, Div. 2; Class 1 Div. 2 | |
| Capacitance | | 15.85 pF/ft @ 1MHz; Nominal | Approvals** | | cULus, uURus, CE, RoHS | |
| Resistance, Max. | | 32.7 Ω DC per 1000ft | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.967 √f + 0.023(f) + 0.050/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 7.0 LOG(f/20) dB MIN | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 35.3 - 15 LOG(f/100) dB MIN | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | |
| TCL | | 1 ≤ f ≤ 100 MHz: 30 - 10 LOG(f/100) dB MIN | | | | |
| ELTCTL | | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN | | | | |
| Velocity Of Propagation | | 65% | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns MAX | | | | |
| Delay Skew | | 1 ≤ f ≤ 100 MHz: <20ns/100m | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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SYSTEMATIC TECHNOLOGY

LUTZE Profibus Cable

Overview

AutomationDirect is pleased to offer the LUTZE Profibus cable for stationary and continuous flexing applications. This cable is available in a 24 AWG or 22 AWG twisted pair. Individual conductors are bare copper or stranded for flexing applications. Conductor insulation is a special polyolefin. The cable's outer jacket is either a PUR construction or special PVC construction, utilizing a violet color similar to RAL 4001. The LUTZE Profibus cable is specifically designed, tested, and manufactured for automation technology, transport and conveyor technology, and machine tool manufacturing.

Features

- For wiring of industrial field bus systems like PROFIBUS DP, SINEC L2, F.I.P
- Outer jacket: PVC or PUR
- Overall shield
- High protection against electromagnetic interferences (EMI)
- Compliant with NFPA 79 requirements
- Silicone free

For continuous flexing options:

- Compatible with all major drag chain brands
- Flame-retardant
- Abrasion-resistant, nick-resistant, tear-propagation-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Coolant and lubricant resistant
- Low 20 foot minimum length



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable



SYSTEMATIC TECHNOLOGY

Continuous Flexing Profibus Cable

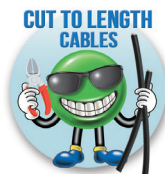
A104265-1 Profibus Cable Specifications (Shielded)

| | | | |
|---|---|----------------------------|---|
| Conductors Gauge & Stranding | 24 AWG (0.25mm ²) 19 stranded bare copper | Conductor Markings | Red and green |
| Voltage Ratings | 300V per UL | Overall Shield | Foil shield with braided tinned copper wires, optical cover approx. 85 % |
| | Tested to 1500V | Outer Jacket | PUR |
| Min. Bend Radius | 5 x diameter | UV Resistance | Yes |
| | | Oil Resistance | Yes |
| | | Flame Resistance | Yes |
| Temperature Ratings | -40F to 176F (-40C to 80C) | Silicone-free | Yes |
| Velocity | 9.84 ft/s (3 m/s) | Approvals | (cULus) TYPE CL 3/CMG or AWM Style 20201; (cURus) Meets NEC 392,800 |
| Acceleration | 9.84 ft/s ² (3 m/s ²) | | |
| Length of Travel | ≤11.5ft (3.5 m) | Sample Print Legend | LÜTZE SUPERFLEX® BUS (C) PUR 104265 (1x2xAWG24/19) E331628 -44 <c(UL)us listed Type CMX 75°C or c(RU)us AWM Style 21198 I/ II A/B 80°C 300V FT1 HALOGEN-FREE RoHS <Date Code YYWW> CE-44 |
| Conductor Insulation | Special Polyolefin | | |

A104265-1 Profibus Cable (Shielded)

| Part Number | Number of Twisted Pairs | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|-------------|-------------------------|-----|--------|----------------------------|--------------------------|----------------------------|----------------|
| | | | | | | | |
| A104265-1 | 1 | 24 | 19 | 0.315 | 20 | 0.04 | \$3.51 |

* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



SYSTEMATIC TECHNOLOGY

Profibus Cable

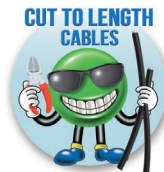
A104293-1 Profibus Cable Specifications (Shielded)

| | | | |
|---|----------------------------|----------------------------|--|
| Conductors Gauge & Stranding | 22 AWG solid bare copper | Conductor Markings | Red and green |
| Voltage Ratings | 600V per UL | Overall Shield | Foil shield with braided tinned copper wires, optical cover approx. 70% |
| | Tested to 1500 V | Outer Jacket | PVC |
| Min. Bend Radius | Fixed, 7.5 x diameter | UV Resistance | No |
| | | Oil Resistance | No |
| | | Flame Resistance | Yes |
| Temperature Ratings | -40F to 176F (-40C to 80C) | Silicone-free | Yes |
| | | Approvals | (cULus) TYPE CL 3/CMG or AWM Style 20201; (cURus) Meets NEC 392,800 |
| Conductor Insulation | Special Polyolefin | Sample Print Legend | LÜTZE ELECTRONIC BUS (C) PVC 104293 (1x2xAWG22) E331628 -44 c(UL)us listed Type CMG 75°C or (UL) listed Type CL3 or AWM Style 21694 60°C 600V I A/B 1214 CE-44 15m |

A104293-1 Profibus Cable (Shielded)

| Part Number | Number of Twisted Pairs | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|------------------|-------------------------|-----|--------|-----------------------------------|--------------------------|----------------------------|----------------|
| | | | | | | | |
| <u>A104293-1</u> | 1 | 22 | solid | 0.307 | 20 | 0.05 | \$1.61 |

* See web store for maximum cut lengths

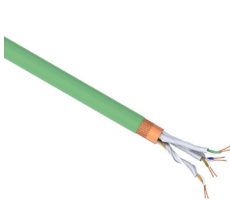
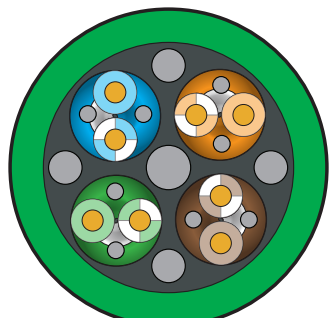


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Cat5 Industrial Ethernet Continuous Flexing



H800067-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|---|--------|---|--------------------------|--|--------------------------|--|----------------|
| | | H800067-1 | Cat5 industrial Ethernet | Continuous flexing | 20 | 0.02 | \$3.02 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 19-stranded bare copper | |
| Conductor Material | | Bare copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.020 in, nominal | |
| Color Code | Pair 1 | Blue, White | | Insulated Conductor Diameter | | 0.038 in, nominal | |
| | Pair 2 | Orange, White | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White | | Overall Cable Diameter | | 0.295 in, nominal | |
| | Pair 4 | Brown, White | | Jacket Color | | Green | |
| Voltage Rating | | 30V | | Jacket Thickness | | 0.030 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | PUR | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Overall copperized polyester foil and tinned copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polypropylene | | Sample Print Legend | | <metermarking>m HELUKAT® 100T INDUSTRIAL ETHERNET Cat.5e_SF/UTP 4x2xAWG26-100 FR-PUR_(Litze)/ <800067.> E170315-058 <Logo c(UR) us> AWM 21161 80°C I/II A/B FT2 0158<production lot no.> <CE-Logo> <HELU date> | |
| Minimum Bend Radius | | Moving: 2.36in Fixed: 1.48in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω | | UL Classification | | AWM Style 21161 | |
| Capacitance | | 15.2 pF/ft | | Approvals** | | cURus, CE, RoHS, Halogen-free, EAC | |
| Resistance, Max. | | 42.7 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.67 | | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 100 MHz: Max 45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

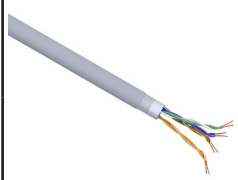
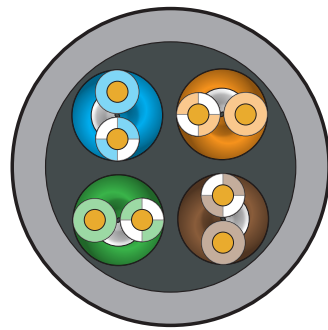
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Cat5e Industrial Ethernet



| H800068-1 Cable Specifications | | | | | | | |
|---|--------|---|---------------------------|--|--------------------------|---|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H800068-1 | Cat5e industrial Ethernet | Flexible | 20 | 0.03 | \$1.18 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-stranded bare copper | |
| Conductor Material | | Bare copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.037 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.228 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Gray | |
| Voltage Rating | | 1000V | | Jacket Thickness | | 0.030 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | PUR | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Overall aluminized polyester foil and tinned copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyolefin | | Sample Print Legend | | <meter>m HELUKAT® 200IND SF/UTP 4x2xAWG26/7 PUR 200 MHz / 800068 * E170315 <Logo RU> AWM 21576 80°C 1000V * <Fert.Nr.> <month year> CE marking | |
| Minimum Bend Radius | | Moving: 1.82in Fixed: 0.91in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 1 to 100 MHz, 100 Ω ± 15 Ω 101 to 200 MHz, 100 Ω ± 20 Ω | | UL Classification | | AWM Style 21576 | |
| Capacitance | | 14.3 pF/ft | | Approvals** | | UR, CE, RoHs, Halogen-free, EAC | |
| Resistance, Max. | | 42.7 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 3000V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.67 | | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 100 MHz: Max 45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

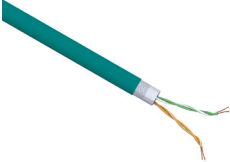
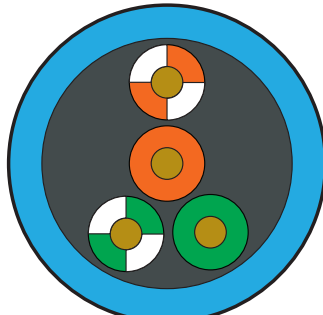
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Industrial Ethernet



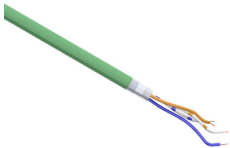
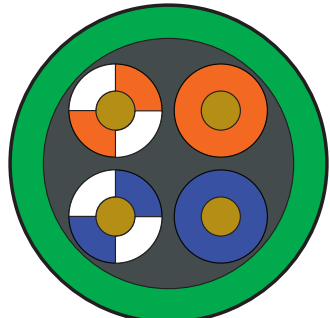
| H805702-1 Cable Specifications | | | | | | | |
|---|--------|---|---------------------------|--|--------------------------|---|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H805702-1 | Cat5e industrial Ethernet | Flexible | 20 | 0.01 | \$1.05 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-stranded bare copper | |
| Conductor Material | | Bare copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 2 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Orange, White/Orange | | Insulated Conductor Diameter | | 0.037 in, nominal | |
| | Pair 2 | Green, White/Green | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | N/A | | Overall Cable Diameter | | 0.224 in, nominal | |
| | Pair 4 | N/A | | Jacket Color | | Blue | |
| Voltage Rating | | 1000V | | Jacket Thickness | | 0.030 in, nominal | |
| Temperature Rating | | -30 to 70 °C (-22 to 158 °F) | | Jacket Material | | PUR | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Overall aluminum foil and tinned braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Foam Polyethylene | | Sample Print Legend | | <meter>m HELUKAT 100IND SF/UTP 2x2xAWG26/7 (Litze) PUR 100 MHz/ 805702 E170315 cULus AWM STYLE 21576_AWM II/ II A/B 1000V 80°C FT2_prod.lot.no.> CE <HELU date> | |
| Minimum Bend Radius | | Moving: 1.79in Fixed: 1.12in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω | | UL Classification | | AWM Style 21576 | |
| Capacitance | | 15.2 pF/ft | | Approvals** | | cULus, CE, RoHS, Halogen-free | |
| Resistance, Max. | | 42.7 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1000V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.74 | | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 100 MHz: Max 45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat5e Industrial Ethernet Continuous Flexing



| H82838-1 Cable Specifications | | | | | | | |
|---|--------|---|---------------------------|--|--------------------------|--|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H82838-1 | Cat5e industrial Ethernet | Continuous flexing | 20 | 0.01 | \$1.13 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 19-stranded bare copper | |
| Conductor Material | | Bare copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 1 star quad | | Bare Conductor Diameter | | 0.020 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.038 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | N/A | | Overall Cable Diameter | | 0.189 in, nominal | |
| | Pair 4 | N/A | | Jacket Color | | Green | |
| Voltage Rating | | 30V | | Jacket Thickness | | 0.027 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | PUR | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Overall aluminum foil and tinned braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyolefin | | Sample Print Legend | | (SEQUENTIAL FOOTAGE) HELUKAT 100S ECO INDUSTRIAL ETHERNET SF/UTP 4x1x0,15mm2 (LITZE) / 82838 * E170315 RU AWM 20963 80C 30V * 015816448368 CE DH | |
| Minimum Bend Radius | | Moving: 1.51 Fixed: 0.95in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω | | UL Classification | | AWM Style 20963 | |
| Capacitance | | 15.5 pF/ft | | Approvals** | | UR, RoHS, Halogen-free, EAC | |
| Resistance, Max. | | 42.7 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 500V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.67 | | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 100 MHz: Max 45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

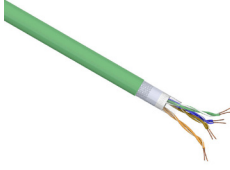
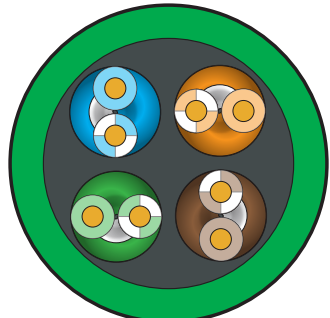
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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Cat5e Industrial Ethernet Continuous Flexing



| H82839-1 Cable Specifications | | | | | | |
|---|-------------|---|--|--------------------------|---|----------------|
|  | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | H82839-1 | Cat5e industrial Ethernet | Continuous flexing | 20 | 0.02 | \$1.79 |
| Physical Properties | | | | | | |
| Conductor Gauge | | 26 AWG | Conductor Stranding | | 19-stranded bare copper | |
| Conductor Material | | Bare copper | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | Bare Conductor Diameter | | 0.020 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | Insulated Conductor Diameter | | 0.038 in, nominal | |
| | Pair 2 | Orange, White/Orange | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White/Green | Overall Cable Diameter | | 0.260 in, nominal | |
| | Pair 4 | Brown, White/Brown | Jacket Color | | Green | |
| Voltage Rating | | 30V | Jacket Thickness | | 0.030 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | Jacket Material | | PUR | |
| Plenum | | No | Sunlight Resistant | | No | |
| Shield | | Overall aluminum foil and braid | Oil Resistance | | Yes | |
| Drain | | No | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyolefin | Sample Print Legend | | HELUKAT 100S ECO INDUSTRIAL ETHERNET SF/UTP 4x2x0.15mm2 (LITZE) / 82839 * E170315 RU AWM 20963 80C 30V * 0011179447 CE HG (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | | Moving: 2.08in Fixed: 1.30in | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | |
| Impedance | | 100 Ω ± 15 Ω | UL Classification | | AWM Style 20963 | |
| Capacitance | | 14.6 pF/ft | Approvals** | | UR, CE, RoHs, Halogen-free, EAC | |
| Resistance, Max. | | 38.1 Ω DC per 1000ft | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 500V RMS | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN | | | | |
| TCL | | N/A | | | | |
| ELTCTL | | N/A | | | | |
| Velocity of Propagation | | 0.67 | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | |
| Delay Skew | | 4 ≤ f ≤ 100 MHz: Max 45ns | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

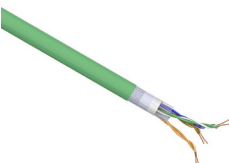
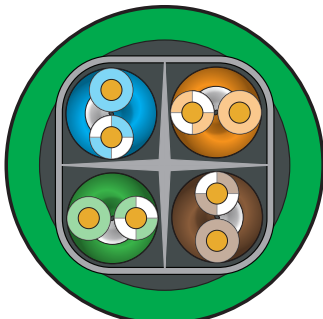
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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Cat6 Industrial Ethernet



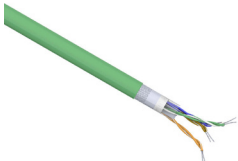
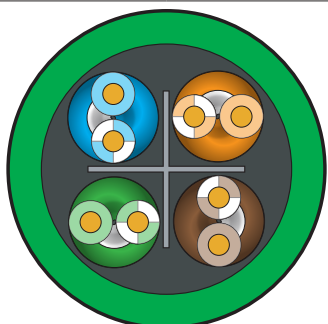
| H805655-1 Cable Specifications | | | | | | | |
|---|--------|---|--------------------------|--|--------------------------|--|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H805655-1 | Cat6 industrial Ethernet | Semi-flexible | 20 | 0.03 | \$2.66 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | Solid bare copper | |
| Conductor Material | | Bare copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.020 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.039 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.315 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Green | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.030 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Overall aluminum foil and braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | <metermarking>m HELUKAT® 250IND Industrial Ethernet SF/UTP 4x2xAWG24/1 PVC / 805655 * c(UL)us E312184 CMG 75°C FT4 0158<production lot nr.> <CE-Logo <HELU date> | |
| Minimum Bend Radius | | Moving: 2.52in Fixed: 1.58in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz 100 Ω ± 20 Ω 101 to 250 MHz | | UL Classification | | (cULus) Type CMG | |
| Capacitance | | 21.9 pF/ft | | Approvals** | | cULus, CSA, CE, RoHS, Halogen-free | |
| Resistance, Max. | | 29 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 250 MHz: 68 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1,82 x √f + 0.0169 x (f) + 0.25/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 250 MHz: 25 - 7 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 250 MHz: 65 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 250 MHz: 75,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 250 MHz: 72,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.62 | | | | | |
| Delay | | 4 ≤ f ≤ 250 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 250 MHz: Max 45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat6 Industrial Ethernet Continuous Flexing



| H803387-1 Cable Specifications | | | | | | | |
|---|--------|---|--------------------------|--|--------------------------|---|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H803387-1 | Cat6 industrial Ethernet | Continuous flexing | 20 | 0.02 | \$2.35 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 19-stranded tinned copper | |
| Conductor Material | | Tinned copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.020 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | | Insulated Conductor Diameter | | 0.038 in, nominal | |
| | Pair 2 | Orange, White/Orange | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White/Green | | Overall Cable Diameter | | 0.307 in, nominal | |
| | Pair 4 | Brown, White/Brown | | Jacket Color | | Green | |
| Voltage Rating | | 1000V | | Jacket Thickness | | 0.030 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | PUR | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Overall aluminized polyester foil and tinned copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polypropylene | | Sample Print Legend | | <Metermarking>m HELUKAT® 250S Industrial Ethernet SF/UTP 4x2xAWG26/19 PUR / 803387 * c(UL)us E31218 CMX 75°C or AWM 21576 1000V 80°C 0158<prod.nr.> CE <MONTH YEAR> | |
| Minimum Bend Radius | | Moving: 2.46in Fixed: 1.23in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz 100 Ω ± 20 Ω 101 to 250 MHz | | UL Classification | | (cULus) Type CMX or AWM Style 21576 | |
| Capacitance | | 15.2 pF/ft | | Approvals** | | cULus, CSA, CE, RoHS, Halogen-free, EAC | |
| Resistance, Max. | | 42.7 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 250 MHz: 68 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 700V RMS | | Insertion Loss | | 1 ≤ f ≤ 250 MHz: 2,73 x √f + 0.026 x (f) + 0.375/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 250 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 250 MHz: 65 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 250 MHz: 75,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 250 MHz: 72,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.67 | | | | | |
| Delay | | 4 ≤ f ≤ 250 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 250 MHz: Max 45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com


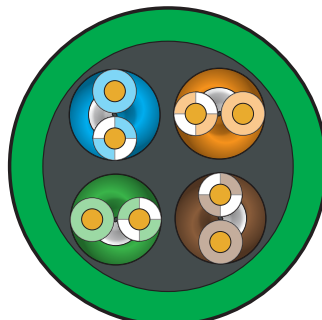


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Cat6a Industrial Ethernet



H803693-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
|---|--------|---|---------------------------|---|--------------------------|---|----------------|
| | | H803693-1 | Cat6a industrial Ethernet | Flexible | 20 | 0.03 | \$1.94 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 22 AWG | | Conductor Stranding | | Solid bare copper | |
| Conductor Material | | Bare copper | | Conductor Insulation Wall Thickness | | 0.018 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.025 in, nominal | |
| Color Code | Pair 1 | Blue, White | | Insulated Conductor Diameter | | 0.061 in, nominal | |
| | Pair 2 | Orange, White | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White | | Overall Cable Diameter | | 0.378 in, nominal | |
| | Pair 4 | Brown, White | | Jacket Color | | Green | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.027 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Individual aluminized polyester foil with overall aluminized polyester foil and tinned copper braid | | Oil Resistance | | Yes | |
| Drain | | Yes | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Foam Polyethylene | | Sample Print Legend <metermarking>m HELUKABEL® INDUSTRIAL ETHERNET STANDARD CABLE SK TP S/FTP 4x2xAWG22/1 CAT6A c(UL)us CMG FT4 E312184 FR ICE60332-3 OIL RES SUN RES ART.NR.803693 0158<production lot nr.> <CE-Logo> <HELU date> | | | |
| Minimum Bend Radius | | 1.51in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω | | UL Classification | | (cULus) Type CMG | |
| Capacitance | | 21.9 pF/ft | | Approvals** | | cULus, CSA, RoHS, CE, EAC, CC-Link-IE | |
| Resistance, Max. | | 17.2 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 68 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 1,82 x √f + 0.0091 x (f) + 0.25/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 500 MHz: 25 - 7 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 65 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 75,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 72,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.76 | | | | | |
| Delay | | 4 ≤ f ≤ 500 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 500 MHz: Max 45ns | | | | | |


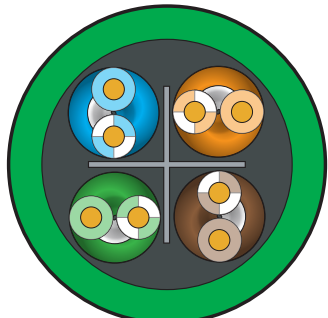
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat6a Industrial Ethernet



H805548-1 Cable Specifications


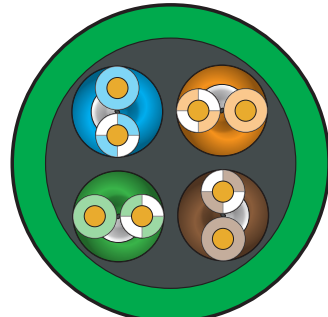
| H805548-1 Cable Specifications | | | | | | |
|--|---------------------------|---|--|--------------------------|--|----------------|
|  | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | H805548-1 | Cat6a industrial Ethernet | Flexible | 20 | 0.02 | \$3.45 |
| Physical Properties | | | | | | |
| Conductor Gauge | | 26 AWG | Conductor Stranding | | 7-stranded tinned copper | |
| Conductor Material | | Tinned copper | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White | Insulated Conductor Diameter | | 0.037 in, nominal | |
| | Pair 2 | Orange, White | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White | Overall Cable Diameter | | 0.260 in, nominal | |
| | Pair 4 | Brown, White | Jacket Color | | Green | |
| Voltage Rating | | 300V | Jacket Thickness | | 0.028 in, nominal | |
| Temperature Rating | | -10 to 70 °C (14 to 158 °F) | Jacket Material | | PUR | |
| Plenum | | No | Sunlight Resistant | | No | |
| Shield | | Overall aluminum foil and tinned copper braid | Oil Resistance | | Yes | |
| Drain | | No | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Foam Polyethylene | Sample Print Legend | | <metermarking>m HELUKAT® 500 Industrial Ethernet SF/FTP 4x2xAWG26-100 PUR 500MHz Kat. 6A / 805548 c(UL)us E312184 CMX 75°C or <Logo c(UR)us> AWM 21576 80°C 1000V I A/B FT2 0158<production lot nr.> <CE-Logo> <HELU date> | |
| Minimum Bend Radius | | Moving: 2.08in Fixed: 1.30in | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz 100 Ω ± 20 Ω 101 to 500 MHz | UL Classification | | (cULus) Type CMX or AWM Style 21576 | |
| Capacitance | | 15.2 pF/ft | Approvals** | | cULus, cURus, CE, RoHS, Halogen-free | |
| Resistance, Max. | | 45.8 Ω DC per 1000ft | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 68 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 2,73 x √f + 0.01365 x (f) + 0.375/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 500 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 65 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 75,3 - 15 LOG10 (f/100) dB MIN | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 72,3 - 15 LOG10 (f/100) dB MIN | | | | |
| TCL | | N/A | | | | |
| ELTCTL | | N/A | | | | |
| Velocity of Propagation | | 0.76 | | | | |
| Delay | | 4 ≤ f ≤ 500 MHz: 534 + 36/√f ns Max | | | | |
| Delay Skew | | 4 ≤ f ≤ 500 MHz: Max 45ns | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat6a Industrial Ethernet




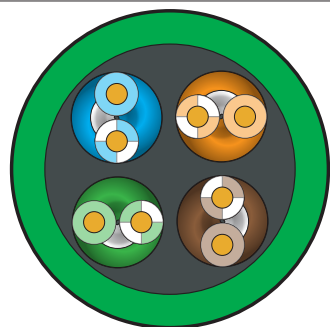
| H805703-1 Cable Specifications | | | | | | | |
|---|--------|---|---------------------------|--|--------------------------|---|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H805703-1 | Cat6a industrial Ethernet | Flexible | 20 | 0.03 | \$5.05 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7-stranded tinned copper | |
| Conductor Material | | Tinned copper | | Conductor Insulation Wall Thickness | | 0.013 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Blue, White | | Insulated Conductor Diameter | | 0.050 in, nominal | |
| | Pair 2 | Orange, White | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White | | Overall Cable Diameter | | 0.343 in, nominal | |
| | Pair 4 | Brown, White | | Jacket Color | | Green | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.028 in, nominal | |
| Temperature Rating | | -10 to 70 °C (14 to 158 °F) | | Jacket Material | | PUR | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Individual aluminum foil with overall aluminum foil and tinned copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Foam Polyethylene | | Sample Print Legend | | (SEQUENTIAL FOOTAGE) HELUKAT 600S INDUSTRIAL ETHERNET SF/FTP 4x2xAWG24/7 PUR 500 MHz / 805703 * c(UL)us E312184 CMX 75C or cRUus AWM 21576 I A/B 80C 1000V FT2 *005816417586 0219 | |
| Minimum Bend Radius | | Moving: 2.74in Fixed: 1.72in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz 100 Ω ± 20 Ω 101 to 500 MHz | | UL Classification | | (cULus) Type CMX or AWM Style 21576 | |
| Capacitance | | 15.2 pF/ft | | Approvals** | | cULus, cURus, CE, CSA, RoHS, Halogen-free | |
| Resistance, Max. | | 26.7 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 68 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 3000V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 2.73 x √f + 0.01365 x (f) + 0.375/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 500 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 65 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 75,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 72,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.75 | | | | | |
| Delay | | 4 ≤ f ≤ 500 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 500 MHz: Max 45ns | | | | | |

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Cat6a Industrial Ethernet



| H805704-1 Cable Specifications | | | | | | | |
|---|--------|---|---------------------------|--|--------------------------|---|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H805704-1 | Cat6a industrial Ethernet | Flexible | 20 | 0.03 | \$3.85 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7-stranded tinned copper | |
| Conductor Material | | Tinned copper | | Conductor Insulation Wall Thickness | | 0.013 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Blue, White | | Insulated Conductor Diameter | | 0.050 in, nominal | |
| | Pair 2 | Orange, White | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White | | Overall Cable Diameter | | 0.343 in, nominal | |
| | Pair 4 | Brown, White | | Jacket Color | | Green | |
| Voltage Rating | | 1000V | | Jacket Thickness | | 0.027 in, nominal | |
| Temperature Rating | | -10 to 70 °C (14 to 158 °F) | | Jacket Material | | PVC | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Individual aluminum foil with overall aluminum foil and tinned copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Foam Polyethylene | | Sample Print Legend | | (SEQUENTIAL FOOTAGE) HELUKAT 500S INDUSTRIAL ETHERNET SF/FTP 4x2xAWG24/7 PVC 500MHz / 805704 * c(UL)us E312184 CM 75C 015813018168 DF CE | |
| Minimum Bend Radius | | Moving: 2.74in Fixed: 1.72in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω | | UL Classification | | (cULus) Type CM | |
| Capacitance | | 15.2 pF/ft | | Approvals** | | cULus, CSA, CE, RoHS | |
| Resistance, Max. | | 26.7 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 500 MHz: 68 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 3000V RMS | | Insertion Loss | | 1 ≤ f ≤ 500 MHz: 2.73 x √f + 0.01365 x (f) + 0.375/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 500 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 500 MHz: 65 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 500 MHz: 75,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 500 MHz: 72,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.75 | | | | | |
| Delay | | 4 ≤ f ≤ 500 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 500 MHz: Max 45ns | | | | | |


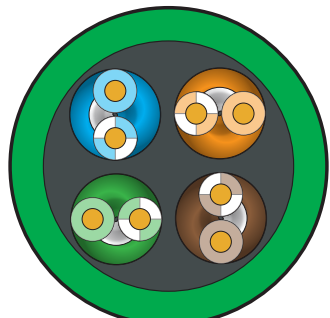
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat7 Industrial Ethernet



H805614-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
|---|--------|---|--------------------------|--|--------------------------|---|----------------|
| | | H805614-1 | Cat7 industrial Ethernet | Flexible | 20 | 0.03 | \$5.77 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 24 AWG | | Conductor Stranding | | 7-stranded tinned copper | |
| Conductor Material | | Tinned copper | | Conductor Insulation Wall Thickness | | 0.015 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Blue, White | | Insulated Conductor Diameter | | 0.054 in, nominal | |
| | Pair 2 | Orange, White | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White | | Overall Cable Diameter | | 0.343 in, nominal | |
| | Pair 4 | Brown, White | | Jacket Color | | Green | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.030 in, nominal | |
| Temperature Rating | | -30 to 70 °C (-22 to 158 °F) | | Jacket Material | | PUR | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Individual aluminum foil with overall aluminum foil and tinned copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Foam Polyethylene | | Sample Print Legend | | <metermarking>m HELUKAT® 600S Industrial Ethernet SF/FTP 4x2xAWG24/7 PUR 600 MHz / 805614_*_E312184-058 c(UL)us CMX 75°C or <Logo c(UR)us> AWM 20940 I A/B 80°C 600V FT2_* 0158<production lot no.> <CE-Logo> <HELU date> | |
| Minimum Bend Radius | | Moving: 2.74in Fixed: 1.72in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz 100 Ω ± 20 Ω 101 to 600 MHz | | UL Classification | | (cULus) Type CMX or AWM Style 20940 | |
| Capacitance | | n/a | | Approvals** | | cULus, cURuc, CE, RoHS, Halogen-free, CC-Link IE | |
| Resistance, Max. | | 26.7 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 600 MHz: 94 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 600 MHz: 2,7 x √f + 0.015 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 600 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 600 MHz: 91 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 600 MHz: 102,4 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 600 MHz: 99,4 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.74 | | | | | |
| Delay | | 4 ≤ f ≤ 600 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 600 MHz: Max 25ns | | | | | |

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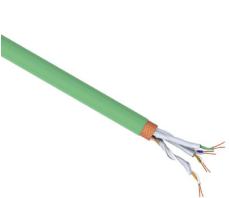
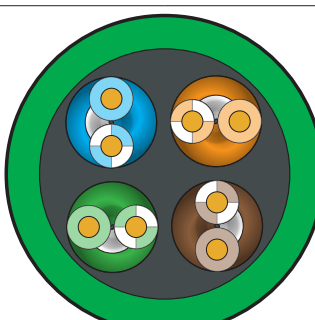
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Cat7 Industrial Ethernet



HELUKABEL®

H802184-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
|---|--------|---|--------------------------|--|--------------------------|--|----------------|
| | | H802184-1 | Cat7 industrial Ethernet | Flexible | 20 | 0.02 | \$1.62 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 26 AWG | | Conductor Stranding | | 7-stranded bare copper | |
| Conductor Material | | Bare copper | | Conductor Insulation Wall Thickness | | 0.009 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.019 in, nominal | |
| Color Code | Pair 1 | Blue, White | | Insulated Conductor Diameter | | 0.037 in, nominal | |
| | Pair 2 | Orange, White | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White | | Overall Cable Diameter | | 0.252 in, nominal | |
| | Pair 4 | Brown, White | | Jacket Color | | Green | |
| Voltage Rating | | 30V | | Jacket Thickness | | 0.020 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | PUR | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Individual polyester foil with overall polyester foil and aluminum-lined copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Foam Polyethylene | | Sample Print Legend | | <Metrierung>m HELUKAT® 600IND S/FTP 4x2xAWG26/7 PUR / 802184 * E170315 <Logo cRUus> AWM 20963 80°C 30V I A/B FT2 * 0158<Fert.Nr.> <CE-Zeichen> <HELU Datum> | |
| Minimum Bend Radius | | Moving: 2.02in Fixed: 1.26in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz 100 Ω ± 20 Ω 101 to 600 MHz | | UL Classification | | AWM Style 20963 | |
| Capacitance | | 12.8 pF/ft | | Approvals** | | cURus, CE, RoHS, Halogen-free, EAC | |
| Resistance, Max. | | 42.7 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 600 MHz: 94 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 600 MHz: 2,7 x √f + 0.015 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 600 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 600 MHz: 91 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 600 MHz: 102,4 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 600 MHz: 99,4 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.75 | | | | | |
| Delay | | 4 ≤ f ≤ 600 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 600 MHz: Max 25ns | | | | | |

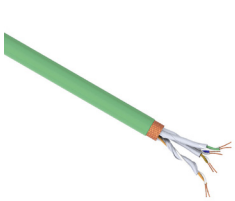
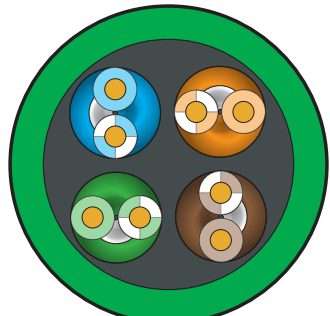
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat7a Industrial Ethernet



H805680-1 Cable Specifications


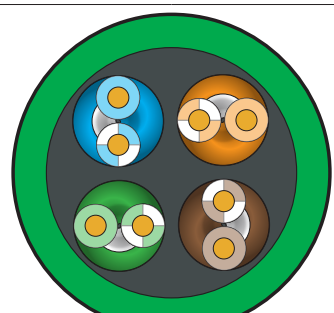
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
|---|--------|---|---------------------------|--|--------------------------|---|----------------|
| | | H805680-1 | Cat7a industrial Ethernet | Semi-flexible | 20 | 0.03 | \$1.89 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 23 AWG | | Conductor Stranding | | Solid bare copper | |
| Conductor Material | | Bare copper | | Conductor Insulation Wall Thickness | | 0.016 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.023 in, nominal | |
| Color Code | Pair 1 | Blue, White | | Insulated Conductor Diameter | | 0.055 in, nominal | |
| | Pair 2 | Orange, White | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White | | Overall Cable Diameter | | 0.307 in, nominal | |
| | Pair 4 | Brown, White | | Jacket Color | | Green | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.028 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | polyurethane (PUR) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Individual aluminum foil and overall aluminum-lined copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Foam Polyethylene | | Sample Print Legend | | <Metermarkierung> HELUKAT® 1200IND 4x2xAWG23 S/FTP PUR 1200 MHz ART.NR.805680 E170315 cULus AWM STYLE 20549 AWM I A/B 300V FT2 <Fertigungslos> <Monat/Jahr> RoHS | |
| Minimum Bend Radius | | Moving: 2.46in Fixed: 1.54in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz 100 Ω ± 20 Ω 101 to 1200 MHz | | UL Classification | | AWM Style 20549 | |
| Capacitance | | 13.1 pF/ft | | Approvals** | | cULus, CE, RoHS, Halogen-free | |
| Resistance, Max. | | 22.7 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 1000 MHz: 95,3 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 700V RMS | | Insertion Loss | | 1 ≤ f ≤ 1000 MHz: 1,8 x √f + 0.01 x (f) + 0.2/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 600 MHz: 25 - 7 LOG10 (f/20) dB MIN 600 ≤ f ≤ 1000 MHz: 17,3 - 10 LOG10 (f/600) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 1000 MHz: 92,3 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 1000 MHz: 105,4 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 1000 MHz: 102,4 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.76 | | | | | |
| Delay | | 4 ≤ f ≤ 1000 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 1000 MHz: Max 25ns | | | | | |

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Cat7e Industrial Ethernet



| H801197-1 Cable Specifications | | | | | | | |
|---|--------|---|---------------------------|--|--------------------------|--|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H801197-1 | Cat7e industrial Ethernet | Semi-flexible | 20 | 0.02 | \$1.78 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 23 AWG | | Conductor Stranding | | Solid bare copper | |
| Conductor Material | | Bare copper | | Conductor Insulation Wall Thickness | | 0.016 in, nominal | |
| Conductor Assembly | | 4 twisted pairs | | Bare Conductor Diameter | | 0.023 in, nominal | |
| Color Code | Pair 1 | Blue, White | | Insulated Conductor Diameter | | 0.056 in, nominal | |
| | Pair 2 | Orange, White | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | Green, White | | Overall Cable Diameter | | 0.323 in, nominal | |
| | Pair 4 | Brown, White | | Jacket Color | | Green | |
| Voltage Rating | | 600V | | Jacket Thickness | | 0.020 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | polyurethane (PUR) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Individual aluminum foil and overall aluminum-lined copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Foam Polyethylene | | Sample Print Legend | | 0000m_ _ _ _ _ _HELUKAT@_600IND_S/FTP_4x2xAWG23/1_ PUR_1200_MHz/_801197_E170315_cus_ AWM_STYLE_21238_80°C_600V_AWM_I_A/_B_600V_80°C_FT2_ _ _ _015800000000_ _ _ _ _CD | |
| Minimum Bend Radius | | Moving: 2.58in Fixed: 1.62in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz 100 Ω ± 20 Ω 101 to 1000 MHz | | UL Classification | | AWM Style 21238 | |
| Capacitance | | 13.1 pF/ft | | Approvals** | | cULus, CE, RoHS, Halogen-free, EAC, CC-Link IE | |
| Resistance, Max. | | 22.7 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 1000 MHz: 95,3 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 1000 MHz: 1,8 x √f + 0.01 x (f) + 0.2/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 600 MHz: 25 - 7 LOG10 (f/20) dB MIN 600 ≤ f ≤ 1000 MHz: 17,3 - 10 LOG10 (f/600) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 1000 MHz: 92,3 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 1000 MHz: 105,4 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 1000 MHz: 102,4 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.76 | | | | | |
| Delay | | 4 ≤ f ≤ 1000 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 1000 MHz: Max 25ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

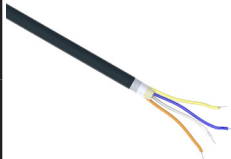
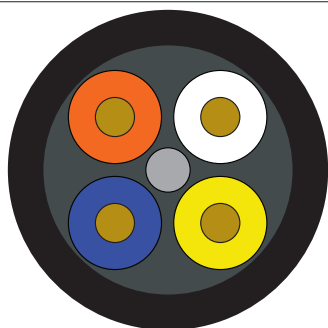
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



H802293-1 Cable Specifications

|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
|---|--------|---|-----------------|--|--------------------------|--|----------------|
| | | H802293-1 | Profinet | Flexible | 20 | 0.02 | \$3.93 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 22 AWG | | Conductor Stranding | | 7-stranded tinned copper | |
| Conductor Material | | Tinned copper | | Conductor Insulation Wall Thickness | | 0.015 in, nominal | |
| Conductor Assembly | | 1 star quad | | Bare Conductor Diameter | | 0.030 in, nominal | |
| Color Code | Pair 1 | White, Blue | | Insulated Conductor Diameter | | 0.060 in, nominal | |
| | Pair 2 | Yellow, Orange | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | N/A | | Overall Cable Diameter | | 0.256 in, nominal | |
| | Pair 4 | N/A | | Jacket Color | | Black | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.030 in, nominal | |
| Temperature Rating | | -40 to 105 °C (-40 to 221 °F) | | Jacket Material | | cross-linked Flame-Retardent-Non-Corrosive (X-FRNC) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Overall aluminized polyester foil and tinned copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Cross linked polyethylene (XLPE) | | Sample Print Legend | | HELUKABEL INDUSTRIAL ETHERNET FLEXIBLE CABLE * PROFINET 105 °C CAT 5 PLUS Oil res. * E170315 UL AWM 21281 300V/80 °C * 00610000"XXXX" Art.Nr. 802293 * "month/year" CE | |
| Minimum Bend Radius | | Moving: 2.05in Fixed: 1.28in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz | | UL Classification | | AWM Style 21281 | |
| Capacitance | | 15.8 pF/ft | | Approvals** | | UL, CE, RoHS, EAC | |
| Resistance, Max. | | 18.3 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.69 | | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 100 MHz: Max 45ns | | | | | |


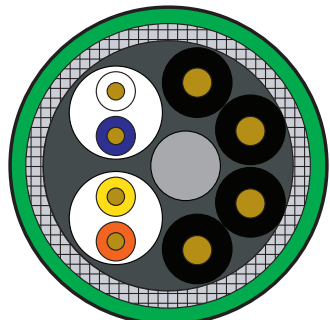
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Profinet Type B

(Includes Power Conductors)



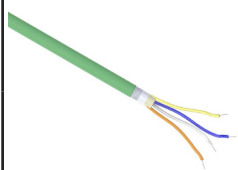
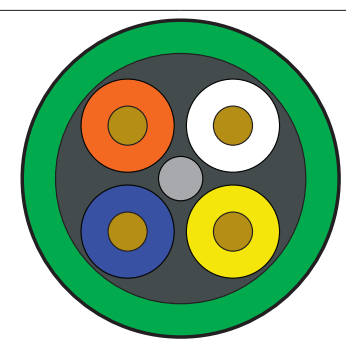
| H801651-1 Cable Specifications | | | | | | | |
|---|--------|---|-----------------|--|--------------------------|---|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H801651-1 | Profinet Type B | Flexible | 20 | 0.06 | \$4.13 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 22 AWG Profinet conductors 16 AWG Power conductors | | Conductor Stranding | | 7-stranded bare copper | |
| Conductor Material | | Bare copper | | Conductor Insulation Wall Thickness | | 0.015 in, nominal | |
| Conductor Assembly | | (2) shielded twisted pairs, (4) unshielded conductors | | Bare Conductor Diameter | | 0.030 in, nominal | |
| Color Code | Pair 1 | Blue, White | | Insulated Conductor Diameter | | 0.060 in, nominal | |
| | Pair 2 | Yellow, Orange | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | N/A | | Overall Cable Diameter | | 0.406 in, nominal | |
| | Pair 4 | N/A | | Jacket Color | | Green | |
| Voltage Rating | | 150V | | Jacket Thickness | | 0.030 in, nominal | |
| Temperature Rating | | -40 to 70 °C (-40 to 158 °F) | | Jacket Material | | Flame-Retardant-Non-Corrosive (FRNC) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Individual aluminized polyester foil and tinned copper braid over pairs | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | <metermarking>m HELUKAT® PROFinet type B hybrid 2x2xAWG22/7 + 4x1,5_(Litze) FRNC 100_MHz / 801651 E170315 <Logo c(UR)us> AWM 22482 80°C 600V 0158<production lot no.> <CE-Logo> <HELU date> | |
| Minimum Bend Radius | | Moving: 3.25in Fixed: 2.03in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz | | UL Classification | | UL Style 21282 | |
| Capacitance | | 15.8 pF/ft | | Approvals** | | cULus, CE, RoHS, Halogen-free | |
| Resistance, Max. | | 18.3 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.74 | | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 100 MHz: Max 45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Profinet Type B



| H802185-1 Cable Specifications | | | | | | | |
|---|--------|---|-----------------|--|--------------------------|---|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H802185-1 | Profinet Type B | Flexible | 20 | 0.02 | \$5.46 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 22 AWG | | Conductor Stranding | | 7-stranded tinned copper | |
| Conductor Material | | Tinned copper | | Conductor Insulation Wall Thickness | | 0.015 in, nominal | |
| Conductor Assembly | | 1 star quad | | Bare Conductor Diameter | | 0.030 in, nominal | |
| Color Code | Pair 1 | White, Blue | | Insulated Conductor Diameter | | 0.060 in, nominal | |
| | Pair 2 | Yellow, Orange | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | N/A | | Overall Cable Diameter | | 0.256 in, nominal | |
| | Pair 4 | N/A | | Jacket Color | | Green | |
| Voltage Rating | | 60V | | Jacket Thickness | | 0.030 in, nominal | |
| Temperature Rating | | -40 to 70 °C (-40 to 158 °F) | | Jacket Material | | Flame-Retardent-Non-Corrosive (FRNC) | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Overall aluminized polyester foil and tinned copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | FRNC | | Sample Print Legend | | <meter marking> HELUKABEL INDUSTRIAL ETHERNET ES ITP MARINE CABLE CAT5 PLUS * 22AWG (SHIELDED) (UL) E312184 CM 75°C VERIFIED (UL) CAT5E Patch Cable or PLTC Sun Res LEONI L L-9YH(ST)CH FRNC 60V Art.Nr. 802185 <prod lot no.> | |
| Minimum Bend Radius | | Moving: 2.05in Fixed: 1.28in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz | | UL Classification | | (cULus) Type CM/PLTC | |
| Capacitance | | 15.8 pF/ft | | Approvals** | | UL, CE, RoHS, Halogen-free, EAC, DNV | |
| Resistance, Max. | | 18.3 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 1500V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.69 | | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 100 MHz: Max 45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

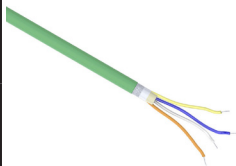
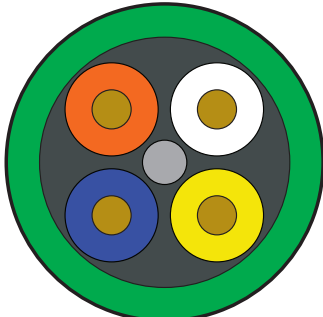
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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Profinet Type C



| H802914-1 Cable Specifications | | | | | | |
|---|---------------------------|---|--|--------------------------|---|----------------|
|  | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | H802914-1 | Profinet Type C | Flexible | 20 | 0.05 | \$1.78 |
| Physical Properties | | | | | | |
| Conductor Gauge | | 22 AWG | Conductor Stranding | | 7-stranded tinned copper | |
| Conductor Material | | Tinned copper | Conductor Insulation Wall Thickness | | 0.015 in, nominal | |
| Conductor Assembly | | 1 star quad | Bare Conductor Diameter | | 0.030 in, nominal | |
| Color Code | Pair 1 | White, Blue | Insulated Conductor Diameter | | 0.060 in, nominal | |
| | Pair 2 | Yellow, Orange | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | N/A | Overall Cable Diameter | | 0.256 in, nominal | |
| | Pair 4 | N/A | Jacket Color | | Green | |
| Voltage Rating | | 600V | Jacket Thickness | | 0.030 in, nominal | |
| Temperature Rating | | -10 to 70 °C (14 to 158 °F) | Jacket Material | | PVC | |
| Plenum | | No | Sunlight Resistant | | No | |
| Shield | | Overall aluminized polyester foil and tinned copper braid | Oil Resistance | | Yes | |
| Drain | | No | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyethylene | Sample Print Legend | | <metermarking>m HELUKABEL INDUSTRIAL ETHERNET TrailingCABLE * PROFINET Type C ES CAT 5 PLUS * 22AWG (SHIELDED) (UL) E312184 CMG 75 °C or PLTC FT4 SUN RES OIL RES or AWM 21694 600V Art.Nr. 802914 * 0058<prod.lot.no.> <CE-Logo> <HELU date> | |
| Minimum Bend Radius | | Moving: 2.05in Fixed: 1.54in | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | |
| Impedance | | 100 Ω ± 15 Ω | UL Classification | | (cULus) Type CMG/PLTC or AWM Style 21694 | |
| Capacitance | | 15.8 pF/ft | Approvals** | | UL, CE, RoHS | |
| Resistance, Max. | | 18.3 Ω DC per 1000ft | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN | | | | |
| TCL | | N/A | | | | |
| ELTCTL | | N/A | | | | |
| Velocity of Propagation | | 0.67 | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | |
| Delay Skew | | 4 ≤ f ≤ 100 MHz: Max 45ns | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

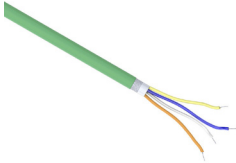
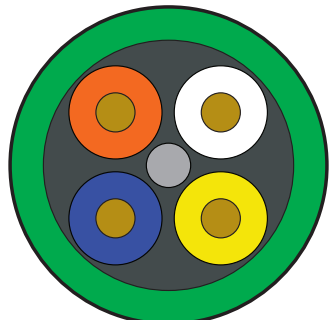


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Profinet Type C

Continuous Flexing



| H802186-1 Cable Specifications | | | | | | | |
|---|--------|---|-----------------|--|--------------------------|---|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H802186-1 | Profinet Type C | Continuous flexing | 20 | 0.02 | \$1.93 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 22 AWG | | Conductor Stranding | | 19-stranded tinned copper | |
| Conductor Material | | Tinned copper | | Conductor Insulation Wall Thickness | | 0.015 in, nominal | |
| Conductor Assembly | | 1 star quad | | Bare Conductor Diameter | | 0.031 in, nominal | |
| Color Code | Pair 1 | White, Blue | | Insulated Conductor Diameter | | 0.061 in, nominal | |
| | Pair 2 | Yellow, Orange | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | N/A | | Overall Cable Diameter | | 0.256 in, nominal | |
| | Pair 4 | N/A | | Jacket Color | | Green | |
| Voltage Rating | | 300V | | Jacket Thickness | | 0.040 in, nominal | |
| Temperature Rating | | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | PUR | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Overall aluminized polyester foil and tinned copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyethylene | | Sample Print Legend | | <Metrierung>m HELUKABEL® PROFInet Torsion © 2X2X0,75mm (Litze) * 22AWG E170315 <Logo cRUus> AWM 20549 80°C 300V I A/B FT2 802186 0158<Fert.Nr.> <CE-Zeichen> <HELU Datum> | |
| Minimum Bend Radius | | Moving: 2.05in Fixed: 1.28in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz | | UL Classification | | AWM Style 20549 | |
| Capacitance | | 15.8 pF/ft | | Approvals** | | cURus, CE, RoHS | |
| Resistance, Max. | | 18.1 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.74 | | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 100 MHz: Max 45ns | | | | | |

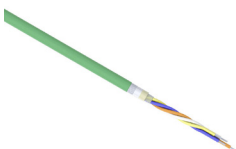
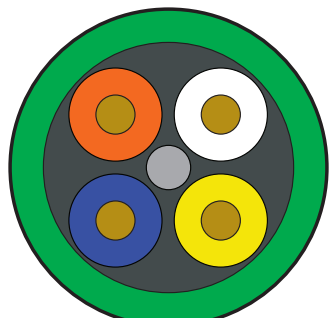
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Profinet Type R

Continuous Flexing



| H11007800-1 Cable Specifications | | | | | | | |
|---|--------|---|-----------------|--|--------------------------|---|----------------|
|  | | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price Per Foot |
| | | H11007800-1 | Profinet Type R | Continuous flexing | 20 | 0.04 | \$2.28 |
| Physical Properties | | | | | | | |
| Conductor Gauge | | 22 AWG | | Conductor Stranding | | 19-stranded tinned copper | |
| Conductor Material | | Tinned copper | | Conductor Insulation Wall Thickness | | 0.015 in, nominal | |
| Conductor Assembly | | 1 star quad | | Bare Conductor Diameter | | 0.031 in, nominal | |
| Color Code | Pair 1 | White, Blue | | Insulated Conductor Diameter | | 0.061 in, nominal | |
| | Pair 2 | Yellow, Orange | | Twisted Conductor Diameter | | N/A | |
| | Pair 3 | N/A | | Overall Cable Diameter | | 0.283 in, nominal | |
| | Pair 4 | N/A | | Jacket Color | | Green | |
| Voltage Rating | | 1000V | | Jacket Thickness | | 0.040 in, nominal | |
| Temperature Rating | | -40 to 90 °C (-40 to 194 °F) | | Jacket Material | | PUR | |
| Plenum | | No | | Sunlight Resistant | | No | |
| Shield | | Overall aluminized polyester foil and tinned copper braid | | Oil Resistance | | Yes | |
| Drain | | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | | Polyolefin | | Sample Print Legend | | <meter marking> HELUKABEL® INDUSTRIAL ETHERNET ROBOT* PROFINET ® 2x2x0,75mm (Litze) 22AWG E170315 cRUus AWM STYLE 21209 AWM I/II A/B 90°C 1000V FT1 Art.Nr. 11007800 <prod.no.> CE | |
| Minimum Bend Radius | | Moving: 2.83in Fixed: 1.42in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | | |
| Impedance | | 100 Ω ± 15 Ω 1 to 100 MHz | | UL Classification | | AWM Style 21209 | |
| Capacitance | | 15.2 pF/ft | | Approvals** | | cURus, CE, RoHS, CSA, Halogen-free | |
| Resistance, Max. | | 18.3 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN | |
| Dielectric Withstanding, Min. | | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX | |
| Return Loss | | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN 10 ≤ f < 20 MHz: 25 dB MIN 20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN | |
| Near End Crosstalk (NEXT) | | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN | | Cross Section | |  | |
| Power Sum Near End Crosstalk (PSNEXT) | | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN | | | | | |
| TCL | | N/A | | | | | |
| ELTCTL | | N/A | | | | | |
| Velocity of Propagation | | 0.69 | | | | | |
| Delay | | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | | 4 ≤ f ≤ 100 MHz: Max 45ns | | | | | |

* See web store www.AutomationDirect.com for maximum cut lengths

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Sensor / Actuator Cable (Unshielded)

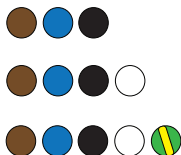


Conductor Colors:

3 Conductor

4 Conductor

5 Conductor



Overview

Flexible multi-conductor sensor/actuator cable from AutomationDirect is available in 24AWG and 22AWG with 3, 4 or 5 unshielded conductors. Individual conductors are bare copper and stranded for flexibility, with color coded PVC insulation for easy identification. The cable's outer jacket is a flexible PVC available in either gray or yellow. Although not suitable for continuous flexing applications, these cables are ideal for both stationary and flexible industrial factory automation applications with limited mechanical stress and free movement without any tensile stress, loads or forced movements.

AutomationDirect flexible multi-conductor sensor/actuator cable carries both UL and CSA approvals and can easily be terminated using field wireable connectors also available from AutomationDirect. Eliminate unnecessary expense and waste by ordering only the length needed in 1 foot increments with a low 30 foot minimum.

Features

- 24AWG and 22AWG, 3, 4 or 5 conductors
- Unshielded
- PVC conductor insulation with color code for easy identification
- PVC outer jacket available in gray or yellow
- Pressure extruded jacket for optimal roundness
- Flexibility for easy installation
- Made in the USA
- UL and CSA approvals
- Order cut to length in 1 foot increments eliminating expense and waste
- Ideal for use with Field Wireable Connectors also available from AutomationDirect



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable



Field Wireable Connectors

Insulation Displacement Connectors (IDC)

Features

- IDC (insulation displacement connection) allows quick termination without stripping conductors
- Various cable gauges and diameters accepted
- M8 and M12 connector types available



M12 Field Wireable Screw Connectors

Features



- IP67 rated once properly assembled
- Various cable gauges and diameters accepted
- Plastic housings with good resistance against chemicals and oils



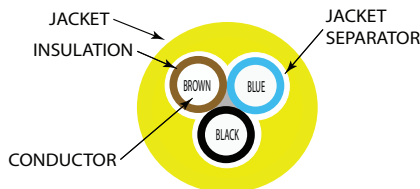
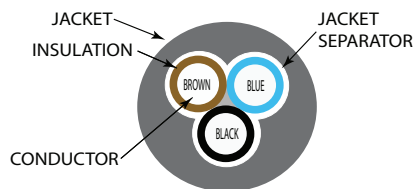
See www.AutomationDirect.com for our full offering of Field Wireable Connectors.

24AWG 3-Conductor Sensor / Actuator Cable (Unshielded)

| 24AWG 3-Conductor Bulk Sensor / Actuator Cable Specifications (Unshielded) | | | |
|--|----------------------------------|-------------------------------------|---|
| Conductors Gauge & Stranding | 24AWG 19/36 Stranded bare copper | Insulated Conductor Diameter | 0.045 in Nominal |
| Voltage Rating | 300V | Minimum Bend Radius (in.) | 10x Diameter |
| Temperature Rating, Max. | 176°F (80°C) | Overall Diameter | 0.167 in. Nominal |
| Temperature Rating, Min. | -4°F (-20°C) | Jacket Color | Gray or Yellow |
| Cold Bend Test | -40°F (-40°C) | Jacket Thickness | 0.032 in. Nominal |
| Capacitance, Mutual, Nom. | 23.13 PF/FT. | Jacket Material | Pressure extruded Polyvinylchloride (PVC) |
| Impedance | 92.62 Ω | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 23.4 Ω / 1000ft | Oil Resistance | Yes |
| Conductor Twist / Lay | 1.625" Maximum left hand lay | Flame Retardant | FT-1 |
| Filler Material | N/A | Approvals | UR AWM STYLE 2464 80C 300V CSA AWM I/II A/B 80C 300V |
| Jacket Separator | Tissue tape 25% overlap | | |
| Conductor Insulation Material | Polyvinylchloride (PVC) | | |
| Conductor Identification | Black, Brown, Blue | Sample Print Legend | AutomationDirect - SAC-24-3U-1xx-1 E505482 AWM 2464 80C 300V -- LL274638 CSA AWM I/II A/B 80C 300V FT1 |
| Conductor Insulation Wall Thickness | 0.010 in. Nominal | | |
| Bare Conductor Diameter | 0.025 in. Nominal | | |

| 24AWG 3-Conductor Bulk Sensor / Actuator Cable Selection | | | | | | | |
|---|--------------|----------------------|-----|--------|--------------------------|----------------------------|----------------|
| Part Number | Jacket Color | Number of Conductors | AWG | Strand | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| SAC-24-3U-1GY-1 | Gray | 3 | 24 | 19/36 | 30 | 0.0150 | \$0.38 |
|  | | | | | | | |
| SAC-24-3U-1YL-1 | Yellow | 3 | 24 | 19/36 | 30 | 0.0150 | \$0.37 |

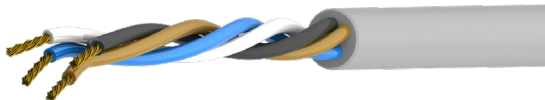

* See web store for maximum cut lengths



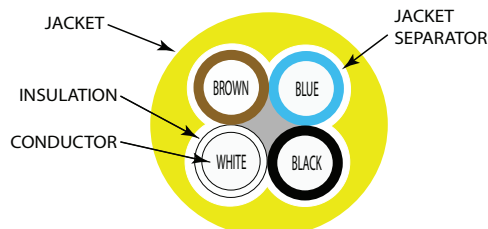
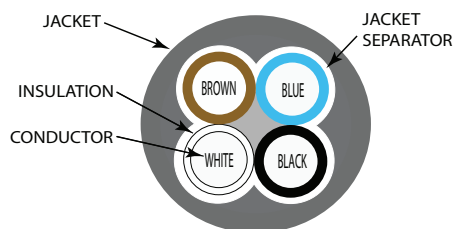
Please Note: Our prices on Bulk Sensor / Actuator Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

24AWG 4-Conductor Sensor / Actuator Cable (Unshielded)

| 24AWG 4-Conductor Bulk Sensor / Actuator Cable Specifications (Unshielded) | | | |
|--|----------------------------------|-------------------------------------|---|
| Conductors Gauge & Stranding | 24AWG 19/36 Stranded bare copper | Insulated Conductor Diameter | 0.045 in. Nominal |
| Voltage Rating | 300V | Minimum Bend Radius (in.) | 10x Diameter |
| Temperature Rating, Max. | 176°F (80°C) | Overall Diameter | 0.178 in. Nominal |
| Temperature Rating, Min. | -4°F (-20°C) | Jacket Color | Gray or Yellow |
| Cold Bend Test | -40°F (-40°C) | Jacket Thickness | 0.032 in. Nominal |
| Capacitance, Mutual, Nom. | 23.13 PF/FT. | Jacket Material | Pressure extruded Polyvinylchloride (PVC) |
| Impedance | 92.62 Ω | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 23.4 Ω / 1000ft | Oil Resistance | Yes |
| Conductor Twist / Lay | 1.8" Maximum left hand lay | Flame Retardant | FT-1 |
| Filler Material | N/A | Approvals | UR AWM STYLE 2464 80C 300V CSA AWM I/II A/B 80C 300V |
| Jacket Separator | Tissue tape 25% overlap | | |
| Conductor Insulation Material | Polyvinylchloride (PVC) | | |
| Conductor Identification | Black, Brown, Blue, White | Sample Print Legend | AutomationDirect – SAC-24-4U-1xx-1 E505482 AWM 2464 80C 300V -- LL274638 CSA AWM I/II A/B 80C 300V FT1 |
| Conductor Insulation Wall Thickness | 0.010 in. Nominal | | |
| Bare Conductor Diameter | 0.025 in. Nominal | | |

| 24AWG 4-Conductor Bulk Sensor / Actuator Cable Selection | | | | | | | |
|---|--------------|----------------------|-----|--------|--------------------------|----------------------------|----------------|
| Part Number | Jacket Color | Number of Conductors | AWG | Strand | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| SAC-24-4U-1GY-1 | Gray | 4 | 24 | 19/36 | 30 | 0.0178 | \$0.43 |
|  | | | | | | | |
| SAC-24-4U-1YL-1 | Yellow | 4 | 24 | 19/36 | 30 | 0.0178 | \$0.43 |

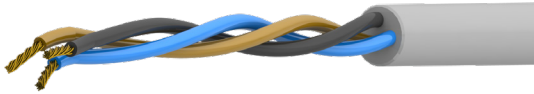

* See web store for maximum cut lengths



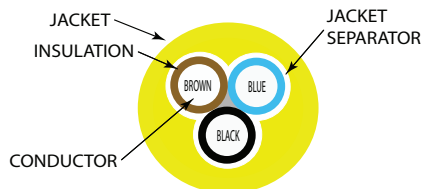
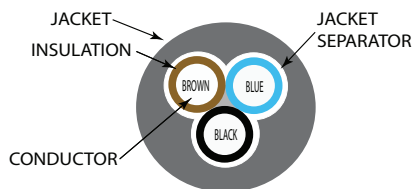
Please Note: Our prices on Bulk Sensor / Actuator Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

22AWG 3-Conductor Sensor / Actuator Cable (Unshielded)

| 22AWG 3-Conductor Bulk Sensor / Actuator Cable Specifications (Unshielded) | | | |
|--|----------------------------------|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 19/34 Stranded bare copper | Insulated Conductor Diameter | 0.050 in. Nominal |
| Voltage Rating | 300V | Minimum Bend Radius (in.) | 10x Diameter |
| Temperature Rating, Max. | 176°F (80°C) | Overall Diameter | 0.177 in. Nominal |
| Temperature Rating, Min. | -4°F (-20°C) | Jacket Color | Gray or Yellow |
| Cold Bend Test | -40°F (-40°C) | Jacket Thickness | 0.032 in. Nominal |
| Capacitance, Mutual, Nom. | 25 PF/FT. | Jacket Material | Pressure extruded Polyvinylchloride (PVC) |
| Impedance | 85.64 Ω | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 14.6 Ω / 1000ft | Oil Resistance | Yes |
| Conductor Twist / Lay | 1.75" Maximum left hand lay | Flame Retardant | FT-1 |
| Filler Material | N/A | Approvals | UR AWM STYLE 2464 80C 300V CSA AWM I/II A/B 80C 300V |
| Jacket Separator | Tissue tape 25% overlap | | |
| Conductor Insulation Material | Polyvinylchloride (PVC) | | |
| Conductor Identification | Black, Brown, Blue | Sample Print Legend | AutomationDirect – SAC-22-3U-1xx-1 E505482 AWM 2464 80C 300V -- LL274638 CSA AWM I/II A/B 80C 300V FT1 |
| Conductor Insulation Wall Thickness | 0.010 in. Nominal | | |
| Bare Conductor Diameter | 0.030 in. Nominal | | |

| 22AWG 3-Conductor Bulk Sensor / Actuator Cable Selection | | | | | | | |
|---|--------------|----------------------|-----|--------|--------------------------|----------------------------|----------------|
| Part Number | Jacket Color | Number of Conductors | AWG | Strand | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| SAC-22-3U-1GY-1 | Gray | 3 | 22 | 19/34 | 30 | 0.0185 | \$0.43 |
|  | | | | | | | |
| SAC-22-3U-1YL-1 | Yellow | 3 | 22 | 19/34 | 30 | 0.0185 | \$0.43 |

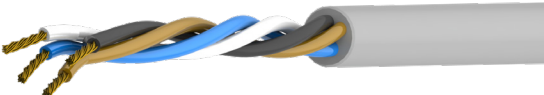

* See web store for maximum cut lengths



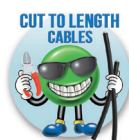
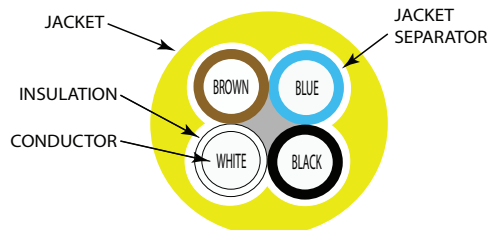
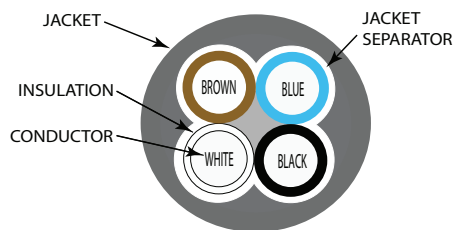
Please Note: Our prices on Bulk Sensor / Actuator Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

22AWG 4-Conductor Sensor / Actuator Cable (Unshielded)

| 22AWG 4-Conductor Bulk Sensor / Actuator Cable Specifications (Unshielded) | | | |
|--|----------------------------------|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 19/34 Stranded bare copper | Insulated Conductor Diameter | 0.050 in. Nominal |
| Voltage Rating | 300V | Minimum Bend Radius (in.) | 10x Diameter |
| Temperature Rating, Max. | 176°F (80°C) | Overall Diameter | 0.190 in. Nominal |
| Temperature Rating, Min. | -4°F (-20°C) | Jacket Color | Gray or Yellow |
| Cold Bend Test | -40°F (-40°C) | Jacket Thickness | 0.032 in. Nominal |
| Capacitance, Mutual, Nom. | 25 PF/FT. | Jacket Material | Pressure extruded Polyvinylchloride (PVC) |
| Impedance | 85.64 Ω | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 14.6 Ω / 1000ft | Oil Resistance | Yes |
| Conductor Twist / Lay | 2" Maximum left hand lay | Flame Retardant | FT-1 |
| Filler Material | N/A | Approvals | UR AWM STYLE 2464 80C 300V CSA AWM I/II A/B 80C 300V |
| Jacket Separator | Tissue tape 25% overlap | | |
| Conductor Insulation Material | Polyvinylchloride (PVC) | | |
| Conductor Identification | Black, Brown, Blue, White | Sample Print Legend | AutomationDirect – SAC-22-4U-1xx-1 E505482 AWM 2464 80C 300V -- LL274638 CSA AWM I/II A/B 80C 300V FT1 |
| Conductor Insulation Wall Thickness | 0.010 in. Nominal | | |
| Bare Conductor Diameter | 0.030 in. Nominal | | |

| 22AWG 4-Conductor Bulk Sensor / Actuator Cable Selection | | | | | | | |
|--|--------------|----------------------|-----|--------|--------------------------|----------------------------|----------------|
| Part Number | Jacket Color | Number of Conductors | AWG | Strand | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | |
| SAC-22-4U-1GY-1 | Gray | 4 | 22 | 19/34 | 30 | 0.0224 | \$0.50 |
|  | | | | | | | |
| SAC-22-4U-1YL-1 | Yellow | 4 | 22 | 19/34 | 30 | 0.0224 | \$0.50 |

* See web store for maximum cut lengths



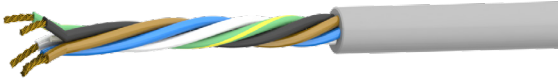
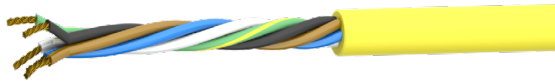
Please Note: Our prices on Bulk Sensor / Actuator Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

22AWG 5-Conductor Sensor / Actuator Cable (Unshielded)

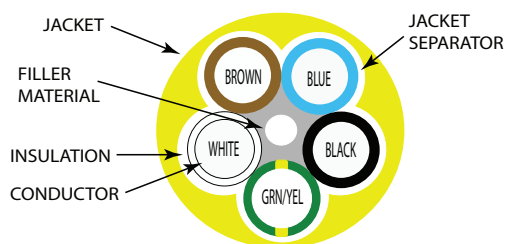
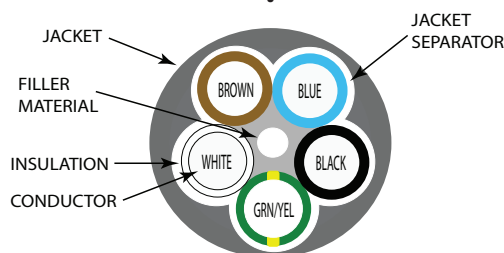
22AWG 5-Conductor Bulk Sensor / Actuator Cable Specifications (Unshielded)

| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 19/34 Stranded bare copper | Insulated Conductor Diameter | 0.050 in. Nominal |
| Voltage Rating | 300V | Minimum Bend Radius (in.) | 10x Diameter |
| Temperature Rating, Max. | 176°F (80°C) | Overall Diameter | 0.204 in. Nominal |
| Temperature Rating, Min. | -4°F (-20°C) | Jacket Color | Gray or Yellow |
| Cold Bend Test | -40°F (-40°C) | Jacket Thickness | 0.032 in. Nominal |
| Capacitance, Mutual, Nom. | 25 PF/FT. | Jacket Material | Pressure extruded Polyvinylchloride (PVC) |
| Impedance | 85.64 | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 14.6 Ω / 1000ft | Oil Resistance | Yes |
| Conductor Twist / Lay | 2" Maximum left hand lay | Flame Retardant | FT-1 |
| Filler Material | Polypropylene (PP) cord | Approvals | UR AWM STYLE 2464 80C 300V CSA AWM I/II A/B 80C 300V |
| Jacket Separator | Tissue tape 25% overlap | | |
| Conductor Insulation Material | Polyvinylchloride (PVC) | | |
| Conductor Identification | Black, Brown, Blue, White, Green/Yellow stripe | Sample Print Legend | AutomationDirect – SAC-22-5U-1xx-1 E505482 AWM 2464 80C 300V -- LL274638 CSA AWM I/II A/B 80C 300V FT1 |
| Conductor Insulation Wall Thickness | 0.010 in. Nominal | | |
| Bare Conductor Diameter | 0.030 in. Nominal | | |

22AWG 5-Conductor Bulk Sensor / Actuator Cable Selection

| Part Number | Jacket Color | Number of Conductors | AWG | Strand | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|--|--------------|----------------------|-----|--------|--------------------------|----------------------------|----------------|
|  | | | | | | | |
| <u>SAC-22-5U-1GY-1</u> | Gray | 5 | 22 | 19/34 | 30 | 0.0265 | \$0.60 |
|  | | | | | | | |
| <u>SAC-22-5U-1YL-1</u> | Yellow | 5 | 22 | 19/34 | 30 | 0.0265 | \$0.60 |

* See web store for maximum cut lengths



Please Note: Our prices on Bulk Sensor / Actuator Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



IO-Link PVC - Unshielded



LUTZE IO-Link cable from AutomationDirect is available in 22AWG to 16AWG with 3, 4 and 5 conductors. This unshielded signal & control cable is ideal for connecting IO-Link devices to a master and can also be used in conventional applications where IO-Link is not required. With multiple ratings and approvals, LUTZE IO-Link cable has the versatility to meet a wide range of industrial applications. Given its Tray Cable Exposed Run rating, UL Type TC-ER or Power Limited Tray Cable Tray Cable, UL Type PLTC-ER, the cable can be installed between a cable tray and the utilization equipment or device without the need for metal conduit and/or armor resulting in installation and maintenance savings. Cut-to-length in 1-foot increments with a 20-foot minimum length.

- AWG conductor
- Flexible fine wire stranded tinned copper conductors
- PVC/nylon insulation
- Oil-resistant PVC jacket
- Yellow jacket similar to RAL 1021

Applications

- Multi-conductor industrial grade IO-Link cable
- Sensors, actuators, digital IO hubs, and field devices used in process instrumentation and controls
- Compliant with NFPA 79 requirements
- TC-ER-JP for use with cable trays without conduit
- WTTC – wind turbine tray cable rating for use in wind power generation
- PLTC-ER – power limited tray cable exposed run
- ITC-ER – instrumentation tray cable
- Dry, damp, or wet locations

Features

- Flexible for easy installation
- Crush and impact resistant
- Non-wicking fillers
- Color-coded conductors
- Specially formulated jacket for oil resistance
- Flame retardant
- Direct burial (AWG 18 and larger)
- Sunlight resistant
- Gas/vapor-tight sheath per UL 1277 & 13
- Talc and silicone free



Please Note: Our prices on IO-Link cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Conductor Colors:

- 1 - Blue
- 2 - Black
- 3 - Brown
- 4 - White
- 5 - Grey



Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable




LUTZE IO-Link Cable Specifications

| | | | | |
|---|--|---|----------------------------|--|
| Power Conductors Gauge & Stranding | 22AWG (7 strands) to 16AWG (26 strands), Class K flexible stranded bare copper | | Bending Radius Min. | 4 x cable OD |
| Voltage Rating | AWG 22-20: 300V 90C PLTC-ER 300V 90C ITC-ER 600V MTW 1000V 80C AWM | AWG 18-16 600V 90C TC-ER-JP 1000V 90V WTTC 600V MTW 1000V 80C AWM | Approvals* | UL/AWM/CE AWM Style 20886 (UL) Type MTW or DP-1 Meets NEC 336, 392, 725, 727 Class I & II, Div. 2 and Class I Zone 2 per NEC 501, 502, 505 c(UL) TC and CIC FT4 UL 1277 & 13 RoHS, REACH, TSCA |
| Outer Jacket Material | PVC (Polyvinyl chloride) | | | |
| Outer Jacket Color | Yellow with black print | | | |
| Minimum Temperature | -40°F (-40°C) | | | |
| Temperature Ratings | -40°F to +221°F (-40°C to +105°C) | | Sample Print Legend | www.lutze.com LUTZE XXXXXXXX IO-LINK AWGxx-xC -- (UL) Type MTW "FLEXING" E324458 90C 600V OR PLTC-ER SUN RES OIL RES II -40C OR ITC-ER OR AWM 20886 80C 1000V - LL91737 CSA AMW I/II A/B 90C 600V FT4 - P07-KA090006-MSHA CE ROHS CE-46 2217 MADE IN USA xxxxxxxxft or www.lutze.com LUTZE XXXXXXXX IO-LINK AWGxx-xC -- (UL) Type TC-ER-JP 90C 600V SUN RES DIR BUR OIL RES II -40C OR MTW "CLASS K" OR WTTC E324638 1000V 90 DRY OR DP-1 OR ITC-ER OR PLTC-ER c9UL) TYPE CIC PVC/NCONTROL FT4 OR AWM 20886 80C 1000V - P-07-KA090006-MSHA CE ROHS CE-46 2228 MADE IN USA xxxxxxxxft |
| Oil Resistance | Oil Res II | | | |
| Conductor Insulation | PVC / Nylon | | | |

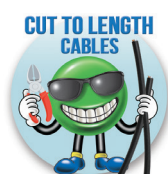
See web store for maximum cut lengths

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

22AWG IO-Link PVC - Unshielded Cable




| 22AWG IO-Link PVC - Unshielded Cable | | | | | | | | | |
|--|--------------|----------------------|-----|--------|--------------------------|-----------------|--------------------------|----------------------------|----------------|
| Part Number | Jacket Color | Number of Conductors | AWG | Strand | Minimum Cut Length (ft)* | Nominal OD (in) | Minimum Bend Radius (in) | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | | | |
| <u>A1022203-1</u> | Yellow | 3 | 22 | 7/30 | 20 | 0.260 | 1.04 | 0.034 | \$1.11 |
|  | | | | | | | | | |
| <u>A1022204-1</u> | Yellow | 4 | 22 | 7/30 | 20 | 0.276 | 1.10 | 0.040 | \$1.27 |
|  | | | | | | | | | |
| <u>A1022205-1</u> | Yellow | 5 | 22 | 7/30 | 20 | 0.300 | 1.20 | 0.048 | \$1.52 |

* See web store for maximum cut lengths

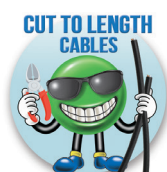


Please Note: Our prices on IO-Link cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

20AWG IO-Link PVC - Unshielded Cable




| 20AWG IO-Link PVC - Unshielded Cable | | | | | | | | | |
|--|--------------|----------------------|-----|--------|--------------------------|-----------------|--------------------------|----------------------------|----------------|
| Part Number | Jacket Color | Number of Conductors | AWG | Strand | Minimum Cut Length (ft)* | Nominal OD (in) | Minimum Bend Radius (in) | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | | | |
| <u>A1022003-1</u> | Yellow | 3 | 20 | 10/30 | 20 | 0.271 | 1.08 | 0.039 | \$1.25 |
|  | | | | | | | | | |
| <u>A1022004-1</u> | Yellow | 4 | 20 | 10/30 | 20 | 0.292 | 1.17 | 0.047 | \$1.52 |
|  | | | | | | | | | |
| <u>A1022005-1</u> | Yellow | 5 | 20 | 10/30 | 20 | 0.315 | 1.26 | 0.055 | \$1.62 |

* See web store for maximum cut lengths

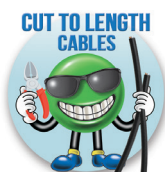


Please Note: Our prices on IO-Link cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

18AWG IO-Link PVC - Unshielded Cable




| 18AWG IO-Link PVC - Unshielded Cable | | | | | | | | | |
|--|--------------|----------------------|-----|--------|--------------------------|-----------------|--------------------------|----------------------------|----------------|
| Part Number | Jacket Color | Number of Conductors | AWG | Strand | Minimum Cut Length (ft)* | Nominal OD (in) | Minimum Bend Radius (in) | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | | | |
| <u>A1021803-1</u> | Yellow | 3 | 18 | 19/30 | 20 | 0.295 | 1.18 | 0.051 | \$1.47 |
|  | | | | | | | | | |
| <u>A1021804-1</u> | Yellow | 4 | 18 | 19/30 | 20 | 0.317 | 1.27 | 0.062 | \$1.78 |
|  | | | | | | | | | |
| <u>A1021805-1</u> | Yellow | 5 | 18 | 19/30 | 20 | 0.345 | 1.38 | 0.076 | \$2.25 |

* See web store for maximum cut lengths

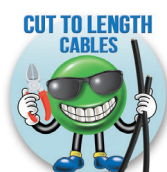


Please Note: Our prices on IO-Link cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16AWG IO-Link PVC - Unshielded Cable

| 16AWG IO-Link PVC - Unshielded Cable | | | | | | | | | |
|--|--------------|----------------------|-----|--------|--------------------------|-----------------|--------------------------|----------------------------|----------------|
| Part Number | Jacket Color | Number of Conductors | AWG | Strand | Minimum Cut Length (ft)* | Nominal OD (in) | Minimum Bend Radius (in) | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | | | |
| <u>A1021603-1</u> | Yellow | 3 | 16 | 26/30 | 20 | 0.321 | 1.28 | 0.062 | \$1.85 |
|  | | | | | | | | | |
| <u>A1021604-1</u> | Yellow | 4 | 16 | 26/30 | 20 | 0.350 | 1.40 | 0.077 | \$2.28 |
|  | | | | | | | | | |
| <u>A1021605-1</u> | Yellow | 5 | 16 | 26/30 | 20 | 0.375 | 1.50 | 0.092 | \$2.77 |

* See web store for maximum cut lengths



Please Note: Our prices on IO-Link cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Control and Signal Cable



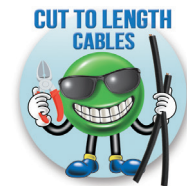
Control and signal cable from Quabbin is available in sizes from 24 AWG to 16 AWG with up to 25 conductors. These are available either in unshielded or shielded constructions. Individual conductors are stranded tinned copper with color coded insulation for easy identification, with an industry standard PVC chrome gray jacket. Shielded versions include an overall aluminum mylar foil tape with a tinned copper drain wire for maximum effectiveness against external electrical noise interference.

With a 300 and 600 volt rating, these cables are ideal for low voltage control signals and audio applications.

The 4-conductor unshielded versions are designed to work directly with our SureStep® STP-DRV drives for applications where a longer cable is required. The cables carry both UL and CSA approvals and are proudly made in the USA. Combining all that with our cut to length ordering, eliminates unnecessary expense and waste by ordering only the length needed, in 1 foot increments with a low 30 foot minimum, makes these cables a great value.

Quabbin Control and Signal Cable Application Examples

| Part Number | Common Application |
|-------------------------|---|
| Q8508-1 | Low capacitance, RS-232 computer interconnect, extended distance cable, RoHS compliant materials |
| Q8215-1 | |
| Q8205-1 | RS-232 computer interconnect, instrumentation, audio, broadcast, Class 2 circuits, RoHS compliant materials |
| Q8200-1 | |
| Q8195-1 | |
| Q8190-1 | Computer interconnect, instrumentation, audio, broadcast, RoHS compliant materials |
| Q8185-1 | |
| Q8180-1 | |
| Q8175-1 | RS-232 computer interconnect, instrumentation, audio, broadcast, Class 2 circuits, RoHS compliant materials |
| Q8170-1 | |
| Q8165-1 | |
| Q8138-1 | Instrumentation, audio, control cable |
| Q8138-1 | RS-232 computer interconnect, audio, and instrumentation cable, RoHS compliant materials |
| Q8110-1 | RoHS compliant materials |
| Q7565-1 | Communication, data and control cable, RoHS compliant materials |
| Q7560-1 | |
| Q7555-1 | |
| Q7545-1 | |
| Q7535-1 | |
| Q7525-1 | |
| Q7465-1 | |
| Q7395-1 | |
| Q7325-1 | |
| Q7320-1 | |
| Q7315-1 | Instrumentation, audio, control cable |
| Q7175-1 | Instrumentation, audio, and broadcast cable, RoHS compliant materials |
| Q7170-1 | |
| Q7165-1 | |
| Q7160-1 | |
| Q7155-1 | |
| Q7150-1 | RS-232 computer interconnect, control and audio cable, RoHS compliant materials |
| Q7145-1 | |
| Q7140-1 | |
| Q7135-1 | |
| Q7131-1 | |
| Q7125-1 | Instrumentation, audio, control cable, stepper motor control |



Control and Signal Cable

Quabbin Control and Signal Cable Application Examples (continued)

| Part Number | Common Application |
|--------------------------------|---|
| <u>Q7121-1</u> | Instrumentation, audio, control cable |
| <u>Q7120-1</u> | RS-232 computer interconnect, control and audio cable, RoHS compliant materials |
| <u>Q7115-1</u> | Instrumentation, audio, control cable |
| <u>Q6151-1</u> | Data and computer interconnect cable, RoHS compliant materials |
| <u>Q6145-1</u> | Instrumentation, audio, broadcast cable, RoHS compliant materials |
| <u>Q6140-1</u> | Instrumentation, audio, broadcast cable |
| <u>Q6130-1</u> | Instrumentation, audio and control cable, RoHS compliant materials |
| <u>Q6100-1</u> | Instrumentation, audio, control cable, stepper motor control |
| <u>Q4560-1</u> | Instrumentation, audio, broadcast cable |
| <u>Q4177-1</u> | Instrumentation, audio, broadcast cable, RoHS compliant materials |
| <u>Q4175-1</u> | |
| <u>Q4170-1</u> | |
| <u>Q4165-1</u> | Instrumentation, audio, broadcast cable |
| <u>Q4140-1</u> | Instrumentation, audio and control cable, RoHS compliant materials |
| <u>Q4135-1</u> | |
| <u>Q4130-1</u> | |
| <u>Q4125-1</u> | |
| <u>Q4120-1</u> | |
| <u>Q4110-1</u> | |
| <u>Q4105-1</u> | |
| <u>Q4100-1</u> | Instrumentation, audio, control cable, stepper motor control |
| <u>Q3130-1</u> | Instrumentation, audio and control cable, RoHS compliant materials |
| <u>Q3100-1</u> | Instrumentation, audio, control cable, stepper motor control |
| <u>Q0225-1</u> | Process system interconnect, power limited tray cable, instrumentation tray cable, class 3 circuits, RoHS compliant materials |
| <u>Q0220-1</u> | Process system interconnect, power limited tray cable, instrumentation tray cable, class 3 circuits |
| <u>Q0200-1</u> | Process system interconnect, power limited tray cable, instrumentation tray cable, class 3 circuits, RoHS compliant materials |
| <u>Q0195-1</u> | |
| <u>Q0190-1</u> | |
| <u>Q0170-1</u> | |
| <u>Q0165-1</u> | Process system interconnect, power limited tray cable, instrumentation tray cable, class 3 circuits |
| <u>Q0160-1</u> | Process system interconnect, power limited tray cable, instrumentation tray cable, class 3 circuits, RoHS compliant materials |
| <u>Q0140-1</u> | Process system interconnect, power limited tray cable, instrumentation tray cable, class 3 circuits |

Control and Signal Cable

| Control & Signal Cable Cross-Reference | | | | | | | |
|--|--------|---------|--------|----------|----------------|---|---|
| ADC | Belden | Quabbin | Carol | Alpha | Lake | Description | Colors |
| <u>Q8508-1</u> | --- | 8508 | --- | --- | --- | 24AWG, 4 twisted pairs, shielded, PVC, chrome gray, | bk-wh/wh-bk/gn-wh/rd-wh |
| <u>Q8215-1</u> | 9543 | 8215 | --- | 6309 | C2425CST-45BLD | 24AWG, 25-conductor, shielded, PVC, chrome gray | bk/wh/rd/gn/or/bu/wh-bk/rd-bk/gn-bk/or-bk/ bu-bk/bk-wh/rd-wh/gn-wh/bu-wh/bk-rd/wh-rd/ or-wh/bu-rd/rd-gn/bk-wh-rd/wh-bk-rd/ rd-bk-wh/gn-bk-wh |
| <u>Q8205-1</u> | 9541 | 8205 | --- | 6307 | C2415CST-45 | 24AWG, 15-conductor, shielded, PVC, chrome gray | bk/wh/rd/gn/or/bu/wh-bk/rd-bk/gn-bk/or-bk/ bu-bk/bk-wh/rd-wh/gn-wh/bu-wh |
| <u>Q8200-1</u> | 9540 | 8200 | --- | --- | C2410CST-45 | 24AWG, 10-conductor, shielded, PVC, chrome gray | bk/wh/rd/gn/br/bu/or/yl/vi/gr |
| <u>Q8195-1</u> | 9539 | 8195 | --- | --- | C2410CST-45 | 24AWG, 9-conductor, shielded, PVC, chrome gray | bk/wh/rd/gn/br/bu/or/yl/vi |
| <u>Q8190-1</u> | 9538 | 8190 | --- | --- | C2410CST-45 | 24AWG, 8-conductor, shielded, PVC, chrome gray | bk/wh/rd/gn/br/bu/or/yl |
| <u>Q8185-1</u> | 9537 | 8185 | --- | --- | C247CST-45 | 24AWG, 7-conductor, shielded, PVC, chrome gray | bk/wh/rd/gn/br/bu/or |
| <u>Q8165-1</u> | 9533 | 8165 | C0741A | 6300/3 | C243CST-45 | 24AWG, 3-conductor, shielded, PVC, chrome gray | bk/rd/wh |
| <u>Q8170-1</u> | 9534 | 8170 | C0742A | 6300/4 | C244CST-BLD | 24AWG, 4-conductor, shielded, PVC, chrome gray | bk/rd/wh/gn |
| <u>Q8175-1</u> | 9535 | 8175 | C0753A | 6305 | C245CST-45 | 24AWG, 5-conductor, shielded, PVC, chrome gray, | bk/rd/wh/gn/bn |
| <u>Q8180-1</u> | 9536 | 8180 | C0743A | 6306 | B246CST | 24AWG, 6-conductor, shielded, PVC, chrome gray | bk/rd/wh/gn/bn/bu |
| <u>Q8138-1</u> | 9508 | 8138 | --- | 5478/C | B248PRCST-45 | 24AWG, 8 twisted pairs, shielded, PVC, chrome gray | bk.rd/bk.wh/bk.gn/bk.bu/bk.yl/bk.br/bk.or/rd.wh |
| <u>Q8110-1</u> | 9502 | 8110 | --- | 5472/C | B242PRCS | 24AWG, 2 twisted pairs, shielded, PVC, chrome gray | bk.rd/bk.wh |
| <u>Q7115-1</u> | 8442 | 7115 | C6348A | 1172C | B222CT | 22AWG, 2-conductor, unshielded, PVC, chrome gray | bk/rd |
| <u>Q7120-1</u> | --- | 7120 | --- | 1173C | --- | 22AWG, 3-conductor, unshielded, PVC, chrome gray | bk/rd/wh |
| <u>Q7121-1</u> | 9443 | 7121 | C4062A | 1173C | C223CT | 22AWG, 3-conductor, unshielded, PVC, chrome gray | bk/rd/gn |
| <u>Q7125-1</u> | 8444 | 7125 | C4063A | 1174C | B224CT | 22AWG, 4-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn |
| <u>Q7131-1</u> | 8445 | 7131 | C4064 | 1175C | 225CT | 22AWG, 5-conductor, unshielded, PVC, chrome gray | bk/wh/rd/gn/br |
| <u>Q7135-1</u> | --- | 7135 | --- | 1176C | --- | 22AWG, 6-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn/bu/or |
| <u>Q7140-1</u> | 9430 | 7140 | C4088 | 1177C | --- | 22AWG, 7-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn/or/bu/br |
| <u>Q7145-1</u> | 9421 | 7145 | C4065 | 1178C | B228CT-45 | 22AWG, 8-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn/bn/bu/or/yl |
| <u>Q7150-1</u> | 9423 | 7150 | C4070 | 1179C | --- | 22AWG, 9-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn/or/bu/br/yl/vi |
| <u>Q7155-1</u> | 8456 | 7155 | C4071 | 1180C | --- | 22AWG, 10-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn/or/bu/br/yl/vi/gr |
| <u>Q7160-1</u> | 8457 | 7160 | C4607 | 1181C | C2212CT-2464 | 22AWG, 12-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn/bn/bu/or/yl/vi/gr/pk/tn |
| <u>Q7165-1</u> | --- | 7165R | --- | 1181/15C | --- | 22AWG, 15-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn/or/bu/br/yl/vi/gr/pk/tn/ rd-gn/rd-yl/rd-bk |
| <u>Q7170-1</u> | --- | 7170 | --- | 1181/20C | --- | 22AWG, 20-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn/or/bu/br/yl/vi/gr/pk/tn/rd-gn/ rd-yl/rd-bk/wh-bk/wh-rd/wh-gn/wh-yl/wh-bl |
| <u>Q7175-1</u> | --- | 7175 | --- | 1181/25C | --- | 22AWG, 25-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn/or/bu/br/yl/vi/gr/pk/tn/rd-gn/ rd-yl/rd-bk/wh-bk/wh-rd/wh-gn/wh-yl/wh-bl/ wh-br/wh-or/wh-gr/wh-vi/wh-bk-rd |

Control and Signal Cable

| Control & Signal Cable Cross-Reference | | | | | | | |
|--|--------|---------|--------|----------|------------------|---|---|
| ADC | Belden | Quabbin | Carol | Alpha | Lake | Description | Colors |
| Q7315-1 | 8451 | 7315 | C2516A | 2461C | 222CSTPP | 22AWG, 2-conductor, shielded, PVC, chrome gray | bk/rd |
| Q7320-1 | 8761 | 7320 | C2514 | 2401/C | C222CSTP-45 | 22AWG, 2-conductor, shielded, PVC, chrome gray | cl/bk |
| Q7325-1 | 8771 | 7325 | C2526 | 1294C | 223CSP | 22AWG, 3-conductor, shielded, PVC, chrome gray | bk/rd/cl |
| Q7395-1 | 8723 | 7395 | C1352 | 2466C | B222PRT | 22AWG, 2 twisted pairs, shielded, PVC, chrome gray | bk/rd/wh/gn |
| Q7465-1 | 8724 | 7465 | C1340 | 2464/C | B222PROT | 22AWG, 2 twisted pair, shielded, PVC, chrome gray | bk-rd-wh-gn |
| Q7565-1 | --- | 7565 | --- | 1299/15C | --- | 22AWG, 15-conductor, shielded, PVC, chrome gray | bk/rd/wh/gn/or/bu/br/yl/vi/gr/pk/tn/ rd-gn/rd-yl/rd-bk |
| Q7560-1 | --- | 7560 | --- | 1299/12C | --- | 22AWG, 12-conductor, shielded, PVC, chrome gray | bk/rd/wh/gn/or/bu/br/yl/vi/gr/pk/tn |
| Q7555-1 | --- | 7555 | --- | 1299/10C | --- | 22AWG, 10-conductor, shielded, PVC, chrome gray | bk/rd/wh/gn/or/bu/br/yl/vi/gr |
| Q7545-1 | --- | 7545 | --- | 1298C | --- | 22AWG, 8-conductor, shielded, PVC, chrome gray | bk/rd/wh/gn/or/bu/br/yl |
| Q7535-1 | --- | 7535 | C0763 | 1296C | --- | 22AWG, 6-conductor, shielded, PVC, chrome gray | bk/rd/wh/gn/bu/or |
| Q7525-1 | --- | 7525 | C0762 | 1294C | --- | 22AWG, 4-conductor, shielded, PVC, chrome gray | bk/rd/wh/gn |
| Q6100-1 | 9444 | 6100 | C6353A | 1317C | C204Ct | 20AWG, 4-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn |
| Q6130-1 | 8205 | 6130 | C6351 | 1895C | B202CT | 20AWG, 1 twisted pair, unshielded, PVC, chrome gray | bk/rd |
| Q6140-1 | 8762 | 6140 | C2524A | 2411C | 202CSP | 20AWG, 2-conductor, shielded, PVC, chrome gray | bk/cl |
| Q6145-1 | 8772 | 6145 | C2528 | 2413C | 203CSP | 20AWG, 3-conductor, shielded, PVC, chrome gray | bk/rd/cl |
| Q6151-1 | --- | 6151 | --- | --- | --- | 20AWG, 2 twisted pair, shielded, PVC, chrome gray | bk/rd x gn/wh |
| Q4560-1 | 9740 | 4560 | C8116 | 1897C | B182CT16 | 18AWG, 2-conductor, unshielded, PVC, chrome gray | bk/rd |
| Q4100-1 | 8489 | 4100 | C2404A | 1858/4C | C184T(16)-2598 | 18AWG, 4-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn |
| Q4105-1 | 8465 | 4105 | C2420 | 1898/5C | B185CT(19)-45 | 18AWG, 5-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn/bn |
| Q4110-1 | 8489 | 4110 | C2404 | 1898/4C | B184CT(19)-45 | 18AWG, 7-conductor, unshielded, PVC, chrome gray | bk/wh/rd/gn/bn/bu/or |
| Q4120-1 | 8466 | 4120 | C2412 | 1898/12C | B1812CT(19)-45 | 18AWG, 12-conductor, unshielded, PVC, chrome gray | bk/wh/rd/gn/bu/wh-bk/ rd-bk/gn-bk/or-bk/bu-bk/bk-wh |
| Q4125-1 | 8468 | 4125 | C2423 | 1898/15C | B1815CT(19) | 18AWG, 15-conductor, unshielded, PVC, chrome gray | bk/wh/rd/gn/or/bu/wh-bk/rd-bk/ gn-bk/or-bk/bu-bk/bk-wh/gn-wh/bu-wh |
| Q4130-1 | 8619 | 4130 | C2424 | 1898/19C | B1819CT19-45 | 18AWG, 19-conductor, unshielded, PVC, chrome gray | bk/wh/rd/gn/or/bn/bu/wh-bk/rd-bk/gn-pk/ or-bk/bu-bk/bk-wh/rd-wh/gn-wh/bu-wh/bk- rd/wh-rd/or-rd/bu-rd |
| Q4135-1 | 9626 | 4135 | C2433 | 1898/25C | C1825CT-45BLD | 18AWG, 25-conductor, unshielded, PVC, chrome gray | bk/wh/rd/gn/or/bu/wh-bk/rd-bk/gn-pk/ or-bk/bu-bk/bk-wh/rd-wh/gn-wh/bu-wh/bk- rd/wh-rd/or-rd/bu-rd/rd-gn/or-gn/ bk-wh-rd/wh-bk-rd/rd-bk-wh/gn-bk-wh |
| Q4140-1 | 8461 | 4140 | C2830 | --- | --- | 18AWG, 2-conductor, unshielded, PVC, chrome gray | bk/wh |
| Q4165-1 | 8760 | 4165 | C2534A | 2421C | C182CSTP(16)-4S | 18AWG, 2-conductor, shielded, PVC, chrome gray | bk/cl |
| Q4170-1 | 8770 | 4170 | C2535A | 2423C | 183CSP | 18AWG, 3-conductor, shielded, PVC, chrome gray | bk/rd/cl |
| Q4175-1 | 9418 | 4175 | C2543 | M13244 | C184CST(19)-45BL | 18AWG, 4-conductor, shielded, PVC, chrome gray | bk/rd/wh/gn |
| Q4177-1 | --- | 4177 | --- | --- | --- | 18AWG, 6-conductor, shielded, PVC, chrome gray | bk/rd/wh/gn/bn/bu |
| Q3100-1 | 8620 | 3100 | C2425A | --- | B164T-20811 | 16AWG, 4-conductor, unshielded, PVC, chrome gray | bk/rd/wh/gn |
| Q3130-1 | 8471 | 3130 | C2405 | 1899C | 162CPT19 | 16AWG, 2-conductor, unshielded, PVC, chrome gray | bk/wh |

Control and Signal Cable

| Control & Signal Cable Cross-Reference | | | | | | | |
|--|---------------|----------------|--------------|--------------|----------------|--|---------------|
| <i>ADC</i> | <i>Belden</i> | <i>Quabbin</i> | <i>Carol</i> | <i>Alpha</i> | <i>Lake</i> | <i>Description</i> | <i>Colors</i> |
| <u>Q0225-1</u> | 9365 | 0225 | C0455 | 5640B1801 | T183ST(19)-BLD | 18AWG, 3-conductor, shielded, PVC, chrome gray | bk/rd/wh |
| <u>Q0220-1</u> | 9364 | 0220 | C0453A | M39116 | ---- | 20AWG, 3-conductor, shielded, PVC, chrome gray | bk/rd/wh |
| <u>Q0200-1</u> | 9493 | 0200 | C0436 | 5630B1801 | T183T(19)-45 | 18AWG, 3-conductor, unshielded, PVC, chrome gray | bk/rd/wh |
| <u>Q0195-1</u> | 9492 | 0195 | C0434 | 5630B2001 | ---- | 20AWG, 3-conductor, unshielded, PVC, chrome gray | bk/rd/wh |
| <u>Q0190-1</u> | --- | 0190 | --- | --- | --- | 22AWG, 3-conductor, unshielded, PVC, chrome gray | bk/rd/wh |
| <u>Q0170-1</u> | 9318 | 170 | C0454 | --- | --- | 18AWG, 2-conductor, shielded, PVC, chrome gray | bk/rd |
| <u>Q0165-1</u> | 9320 | 0165 | --- | M39115 | --- | 20AWG, 2-conductor, shielded, PVC, chrome gray | bk/rd |
| <u>Q0160-1</u> | 9322 | 0160 | C0450 | 5610B2201 | B222CST-45 | 22AWG, 2-conductor, shielded, PVC, chrome gray | bk/rd |
| <u>Q0140-1</u> | 9409 | 140 | C0435 | M39075 | --- | 18AWG, 2-conductor, unshielded, PVC, chrome gray | bk/rd |


Control and Signal Cable

Q7115-1 Unshielded 2-Conductor 22AWG Cable Specifications

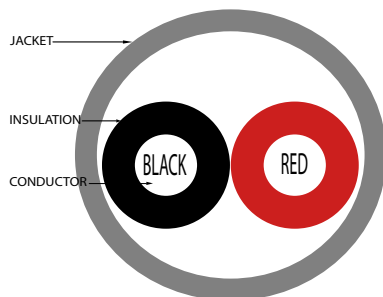
| | | | |
|--|-----------------------------------|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.100 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.164 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 26 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE CM UL AWM STYLE 2464 CSA AWM FT4 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red | Sample Print Legend | QUABBIN 7115 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7115-1 Unshielded 2-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|--------------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q7115-1 | 2 | 22 | 7 | 0.164 [4.17 mm] | 1.64 | 30 | 0.0146 | \$0.19 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q0190-1 Unshielded 3-Conductor 22AWG Cable Specifications

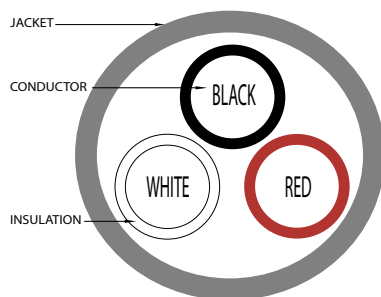
| | | | |
|--|---|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.062 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.133 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.224 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 20 pF/ft | Jacket Thickness | 0.038 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE PLTC 105C 300V NEC (UL) TYPE ITC 105C 300V UL AWM STYLE 2464 80C 300V CSA FAS 105 FT4 CSA AWM FT4 90C 300V |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white | Sample Print Legend | QUABBIN 0190 (UL) TYPE PLTC OR ITC 22 AWG 105C SUN RES OR AWM 2464 -- CSA LL66965 FAS 105 22 AWG 3 CONDUCTOR FT4 OR AWM I/II A/B 90C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q0190-1 Unshielded 3-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q0190-1 | 3 | 22 | 7 | 0.209 [5.31 mm] | 2.09 | 30 | 0.0231 | \$0.40 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7121-1 Unshielded 3-Conductor 22AWG Cable Specifications

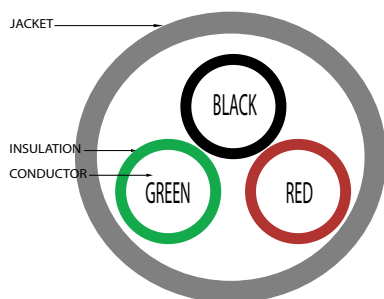
| | | | |
|--|-----------------------------------|-------------------------------------|--|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.108 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.172 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 26 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red, Green | Sample Print Legend | QUABBIN 7121R (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

*To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7121-1 Unshielded 3-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q7121-1 | 3 | 22 | 7 | 0.172 [4.37 mm] | 1.72 | 30 | 0.0179 | \$0.26 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7120-1 Unshielded 3-Conductor 22AWG Cable Specifications

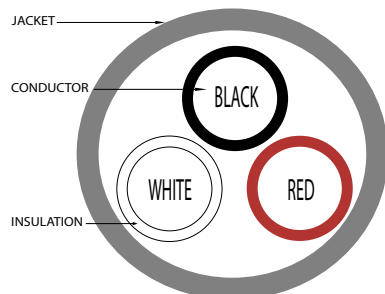
| | | | |
|--|-----------------------------------|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.108 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.172 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 27 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red, White | Sample Print Legend | QUABBIN 7120 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7120-1 Unshielded 3-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) [†] | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7120-1 | 3 | 22 | 7 | 0.227 [5.77 mm] | 1.72 | 30 | 0.0179 | \$0.24 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7125-1 Unshielded 4-Conductor 22AWG Cable Specifications

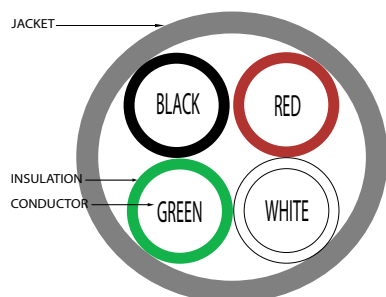
| | | | |
|--|-----------------------------------|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.121 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.185 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red, White, Green | Sample Print Legend | QUABBIN 7125 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

*To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7125-1 Unshielded 4-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) [†] | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q7125-1 | 4 | 22 | 10 | 0.185 [4.70 mm] | 1.72 | 30 | 0.0224 | \$0.32 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7131-1 Unshielded 5-Conductor 22AWG Cable Specifications

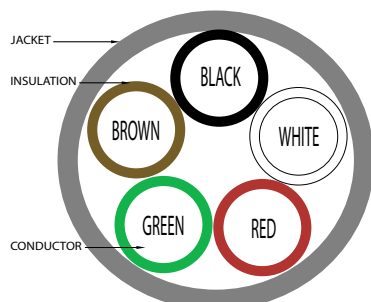
| | | | |
|--|-----------------------------------|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.135 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.199 inch; nominal |
| Temperature Rating, Min. | -30°C (-22°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 28 pF/ft | Jacket Thickness | 0.010 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, white, red, green, brown | Sample Print Legend | QUABBIN 7131 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

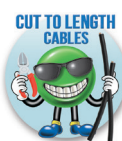
Q7131-1 Unshielded 5-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7131-1 | 5 | 22 | 7 | 0.199 [5.05 mm] | 1.99 | 30 | 0.0245 | \$0.41 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7135-1 Unshielded 6-Conductor 22AWG Cable Specifications

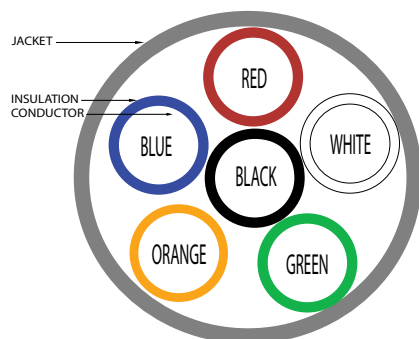
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.145 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.209 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 18 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.4 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red, White, Green, Orange, Blue | Sample Print Legend | QUABBIN 7135 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7135-1 Unshielded 6-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7135-1 | 6 | 22 | 7 | 0.209 [5.31 mm] | 2.09 | 30 | 0.0284 | \$0.38 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7140-1 Unshielded 7-Conductor 22AWG Cable Specifications

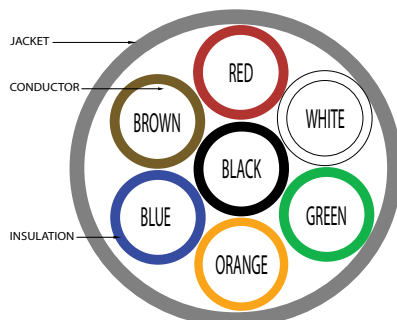
| | | | |
|--|---|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Overall Diameter | 0.214 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Jacket Color | Chrome Gray |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Mutual, Nom. | 28 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Capacitance, Grounded, Nom. | N/A | Sunlight Resistant | No |
| Dielectric Withstanding, Min. | 1500V RMS | Oil Resistance | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Flame Retardant | FT-4 |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Shield | None | | |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | Sample Print Legend | QUABBIN 7140 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Identification | Black, red, white, green, orange, blue, brown | | |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

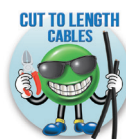
Q7140-1 Unshielded 7-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7140-1 | 7 | 22 | 7 | 0.214 [5.44 mm] | 2.14 | 20 | 0.0329 | \$0.54 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7145-1 Unshielded 8-Conductor 22AWG Cable Specifications

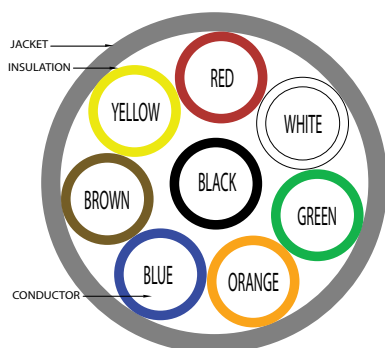
| | | | |
|--|---|-------------------------------------|--|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.168 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.232 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 MEETS VW-1 FLAME TEST |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | Sample Print Legend | QUABBIN 7145 (UL) TYPE CM 22 AWG OR AWM 2464 VW-1 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Identification | Black, Red, White, Green, Orange, Blue, Brown, Yellow | | |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7145-1 Unshielded 8-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7145-1 | 8 | 22 | 10 | 0.232 [5.90 mm] | 2.32 | 30 | 0.0375 | \$0.53 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7150-1 Unshielded 9-Conductor 22AWG Cable Specifications

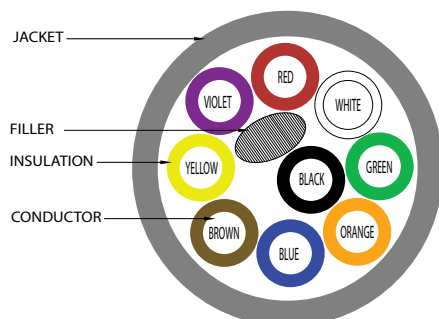
| | | | |
|--|---|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.182 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.246 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 28 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white, green, orange, blue, brown, yellow, purple | Sample Print Legend | QUABBIN 7150 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM II / II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7150-1 Unshielded 9-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7150-1 | 9 | 22 | 7 | 0.246 [6.24 mm] | 2.46 | 30 | 0.0422 | \$0.69 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7155-1 Unshielded 10-Conductor 22AWG Cable Specifications

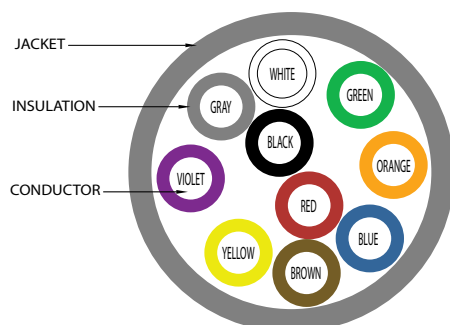
| | | | |
|--|---|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.185 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.249 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 28 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white, green, orange, blue, brown, yellow, purple, gray | Sample Print Legend | QUABBIN 7155 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

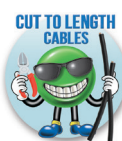
Q7155-1 Unshielded 10-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q7155-1 | 10 | 22 | 7 | 0.249 [6.32 mm] | 2.49 | 30 | 0.0423 | \$0.74 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7160-1 Unshielded 12-Conductor 22AWG Cable Specifications

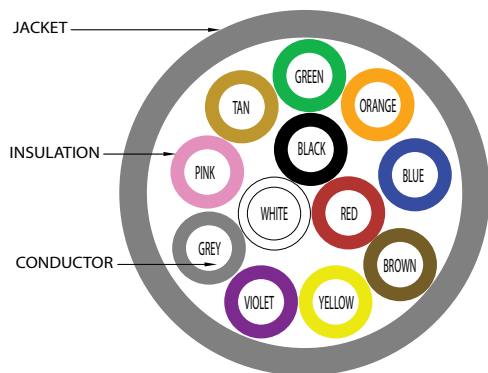
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.202 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.266 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 30 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL STYLE 2464 80C 300V |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red, White, Green, Orange, Blue, Brown, Yellow, Purple, Gray, Pink, Tan | Sample Print Legend | QUABBIN 7160 (UL) TYPE CM 22 OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7160-1 Unshielded 12-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7160-1 | 12 | 22 | 7 | 0.266 [6.76 mm] | 2.66 | 30 | 0.0493 | \$0.70 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7165-1 Unshielded 15-Conductor 22AWG Cable Specifications

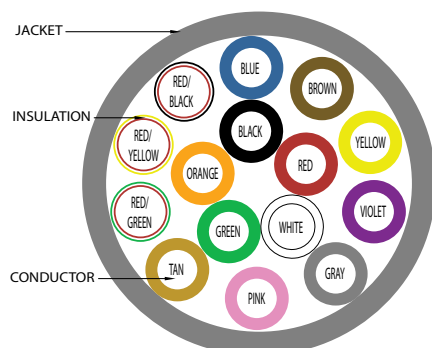
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.234 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.298 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 28 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white, green, orange, blue, brown, yellow, purple, gray, pink, tan, red-green, red-yellow, red-black | Sample Print Legend | QUABBIN 7165 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7165-1 Unshielded 15-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7165-1 | 15 | 22 | 7 | 0.298 [7.57 mm] | 2.98 | 30 | 0.0621 | \$1.08 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7170-1 Unshielded 20-Conductor 22AWG Cable Specifications

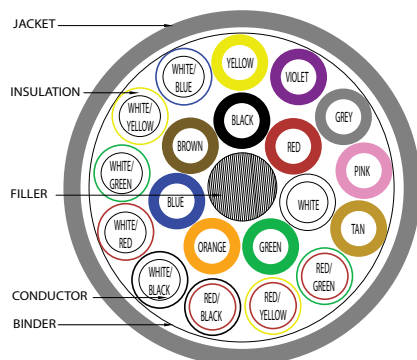
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.276 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.340 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 28 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| | | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Shield | None | Flame Retardant | FT-4 |
| Drain | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white, green, orange, blue, brown, yellow, purple, gray, pink, tan, red-green, red-yellow, red-black | Sample Print Legend | QUABBIN 7170 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM II / II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7170-1 Unshielded 20-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7170-1 | 20 | 22 | 7 | 0.340 [8.63 mm] | 3.40 | 30 | 0.0862 | \$1.22 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7175-1 Unshielded 25-Conductor 22AWG Cable Specifications

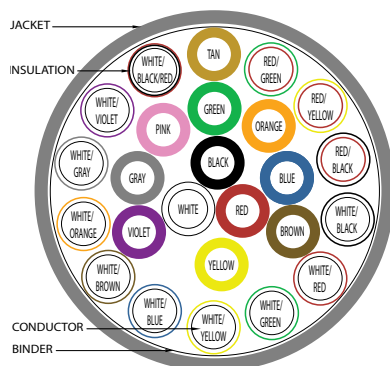
| | | | |
|--|---|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.290 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.354 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 28 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white, green, orange, blue, brown, yellow, purple, gray, pink, tan, red-green, red-yellow, red-black, white-black, white-red, white-green, white-yellow, white-blue, white-brown, white-orange, white-gray, white-purple, white-black-red | Sample Print Legend | QUABBIN 7175 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7175-1 Unshielded 25-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|--|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7175-1 | 25 | 22 | 7 | 0.354 [8.99 mm] | 3.54 | 30 | 0.0974 | \$1.85 |

1. Installed bend radius ≥ 10x diameter



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

** See web store www.AutomationDirect.com for maximum cut lengths


Control and Signal Cable

Q6130-1 Unshielded 1 Twisted Pair 20AWG Cable Specifications

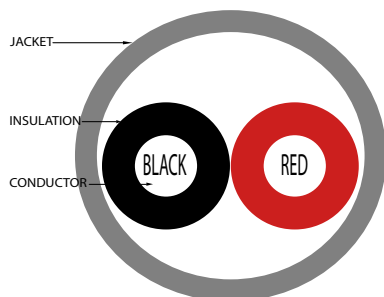
| | | | |
|--|---|-------------------------------------|---|
| Conductors Gauge & Stranding | 20AWG 7/28 Stranded Tinned Copper | Insulated Conductor Diameter | 0.064 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.128 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.192 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 26 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 10.4 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Color coded singles twisted into a pair | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red | Sample Print Legend | QUABBIN 6130 (UL) TYPE CM 20 AWG OR AWM 2464 -- CSA LL51726 AWM II / II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.013 inch; nominal | | |
| Bare Conductor Diameter | 0.038 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q6130-1 Unshielded 1 Twisted Pair 20AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q6130-1 | 1 Twisted Pair | 20 | 7 | 0.192 [4.88 mm] | 1.92 | 30 | 0.0192 | \$0.29 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q0195-1 Unshielded 3-Conductor 20AWG Cable Specifications

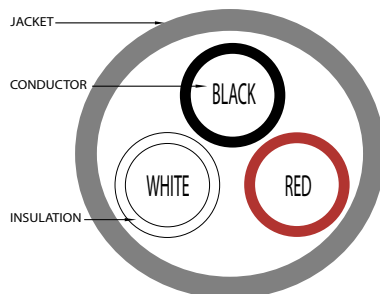
| | | | |
|--|---|-------------------------------------|---|
| Conductors Gauge & Stranding | 20AWG 10/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.148 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.224 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 22 pF/ft | Jacket Thickness | 0.038 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 10.9 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE PLTC 105C 300V NEC (UL) TYPE ITC 105C 300V UL AWM STYLE 2464 80C 300V CSA FAS 105 FT4 CSA AWM FT4 90C 300V |
| Drain | 20AWG 10/30 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white | Sample Print Legend | QUABBIN 0225 (UL) TYPE PLTC OR ITC 18 AWG 105C SUN RES OR AWM 2464 -- CSA LL66965 FAS 105 18 AWG 3 CONDUCTOR FT4 OR AWM I/II A/B 90C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

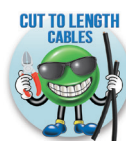
Q0195-1 Unshielded 3-Conductor 20AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q0195-1 | 3 | 20 | 10 | 0.224 [5.68 mm] | 2.24 | 30 | 0.0274 | \$0.45 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

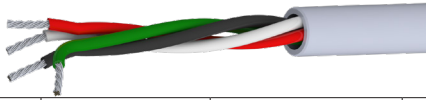
Control and Signal Cable

Q6100-1 Unshielded 4-Conductor 20AWG Cable Specifications

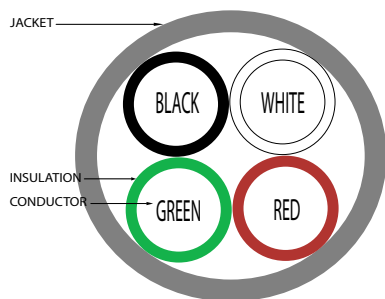
| | | | |
|--|-----------------------------------|-------------------------------------|---|
| Conductors Gauge & Stranding | 20AWG 7/28 Stranded Tinned Copper | Insulated Conductor Diameter | 0.064 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.128 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.219 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 26 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 10.4 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, White, Red, Green | Sample Print Legend | QUABBIN 6100 (UL) TYPE CM 20 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.013 inch; nominal | | |
| Bare Conductor Diameter | 0.037 inch; nominal | | |

*To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q6100-1 Unshielded 4-Conductor 20AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q6100-1 | 4 | 20 | 7 | 0.227 [5.77 mm] | 2.19 | 30 | 0.0303 | \$0.49 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q4140-1 Unshielded 2-Conductor 18AWG Cable Specifications

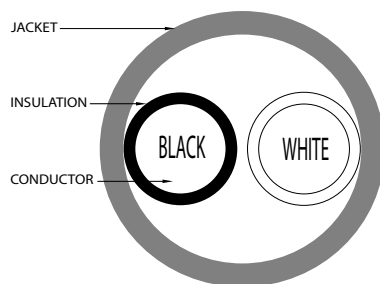
| | | | |
|--|-----------------------------------|-------------------------------------|---|
| Conductors Gauge & Stranding | 20AWG 7/28 Stranded Tinned Copper | Insulated Conductor Diameter | 0.058 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.160 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.210 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 15 pF/ft | Jacket Thickness | 0.025 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 6.54 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL AWM STYLE 2095 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, White | Sample Print Legend | QUABBIN 4140 (UL) TYPE CM 18 AWG OR AWM 2095 -- CSA LL51726 AWM I/ II A/B 90C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.048 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q4140-1 Unshielded 2-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q4140-1 | 2 | 18 | 7 | 0.210 [5.72 mm] | 2.06 | 30 | 0.0236 | \$0.42 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths




Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

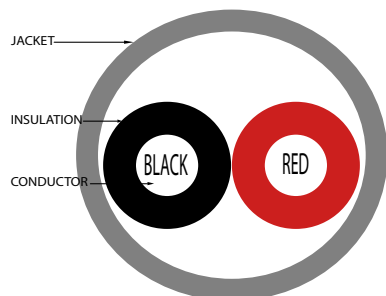
Control and Signal Cable

| Q4560-1 Unshielded 2-Conductor 18AWG Cable Specifications | | | |
|---|------------------------------------|-------------------------------------|---|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.071 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.142 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.206 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 30 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL AWM STYLE 2464 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red | Sample Print Legend | QUABBIN 4560 (UL) TYPE CM 18 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.013 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

*To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| Q4560-1 Unshielded 2-Conductor 18AWG Cable Specifications | | | | | | | | |
|---|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) [†] | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | |
| Q4560-1 | 2 | 18 | 16 | 0.219 [5.56 mm] | 2.06 | 30 | 0.0315 | \$0.33 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q0140-1 Unshielded 2-Conductor 18AWG Cable Specifications

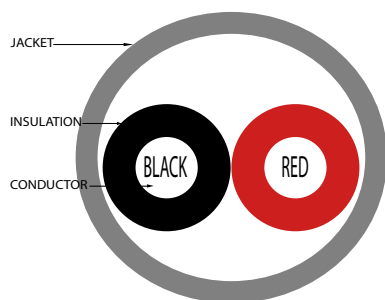
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.154 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.230 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.038 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | UL AWM STYLE 2464 80C 300V NEC (UL) TYPE PLTC 105C 300V NEC (UL) TYPE ITC 105C 300V CSA FAS 105 FT4 CSA AWM FT4 90C 300V |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red | Sample Print Legend | QUABBIN 0140 (UL) TYPE PLTC OR ITC 18 AWG 105C SUN RES OR AWM 2464 -- CSA LL66965 FAS 105 18 AWG 2 CONDUCTOR FT4 OR AWM I/II A/B 90C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q0140-1 Unshielded 2-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|--------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q0140-1 | 2 | 18 | 16 | 0.230 [5.84 mm] | 2.30 | 30 | 0.0293 | \$0.35 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q0200-1 Unshielded 3-Conductor 18AWG Cable Specifications

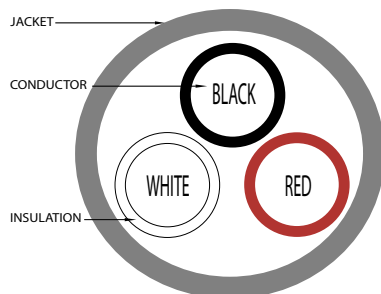
| | | | |
|--|---|-------------------------------------|---|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.166 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.242 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.038 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 6.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE PLTC 105C 300V NEC (UL) TYPE ITC 105C 300V UL AWM STYLE 2464 80C 300V CSA FAS 105 FT4 CSA AWM FT4 90C 300V |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white | Sample Print Legend | QUABBIN 0200 (UL) TYPE CM 18 AWG 105C SUN RES OR AWM 2464 -- CSA LL66965 FAS 105 18AWG 3 CONDUCTOR FT4 OR AWM I/II A/B 90C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q0200-1 Unshielded 3-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q0200-1 | 3 | 18 | 16 | 0.242 [6.23 mm] | 2.42 | 30 | 0.0377 | \$0.53 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths




Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

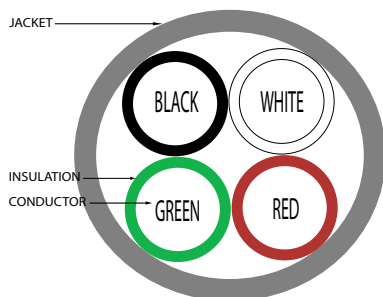
Control and Signal Cable

| Q4100-1 Unshielded 4-Conductor 18AWG Cable Specifications | | | |
|---|---|-------------------------------------|--|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 300V (UL AWM 2464) 600V (UL AWM 2586 / CSA AWM I/II A/B) | Twisted Conductor Diameter | 0.186 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.245 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE CM UL STYLE 2464 UL STYLE 2586 CSA AWM FT4 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, White, Red, Green | Sample Print Legend | QUABBIN 4100 (UL) TYPE CM 18 AWG OR AWM 2464 80C 300V OR AWM 2586 105C 600V -- CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| Q4100-1 Unshielded 4-Conductor 18AWG Cable Specifications | | | | | | | | |
|---|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | |
| Q4100-1 | 4 | 18 | 16 | 0.245 [6.23 mm] | 2.45 | 30 | 0.0440 | \$0.56 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q4105-1 Unshielded 5-Conductor 18AWG Cable Specifications

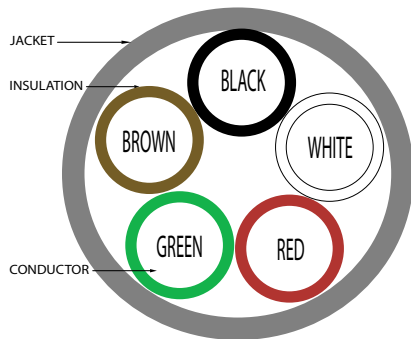
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 600V | Twisted Conductor Diameter | 0.208 inch; nominal |
| Temperature Rating, Max. | 60°C, 80°C & 105°C (140°F, 176°F & 221°F) | Overall Diameter | 0.272 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Bend Radius, Min. | 2.72 Inches | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Capacitance, Grounded, Nom. | N/A | Sunlight Resistant | No |
| Dielectric Withstanding, Min. | 1500V RMS | Oil Resistance | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Flame Retardant | FT-4 |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Approvals* | UL AWM STYLE 2464 UL AWM STYLE 2586 NEC (UL) TYPE CM CSA AWM FT4 |
| Shield | None | | |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | Sample Print Legend | QUABBIN 4105 (UL) TYPE CM 18 AWG OR AWM 2464 80C 300V OR AWM 2586 105C 600V -- CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Identification | Black, White, Red, Green, Brown | | |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

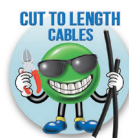
Q4105-1 Unshielded 5-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q4105-1 | 5 | 18 | 16 | 0.272 [6.91 mm] | 2.72 | 30 | 0.0492 | \$0.66 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q4110-1 Unshielded 7-Conductor 18AWG Cable Specifications

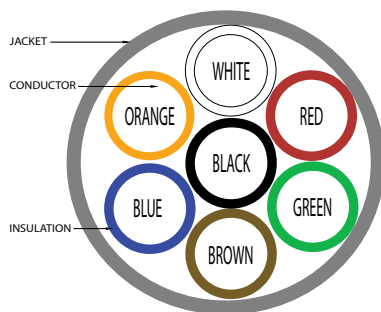
| | | | |
|--|---|-------------------------------------|--|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 600V | Twisted Conductor Diameter | 0.231 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.295 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 3-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL AWM STYLE 2464 UL AWM STYLE 2586 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, white, red, green, brown, blue, orange | Sample Print Legend | QUABBIN 4110 (UL) TYPE CM 18 AWG OR AWM 2464 80C 300V OR AWM 2589 105C 600V -- CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q4110-1 Unshielded 7-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q4110-1 | 7 | 18 | 16 | 0.295 [7.49 mm] | 2.95 | 30 | 0.0637 | \$1.05 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q4120-1 Unshielded 12-Conductor 18AWG Cable Specifications

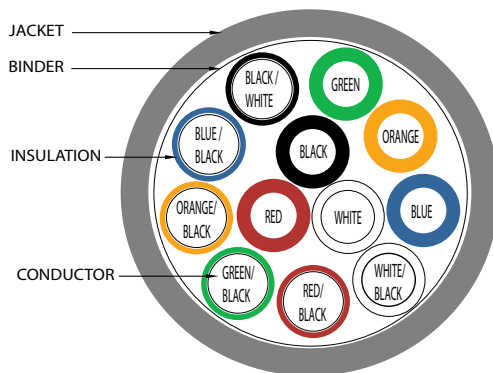
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 600V | Twisted Conductor Diameter | 0.315 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.385 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.035 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL STYLE 2464 UL STYLE 2586 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, white, red, green, orange, blue, white/black, red/black, green/black, orange/black, blue/black, black/white | Sample Print Legend | QUABBIN 4120 (UL) TYPE CM 18 AWG OR AWM 2464 80C 300V OR AWM 2586 105C 600V CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q4120-1 Unshielded 12-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q4120-1 | 12 | 18 | 16 | 0.385 [9.78 mm] | 3.85 | 30 | 0.106 | \$1.82 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q4125-1 Unshielded 15-Conductor 18AWG Cable Specifications

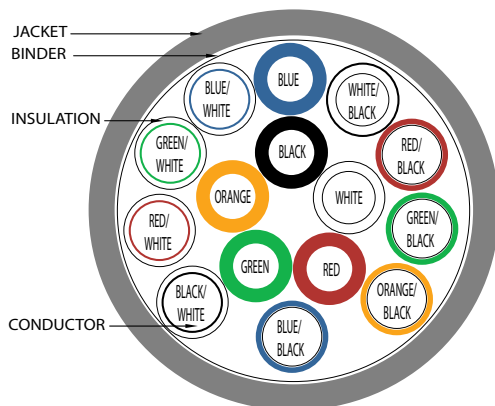
| | | | |
|--|---|-------------------------------------|--|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 600V | Twisted Conductor Diameter | 0.364 inch; nominal |
| Temperature Rating, Max. | 60°C, 80°C & 105°C (140°F, 176°F & 221°F) | Overall Diameter | 0.444 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.040 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL STYLE 2464 UL STYLE 2586 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, white, red, green, orange, blue, white/black, red/black, green/black, orange/black, blue/black, black/white, red/white, green/white, blue/white | Sample Print Legend | QUABBIN 4125 (UL) TYPE CM 18 AWG OR AWM 2464 80C 300V OR AWM 2586 105C 600V CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q4125-1 Unshielded 15-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|--------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q4125-1 | 15 | 18 | 16 | 0.444 [11.28 mm] | 4.44 | 30 | 0.1465 | \$2.36 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q4130-1 Unshielded 19-Conductor 18AWG Cable Specifications

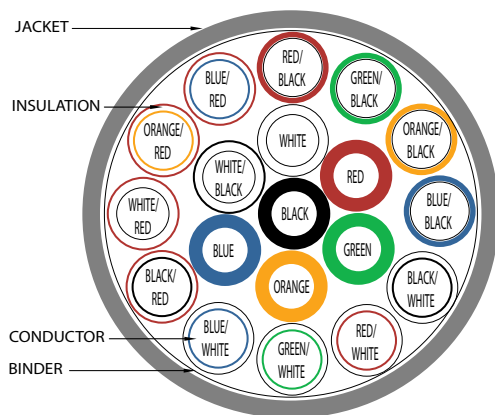
| | | | |
|--|---|-------------------------------------|--|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 600V | Twisted Conductor Diameter | 0.385 inch; nominal |
| Temperature Rating, Max. | 60°C, 80°C & 105°C (140°F, 176°F & 221°F) | Overall Diameter | 0.465 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.040 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL STYLE 2464 UL STYLE 2586 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, white, red, green, orange, blue, white/black, red/black, green/black, orange/black, blue/black, black/white, red/white, green/white, blue/white, black/red, white/red, orange/red, blue/red | Sample Print Legend | QUABBIN 4130 (UL) TYPE CM 18 AWG OR AWM 2464 80C 300V OR AWM 2586 105C 600V -- CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q4130-1 Unshielded 19-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q4130-1 | 19 | 18 | 16 | 0.465 [11.28 mm] | 4.65 | 30 | 0.1632 | \$2.84 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q4135-1 Unshielded 25-Conductor 18AWG Cable Specifications

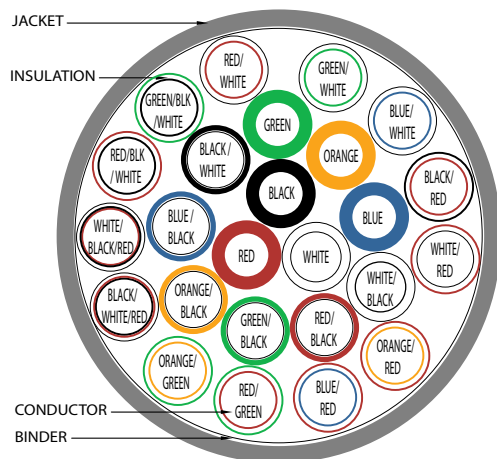
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 600V | Twisted Conductor Diameter | 0.456 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.546 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.045 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL STYLE 2464 UL STYLE 2586 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, white, red, green, orange, blue, white/black, red/black, green/black, orange/black, blue/black, black/white | Sample Print Legend | QUABBIN 4135 (UL) TYPE CM 18 AWG OR AWM 2464 80C 300V OR AWM 2586 105C 600V CSA LL51726 AWM I/II A/B 105C 600V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q4135-1 Unshielded 25-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q4135-1 | 25 | 18 | 16 | 0.546 [13.86 mm] | 5.46 | 30 | 0.2353 | \$3.77 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q3130-1 Unshielded 2-Conductor 16AWG Cable Specifications

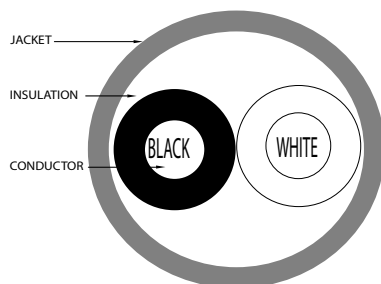
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 16AWG 7/28 Stranded Tinned Copper | Insulated Conductor Diameter | 0.130 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.166 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.242 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.038 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 6.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE PLTC 105C 300V NEC (UL) TYPE ITC 105C 300V UL AWM STYLE 2464 80C 300V CSA FAS 105 FT4 CSA AWM FT4 90C 300V |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, white | Sample Print Legend | QUABBIN 0200 (UL) TYPE CM 18 AWG 105C SUN RES OR AWM 2464 -- CSA LL66965 FAS 105 18AWG 3 CONDUCTOR FT4 OR AWM I/II A/B 90C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.057 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q3130-1 Unshielded 2-Conductor 16AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft) ^{**} | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-------------------------------|--|--|-------------------------------|----------------|
|  | | | | | | | | |
| Q3130-1 | 2 | 16 | 19 | 0.242 [6.23 mm] | 2.42 | 30 | 0.0377 | \$0.65 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q3100-1 Unshielded 4-Conductor 16AWG Cable Specifications

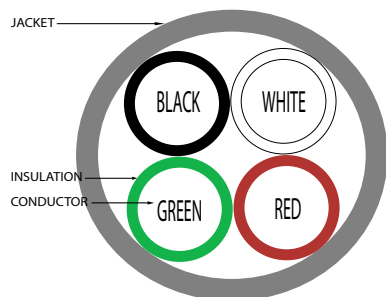
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|--|---------------------------------------|-------------------------------------|--|
| Conductors Gauge & Stranding | 16AWG 19/.0117 Stranded Tinned Copper | Insulated Conductor Diameter | 0.089 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.215 inch; nominal |
| Temperature Rating, Max. | 80°C & 90°C (176°F & 194°F) | Overall Diameter | 0.279 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 26 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 4.82 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | None | Approvals* | NEC (UL) TYPE CL2 UL STYLE 2464 CSA AWM FT4 |
| Drain | None | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, White, Red, Green | Sample Print Legend | QUABBIN 3100 (UL) TYPE CL2 16 AWG 90C OR AWM 2464 -- CSA LL51726 AWM I/II A/B 90C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.057 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q3100-1 Unshielded 4-Conductor 16AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q3100-1 | 4 | 16 | 19 | 0.279 [7.09 mm] | 2.79 | 30 | 0.0562 | \$0.84 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q8165-1 Shielded 3-Conductor 24AWG Cable Specifications

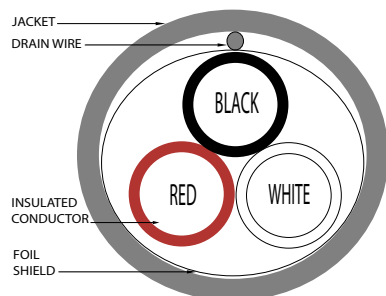
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.044 inch; nominal ± 0.002 Inch |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.094 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.162 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 33 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 65 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM UL AWM STYLE 2464 CSA AWM FT4 |
| Drain | 24AWG 7-32 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, White, Red | Sample Print Legend | QUABBIN 8165 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q8165-1 Shielded 3-Conductor 24AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|-----------------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q8165-1 | 3 | 24 | 7 | 0.162 [4.11 mm] | 1.62 | 30 | 0.0163 | \$0.26 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q8170-1 Shielded 4-Conductor 24AWG Cable Specifications

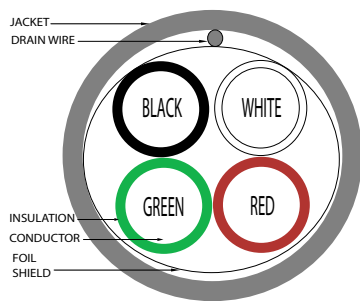
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.044 inch; nominal ± 0.002 Inch |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.106 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.180 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 33 pF/ft | Jacket Thickness | 0.035 inch; nominal |
| Capacitance, Grounded, Nom. | 65 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM UL AWM STYLE 2464 CSA AWM FT4 |
| Drain | 24AWG 7-32 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | Sample Print Legend | QUABBIN 8170 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Identification | Black, White, Red, Green | | |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

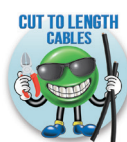
Q8170-1 Shielded 4-Conductor 24AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q8170-1 | 4 | 24 | 7 | 0.180 [4.57 mm] | 1.80 | 30 | 0.0192 | \$0.29 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q8110-1 2 Shielded Pairs 24AWG Cable Specifications

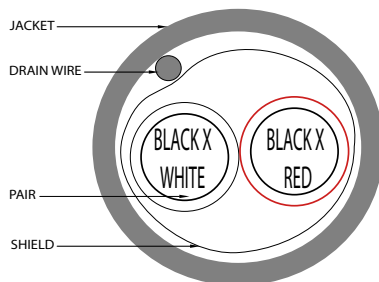
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|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.044 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.130 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.243 inch; nominal |
| Temperature Rating, Min. | -40°C (-40°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 30 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 50 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL AWM STYLE 2464 |
| Drain | 24AWG 7/30 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black-Red, Black-White | Sample Print Legend | QUABBIN 8110 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q8110-1 2 Shielded Pairs 24AWG Cable Specifications

| Part Number | Number of Pairs | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|-----------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q8110-1 | 2 | 24 | 7 | 0.243 [6.17 mm] | 2.43 | 30 | 0.021 | \$0.36 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q8175-1 Shielded 5-Conductor 24AWG Cable Specifications

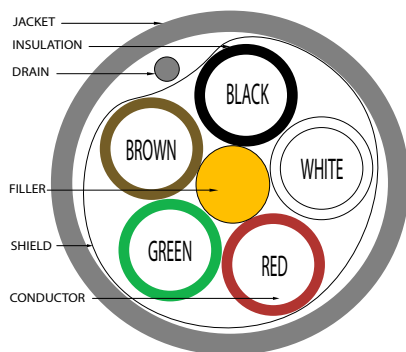
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.044 inch; nominal ± 0.002 Inch |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.119 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.195 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 33 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 65 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM UL AWM STYLE 2464 CSA AWM FT4 |
| Drain | 24AWG 7-32 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, White, Red, Green, Brown | Sample Print Legend | QUABBIN 8175 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q8175-1 Shielded 5-Conductor 24AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft) ^{**} | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------------|---|---------------------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q8175-1 | 5 | 24 | 7 | 0.195 [4.95 mm] | 1.95 | 30 | 0.0221 | \$0.34 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

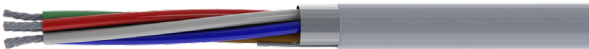
Control and Signal Cable

Q8180-1 Shielded 6-Conductor 24AWG Cable Specifications

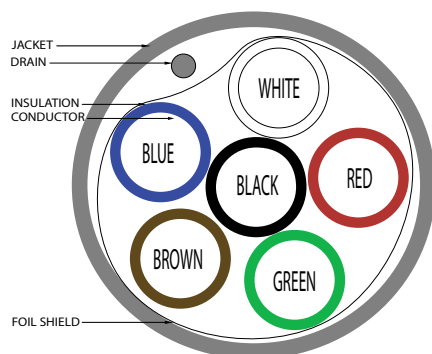
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.044 inch; nominal ± 0.002 Inch |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.130 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.200 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 33 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 65 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM UL AWM STYLE 2464 CSA AWM FT4 |
| Drain | 24AWG 7-32 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | Sample Print Legend | QUABBIN 8180 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Identification | Black, White, Red, Green, Brown, Blue | | |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q8180-1 Shielded 6-Conductor 24AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q8180-1 | 6 | 24 | 7 | 0.200 [5.08 mm] | 2.00 | 30 | 0.0239 | \$0.36 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q8185-1 Shielded 7-Conductor 24AWG Cable Specifications

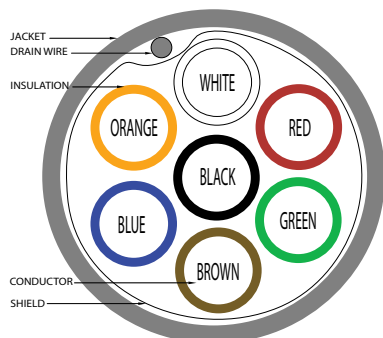
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.044 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.147 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.204 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 30 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 50 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL AWM STYLE 2464 |
| Drain | 24AWG 7/30 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | Sample Print Legend | QUABBIN 8185 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Identification | Black, white, red, green, brown, blue, orange | | |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q8185-1 Shielded 7-Conductor 24AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q8185-1 | 7 | 24 | 7 | 0.204 [5.18 mm] | 2.04 | 30 | 0.0266 | \$0.91 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q8190-1 Shielded 8-Conductor 24AWG Cable Specifications

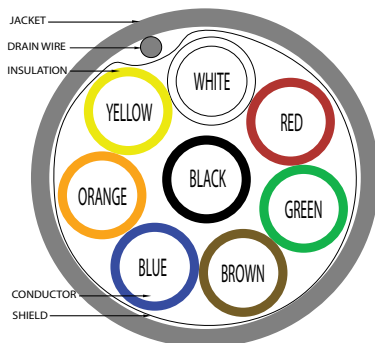
| | | | |
|--|---|-------------------------------------|--|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.044 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.158 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.222 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 33 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 65 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL AWM STYLE 2464 |
| Drain | 24AWG 7/32 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, white, red, green, brown, blue, orange, yellow | Sample Print Legend | QUABBIN 8190 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

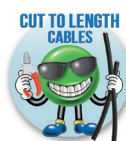
Q8190-1 Shielded 8-Conductor 24AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q8190-1 | 8 | 24 | 7 | 0.222 [5.63 mm] | 2.22 | 30 | 0.0293 | \$0.49 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q8508-1 Shielded 4 Twisted Pair 24AWG Cable Specifications

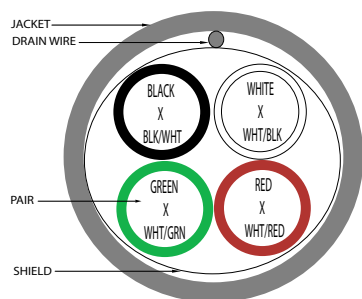
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.054 inch; nominal ± 0.002 Inch |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.210 inch; nominal |
| Temperature Rating, Max. | 60°C & 75°C (140°F & 167°F) | Overall Diameter | 0.283 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 13 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 24 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | None |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM UL STYLE 2448 CSA TYPE CMG |
| Drain | 24AWG 7-32 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyethylene (PE) | | |
| Conductor Identification | Black x Black/White White x White/Black Red x White/Red Green x White/Green | Sample Print Legend | QUABBIN 8508 (UL) TYPE CM 24 AWG 75C OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG 60C -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.015 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |
| Pair Diameter | 0.108 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

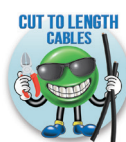
Q8508-1 Shielded 4 Twisted Pair 24AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q8508-1 | 4 twisted pair | 24 | 7 | 0.283 [7.19 mm] | 2.83 | 30 | 0.0359 | \$0.59 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q8195-1 Shielded 9-Conductor 24AWG Cable Specifications

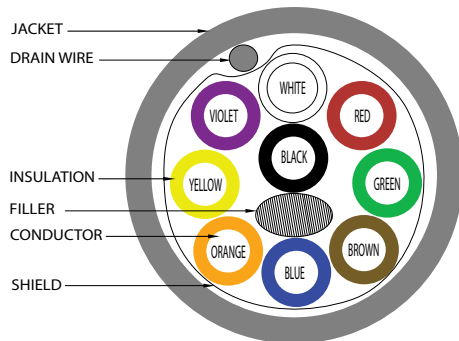
| | | | |
|--|---|-------------------------------------|--|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.044 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.160 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.235 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 33 pF/ft | Jacket Thickness | 0.035 inch; nominal |
| Capacitance, Grounded, Nom. | 65 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL AWM STYLE 2464 |
| Drain | 24AWG 7/32 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, white, red, green, brown, blue, orange, yellow, purple | Sample Print Legend | QUABBIN 8195 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q8195-1 Shielded 9-Conductor 24AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q8195-1 | 9 | 24 | 7 | 0.235 [5.97 mm] | 2.35 | 30 | 0.0346 | \$0.58 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths




Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

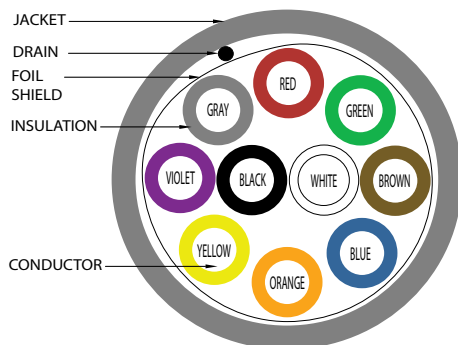
Control and Signal Cable

| Q8200-1 Shielded 10-Conductor 24AWG Cable Specifications | | | |
|--|---|-------------------------------------|--|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.044 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.169 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.237 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 30 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 55 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL AWM STYLE 2464 |
| Drain | 24AWG 7/32 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, white, red, green, brown, blue, orange, yellow, purple, gray | Sample Print Legend | QUABBIN 8200 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

| Q8200-1 Shielded 10-Conductor 24AWG Cable Specifications | | | | | | | | |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | |
| Q8200-1 | 10 | 24 | 7 | 0.237 [6.02 mm] | 2.37 | 30 | 0.0346 | \$0.61 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q8205-1 Shielded 15-Conductor 24AWG Cable Specifications

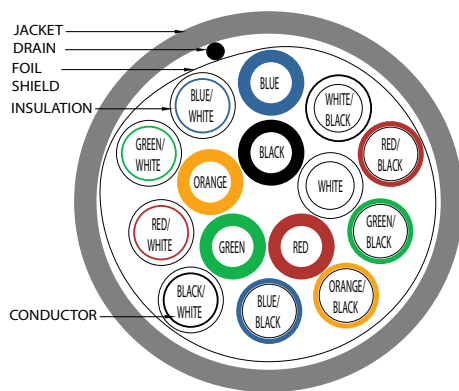
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.044 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.207 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.280 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 30 pF/ft | Jacket Thickness | 0.035 inch; nominal |
| Capacitance, Grounded, Nom. | 55 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL AWM STYLE 2464 |
| Drain | 24AWG 7/32 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, white, red, green, orange, blue, white/black, red/black, green/black, orange/black, blue/black, black/white, red/white, green/white, blue/white | Sample Print Legend | QUABBIN 8205 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

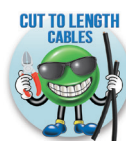
Q8205-1 Shielded 15-Conductor 24AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q8205-1 | 15 | 24 | 7 | 0.280 [7.11 mm] | 2.80 | 30 | 0.0482 | \$0.94 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q8138-1 8 Shielded Pairs 24AWG Cable Specifications

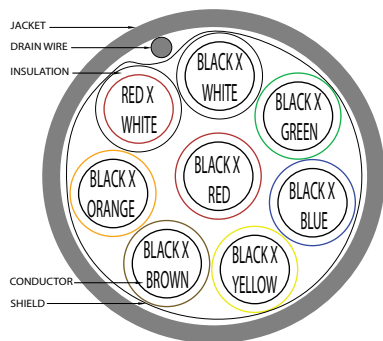
| | | | |
|--|---|-------------------------------------|--|
| Conductors Gauge & Stranding | 24AWG 7/32 Stranded Tinned Copper | Insulated Conductor Diameter | 0.044 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.237 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.315 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 30 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 50 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 26.2 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL AWM STYLE 2464 |
| Drain | 24AWG 7/30 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black-red, black-white, black-green, black-blue, black-yellow, black-brown, black-orange, red-white | Sample Print Legend | QUABBIN 8138 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.024 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q8138-1 8 Shielded Pairs 24AWG Cable Specifications

| Part Number | Number of Pairs | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|-----------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q8138-1 | 8 | 24 | 7 | 0.315 [8.00 mm] | 3.15 | 30 | 0.0561 | \$0.91 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q0160-1 Shielded 2-Conductor 22AWG Cable Specifications

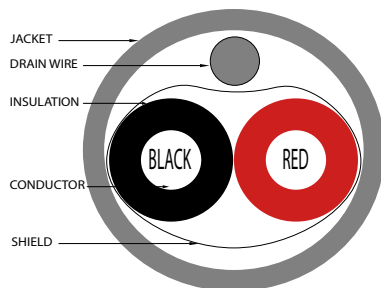
| | | | |
|--|---|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.062 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.124 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.203 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 20 pF/ft | Jacket Thickness | 0.038 inch; nominal |
| Capacitance, Grounded, Nom. | 75 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE PLTC 105C 300V NEC (UL) TYPE ITC 105C 300V UL AWM STYLE 2464 80C 300V CSA FAS 105 FT4 CSA AWM FT4 90C 300V |
| Drain | 22AWG 730 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red | Sample Print Legend | QUABBIN 0160 (UL) TYPE PLTC OR ITC 22 AWG 105C SUN RES OR AWM 2464 -- CSA LL66965 FAS 105 22 AWG 2 CONDUCTOR FT4 OR AWM I/II A/B 90C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q0160-1 Shielded 2-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q0160-1 | 2 | 22 | 7 | 0.203 [5.15 mm] | 2.03 | 30 | 0.0218 | \$0.36 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

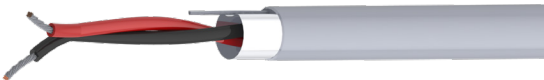
Control and Signal Cable

Q7315-1 Shielded 2-Conductor 22AWG Cable Specifications

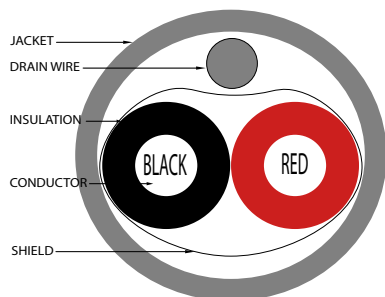
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.048 inch; nominal ± 0.002 Inch |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.096 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.135 inch; nominal ± 0.005 Inch |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 32 pF/ft | Jacket Thickness | 0.018 inch; nominal |
| Capacitance, Grounded, Nom. | 56 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.4 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM UL AWM STYLE 20093 C(UL) TYPE CM |
| Drain | 22AWG 7-30 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyethylene (PE) | | |
| Conductor Identification | Black, Red | Sample Print Legend | QUABBIN 7315R TYPE CM (UL) C(UL) 22 AWG SHIELDED OR AWM 20093 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.009 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7315-1 Shielded 2-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|--------------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q7315-1 | 2 | 22 | 7 | 0.135 [3.43 mm] | 1.35 | 30 | 0.0132 | \$0.24 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7320-1 Shielded Pair/ Unshielded 2-Conductor 22AWG Cable Specifications

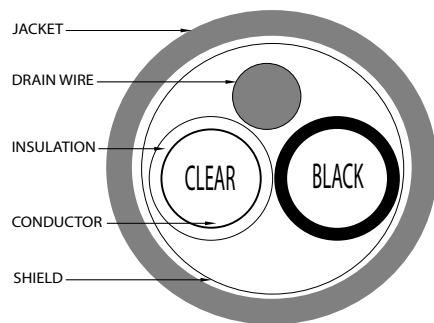
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.062 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.124 inch; nominal |
| Temperature Rating, Max. | 60°C & 75°C (140°F & 167°F) | Overall Diameter | 0.177 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 22 pF/ft | Jacket Thickness | 0.016 inch; nominal |
| Capacitance, Grounded, Nom. | 40 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | 24AWG 7/32 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | Sample Print Legend | QUABBIN 7320 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Identification | Clear, black | | |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7320-1 Shielded 2-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7320-1 | 2 | 22 | 7 | 0.177 [4.50 mm] | 1.77 | 30 | 0.0160 | \$0.31 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7325-1 Shielded 3-Conductor 22AWG Cable Specifications

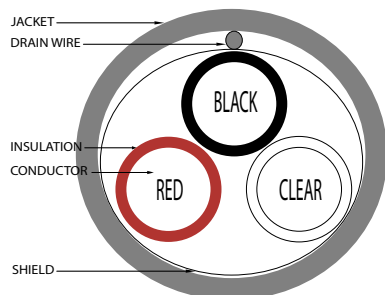
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.062 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.133 inch; nominal |
| Temperature Rating, Max. | 60°C & 75°C (140°F & 167°F) | Overall Diameter | 0.186 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 23 pF/ft | Jacket Thickness | 0.025 inch; nominal |
| Capacitance, Grounded, Nom. | 41 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | None |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | UL AWM STYLE 2093 (UL) NEC TYPE CM CSA TYPE CMG |
| Drain | 22AWG 7/30 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyethylene (PE) | | |
| Conductor Identification | Clear, Red, Black | Sample Print Legend | QUABBIN 7325 (UL) TYPE CM 22 AWG 75C SHIELDED OR AWM 2093 -- CSA LL51726 TYPE CMG 60C -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7325-1 Shielded 3-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q7325-1 | 3 | 22 | 7 | 0.186 [4.72 mm] | 1.86 | 30 | 0.0209 | \$0.33 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7465-1 Shielded Pair and 2 Unshielded Conductors 22AWG Cable Specifications

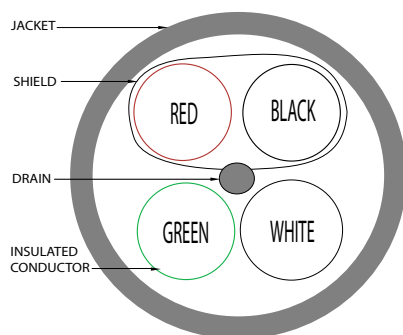
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 150V | Twisted Conductor Diameter | 0.120 inch; nominal |
| Temperature Rating, Max. | 60°C (140°F) | Overall Diameter | 0.168 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 34 pF/ft, 67 pF/ft | Jacket Thickness | 0.022 inch; nominal |
| Capacitance, Grounded, Nom. | N/A | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 900V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | 24AWG 7/32 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | Sample Print Legend | QUABBIN 7465 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Identification | Black-red(shielded)/white-green | | |
| Conductor Insulation Wall Thickness | 0.008 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7465-1 Shielded Pair and 2 Unshielded Conductors 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q7465-1 | 4 | 22 | 7 | 0.168 [4.27 mm] | 1.68 | 30 | 0.0208 | \$0.40 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7525-1 Shielded 4-Conductor 22AWG Cable Specifications

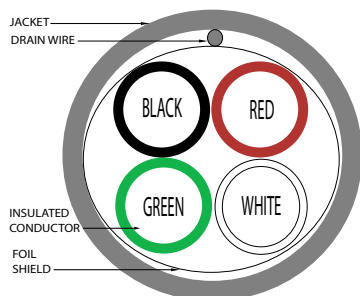
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.121 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.197 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 41 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 76 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM (UL) AWM STYLE 2464 CSA AWM FT4 |
| Drain | 22AWG 7-30 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red, White, Green | Sample Print Legend | QUABBIN 7525 (UL) TYPE CM 22 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7525-1 Shielded 4-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7525-1 | 4 | 22 | 7 | 0.197 [5.00 mm] | 1.97 | 30 | 0.0242 | \$0.33 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

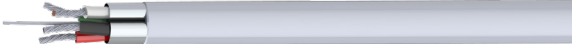
Control and Signal Cable

Q7395-1 Shielded 2 Twisted Pair 22AWG Cable Specifications

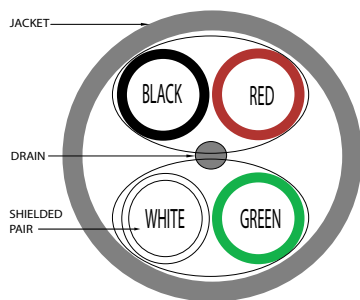
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.046 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.115 inch; nominal |
| Temperature Rating, Max. | 60°C (140°F) | Overall Diameter | 0.165 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 35 pF/ft | Jacket Thickness | 0.019 inch; nominal |
| Capacitance, Grounded, Nom. | 62 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Impedance, Characteristic, Nom. | 45 Ω | Flame Retardant | None |
| Attenuation | 4.4 dB / 100M @ 1MHz | Approvals* | NEC (UL) TYPE CM CEC C(UL) TYPE CM |
| Pair Conductor Twist / Lay | Color coded singles twisted into pairs, pairs cabled together on a common axis | Sample Print Legend | QUABBIN 7395 TYPE CM C(UL)US 22 AWG SHIELDED -- RoHS -- (LOT DESIGNATOR) |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | | |
| Drain | 24AWG 7/32 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polypropylene (PP) | | |
| Conductor Identification | Black x Red White x Green | Sample Print Legend | QUABBIN 7395 TYPE CM C(UL)US 22 AWG SHIELDED -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.008 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7395-1 Shielded 2 Twisted Pair 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7395-1 | 2 Twisted pair | 22 | 7 | 0.165 [4.19 mm] | 1.86 | 30 | 0.0208 | \$0.32 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7535-1 Shielded 6-Conductor 22AWG Cable Specifications

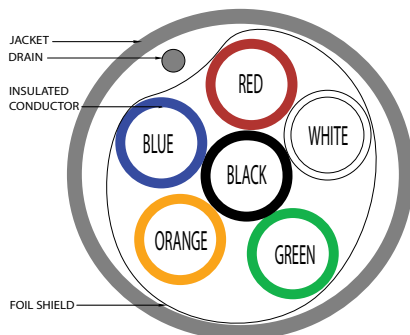
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.143 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.212 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 37 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 67 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | None |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM (UL) AWM STYLE 2464 80C 300V CSA AWM FT4 |
| Drain | 22AWG 7-30 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red, White, Green, Orange, Blue | Sample Print Legend | QUABBIN 7535 (UL) TYPE CM 22 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7535-1 Shielded 6-Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q7535-1 | 6 | 22 | 7 | 0.212 [5.38 mm] | 2.12 | 30 | 0.0329 | \$0.45 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7545-1 Shielded 8 Conductor 22AWG Cable Specifications

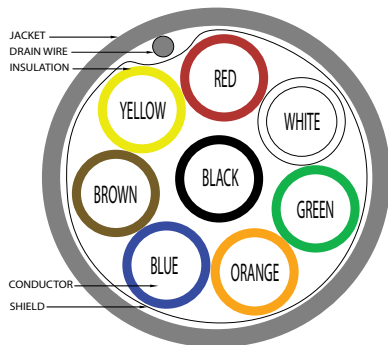
| | | | |
|--|---|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.120 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.168 inch; nominal |
| Temperature Rating, Min. | -40°C (-40°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 37 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 68.5 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | 22AWG 7/30 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white, green, orange, blue, brown, yellow | Sample Print Legend | QUABBIN 7545 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7545-1 Shielded 8 Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7545-1 | 8 | 22 | 7 | 0.242 [6.15 mm] | 2.42 | 30 | 0.0417 | \$0.68 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7555-1 Shielded 10 Conductor 22AWG Cable Specifications

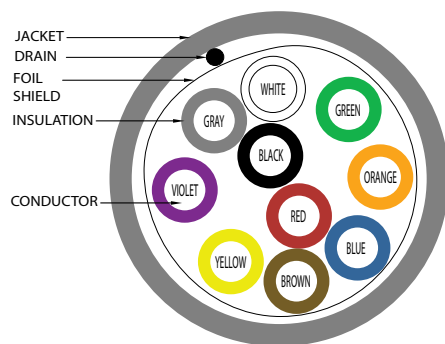
| | | | |
|--|---|-------------------------------------|--|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.188 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.252 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 37 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 67 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | 22AWG 7/30 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | Sample Print Legend | QUABBIN 7555 (UL) TYPE CM 22 AWG OR AWM 2464 – CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Identification | Black, red, white, green, orange, blue, brown, yellow, purple, gray | | |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7555-1 Shielded 10 Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7555-1 | 10 | 22 | 7 | 0.252 [6.40 mm] | 2.52 | 30 | 0.0453 | \$0.81 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7560-1 Shielded 12 Conductor 22AWG Cable Specifications

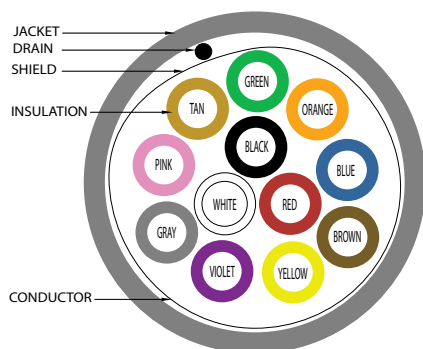
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.203 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.270 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 37 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 68.5 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | 22AWG 7/30 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white, green, orange, blue, brown, yellow, purple, gray, pink, tan | Sample Print Legend | QUABBIN 7560 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7560-1 Shielded 12 Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7560-1 | 12 | 22 | 7 | 0.270 [6.86 mm] | 2.70 | 30 | 0.0554 | \$0.92 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q7565-1 Shielded 15 Conductor 22AWG Cable Specifications

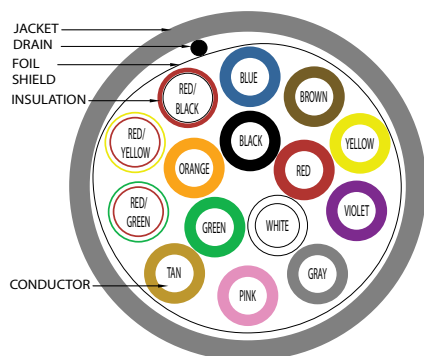
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 22AWG 7/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.050 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.228 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.295 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 36 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 67 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | (UL) NEC TYPE CM CSA AWM FT4 UL STYLE 2464 |
| Drain | 22AWG 7/30 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white, green, orange, blue, brown, yellow, purple, gray, pink, tan, red/green, red/yellow, red/black | Sample Print Legend | QUABBIN 7565 (UL) TYPE CM 22 AWG OR AWM 2464 -- CSA LL51726 AWM I/ II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.030 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q7565-1 Shielded 15 Conductor 22AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q7565-1 | 15 | 22 | 7 | 0.295 [7.49 mm] | 2.95 | 30 | 0.0679 | \$1.12 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

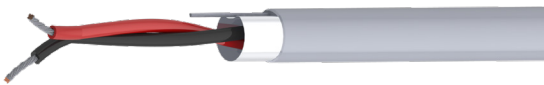
Control and Signal Cable

Q0165-1 Shielded 2-Conductor 20AWG Cable Specifications

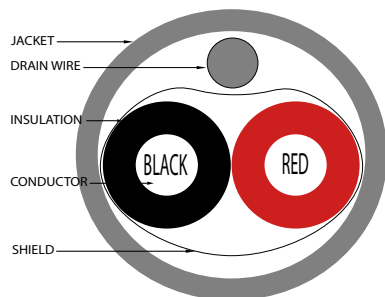
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 20AWG 10/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.069 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.138 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.215 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 44 pF/ft | Jacket Thickness | 0.038 inch; nominal |
| Capacitance, Grounded, Nom. | 81.4 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 16.7 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | UL AWM STYLE 2464 80C 300V NEC (UL) TYPE PLTC 105C 300V NEC (UL) TYPE ITC 105C 300V CSA FAS 105 FT4 CSA AWM FT4 90C 300V |
| Drain | 22AWG 7-30 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red | Sample Print Legend | QUABBIN 0165R (UL) TYPE PLTC OR ITC 20 AWG 105C SUN RES OR AWM 2464 -- CSA LL66965 FAS 105 20 AWG 2 CONDUCTOR FT4 OR AWM I/II A/B 90C 300V FT4 -- RoHS -- (LOT DEDSIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.037 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q0165-1 Shielded 2-Conductor 20AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) [†] | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q0165-1 | 2 | 20 | 10 | 0.215 [5.46 mm] | 2.15 | 30 | 0.0273 | \$0.37 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

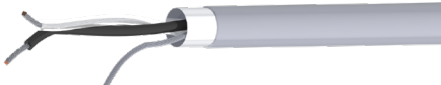
Control and Signal Cable

Q6140-1 Shielded 2-Conductor 20AWG Cable Specifications

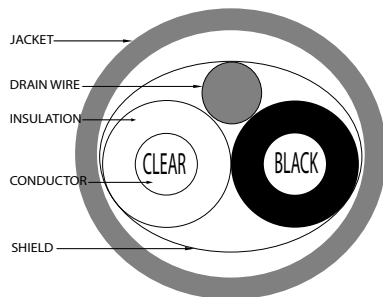
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 20AWG 7/28 Stranded Tinned Copper | Insulated Conductor Diameter | 0.070 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.143 inch; nominal |
| Temperature Rating, Max. | 60°C & 75°C (140°F & 167°F) | Overall Diameter | 0.199 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 27 pF/ft | Jacket Thickness | 0.028 inch; nominal |
| Capacitance, Grounded, Nom. | 51 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 10.4 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | None |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | (UL) NEC TYPE CM CSA TYPE CMG UL STYLE 2092 |
| Drain | 20AWG Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyethylene (PE) | | |
| Conductor Identification | Clear, Black | Sample Print Legend | QUABBIN 6140 (UL) TYPE CM 20 AWG 75C SHIELDED OR AWM 2092 -- CSA LL51726 TYPE CMG 60C -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.038 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q6140-1 Shielded 2-Conductor 20AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q6140-1 | 2 | 20 | 7 | 0.199 [5.77 mm] | 1.99 | 30 | 0.0233 | \$0.39 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

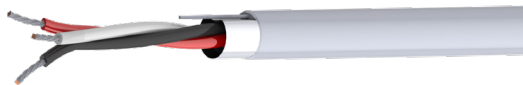
Control and Signal Cable

Q0220-1 Shielded 3-Conductor 20AWG Cable Specifications

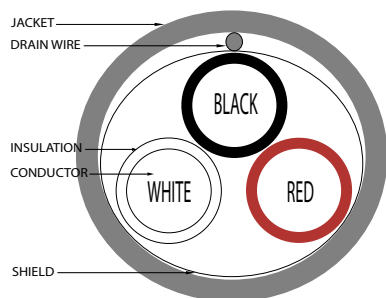
| | | | |
|--|---|-------------------------------------|--|
| Conductors Gauge & Stranding | 20AWG 10/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.069 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.148 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.227 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 46 pF/ft | Jacket Thickness | 0.038 inch; nominal |
| Capacitance, Grounded, Nom. | 83 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | Yes |
| D.C. Resistance, Max. | 10.5 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | UL AWM STYLE 2464 80C 300V NEC (UL) TYPE PLTC 105C 300V NEC (UL) TYPE ITC 105C 300V CSA FAS 105 FT4 CSA AWM FT4 90C 300V |
| Drain | 22AWG 7-30 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red, White | Sample Print Legend | QUABBIN 0220R (UL) TYPE PLTC OR ITC 20 AWG 105C SUN RES OR AWM 2464 -- CSA LL66965 FAS 105 20 AWG 3 CONDUCTOR FT4 OR AWM I/II A/B 90C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.037 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q0220-1 Shielded 3-Conductor 20AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|-------------------------------|---|---------------------------------|----------------------------------|-------------------|
|  | | | | | | | | |
| Q0220-1 | 3 | 20 | 10 | 0.227 [5.77 mm] | 2.27 | 30 | 0.0303 | \$0.45 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q6145-1 Shielded 3-Conductor 20AWG Cable Specifications

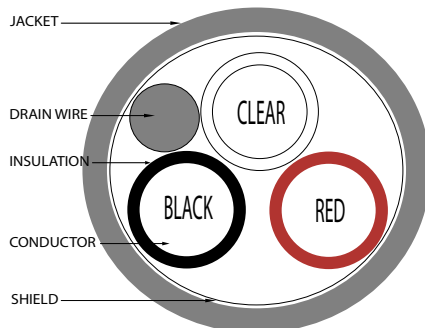
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 20AWG 7/28 Stranded Tinned Copper | Insulated Conductor Diameter | 0.070 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.153 inch; nominal |
| Temperature Rating, Max. | 70°C (158°F) | Overall Diameter | 0.209 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 27 pF/ft | Jacket Thickness | 0.028 inch; nominal |
| Capacitance, Grounded, Nom. | 51 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 10.4 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | (UL) NEC TYPE CMG C(UL) CEC TYPE CMG UL STYLE 2093 |
| Drain | 20AWG 7-30 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyethylene (PE) | | |
| Conductor Identification | Clear, Black, Red | Sample Print Legend | QUABBIN 6145 C(UL)US TYPE CMG 20 AWG 75C SHIELDED OR AWM 2093 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.038 inch; nominal | | |

*To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q6145-1 Shielded 3-Conductor 20AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q6145-1 | 3 | 20 | 7 | 0.209 [5.31 mm] | 2.09 | 30 | 0.0285 | \$0.43 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q6151-1 2 Shielded Pairs 20AWG Cable Specifications

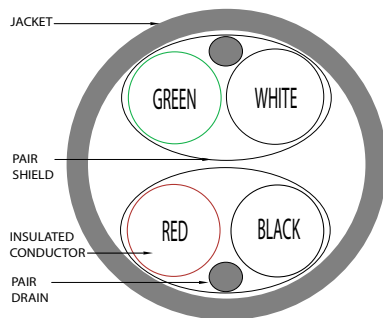
| | | | |
|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 20AWG 7/28 Stranded Tinned Copper | Insulated Conductor Diameter | 0.058 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.161 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.225 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 47 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 85 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 10.4 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM CSA AWM FT4 UL AWM STYLE 2464 |
| Drain | 22AWG 7/30 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black-Red, Green-White | Sample Print Legend | QUABBIN 6151 (UL) TYPE CM 18 AWG OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.013 inch; nominal | | |
| Bare Conductor Diameter | 0.038 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q6151-1 2 Shielded Pairs 20AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q6151-1 | 4 | 20 | 7 | 0.225 [5.72 mm] | 2.25 | 30 | 0.0352 | \$1.08 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q4165-1 Shielded 2-Conductor 18AWG Cable Specifications

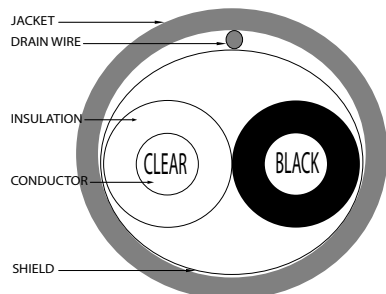
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.088 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.174 inch; nominal |
| Temperature Rating, Max. | 60°C & 75°C (140°F & 167°F) | Overall Diameter | 0.233 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.028 inch; nominal |
| Capacitance, Grounded, Nom. | 47 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | None |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM (UL) AWM STYLE 2092 CSA CMG |
| Drain | 20AWG 7/0.0121 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyethylene (PE) | | |
| Conductor Identification | Clear, Black | Sample Print Legend | QUABBIN 4165 (UL) TYPE CM 18 AWG 75C SHIELDED OR AWM 2092 -- CSA LL51726 TYPE CMG 60C -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.021 inch; nominal | | |
| Bare Conductor Diameter | 0.046 inch; nominal | | |

*To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q4165-1 Shielded 2-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|-----------------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q4165-1 | 2 | 18 | 16 | 0.233 [5.92 mm] | 2.33 | 30 | 0.0300 | \$0.43 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q0170-1 Shielded 2-Conductor 18AWG Cable Specifications

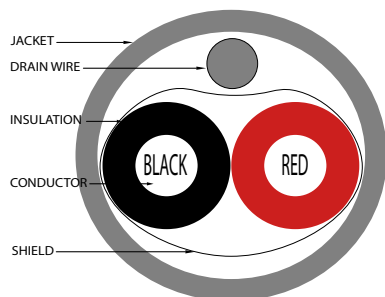
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|--|--|-------------------------------------|---|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.154 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.233 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 53 pF/ft | Jacket Thickness | 0.038 inch; nominal |
| Capacitance, Grounded, Nom. | 95 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | None |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE PLTC 105C 300V NEC (UL) TYPE ITC 105C 300V UL AWM STYLE 2464 80C 300V CSA FAS 105 FT4 CSA AWM FT4 90C 300V |
| Drain | 20AWG 10/30 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, Red | Sample Print Legend | QUABBIN 0170 (UL) TYPE PLTC OR ITC 18 AWG 105C SUN RES OR AWM 2464 -- CSA LL66965 FAS 105 18 AWG 2 CONDUCTOR FT4 OR AWM I/II A/B 90C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q0170-1 Shielded 2-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q0170-1 | 2 | 18 | 16 | 0.233 [5.92 mm] | 2.33 | 30 | 0.0312 | \$0.42 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q4170-1 Shielded 3-Conductor 18AWG Cable Specifications

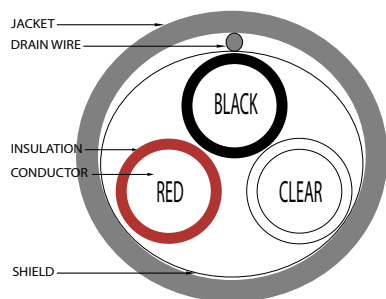
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.081 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.168 inch; nominal |
| Temperature Rating, Max. | 60°C & 75°C (140°F & 167°F) | Overall Diameter | 0.235 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 25 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 46 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | None |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM (UL) AWM STYLE 2093 CSA TYPE CMG |
| Drain | 20AWG 7/0.121 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyethylene (PE) | | |
| Conductor Identification | Black, Clear, Red | Sample Print Legend | QUABBIN 4170 (UL) TYPE CM 18 AWG 75C SHIELDED OR AWM 2093 -- CSA LL51726 TYPE CMG 60C -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.018 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

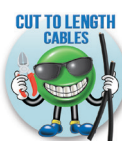
Q4170-1 Shielded 3-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|-------------------------------|--|------------------------------|-------------------------------|----------------|
|  | | | | | | | | |
| Q4170-1 | 3 | 18 | 16 | 0.235 [5.97 mm] | 2.35 | 30 | 0.0391 | \$0.58 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q0225-1 Shielded 3-Conductor 18AWG Cable Specifications

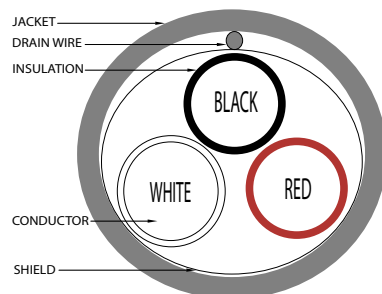
| | | | |
|--|---|-------------------------------------|---|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.077 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.166 inch; nominal |
| Temperature Rating, Max. | 80°C, 90°C & 105°C (176°F, 194°F & 221°F) | Overall Diameter | 0.245 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 51 pF/ft | Jacket Thickness | 0.038 inch; nominal |
| Capacitance, Grounded, Nom. | 93 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 1500V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 4.82 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | FT-4 |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE PLTC 105C 300V NEC (UL) TYPE ITC 105C 300V UL AWM STYLE 2464 80C 300V CSA FAS 105 FT4 CSA AWM FT4 90C 300V |
| Drain | 20AWG 10/30 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, red, white | Sample Print Legend | QUABBIN 0225 (UL) TYPE PLTC OR ITC 18 AWG 105C SUN RES OR AWM 2464 -- CSA LL66965 FAS 105 18 AWG 3 CONDUCTOR FT4 OR AWM I/II A/B 90C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.016 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q0225-1 Shielded 3-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ± 10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|-----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q0225-1 | 3 | 18 | 16 | 0.245 [6.23 mm] | 2.42 | 30 | 0.0394 | \$0.63 |

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q4175-1 Shielded 4-Conductor 18AWG Cable Specifications

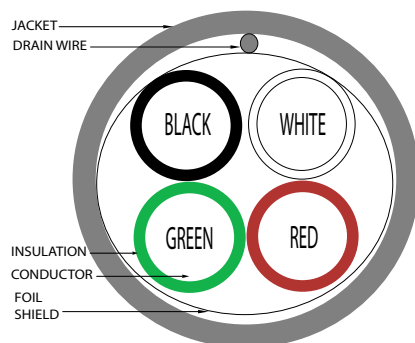
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.065 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.157 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.235 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 58 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 108 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.39 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-3/4 Inch | Flame Retardant | None |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM (UL) AWM STYLE 2464 CSA AWM FT4 |
| Drain | 20AWG 7/0.0121 Stranded Tinned Copper Drain Wire | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, White, Red, Green | Sample Print Legend | QUABBIN 4175 (UL) TYPE CM 18 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

Q4175-1 Shielded 4-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches $\pm 10\%$) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|---|----------------------|-----|--------|-----------------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q4175-1 | 4 | 18 | 16 | 0.235 [5.97 mm] | 2.35 | 30 | 0.0405 | \$0.61 |

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable

Q4177-1 Shielded 6-Conductor 18AWG Cable Specifications

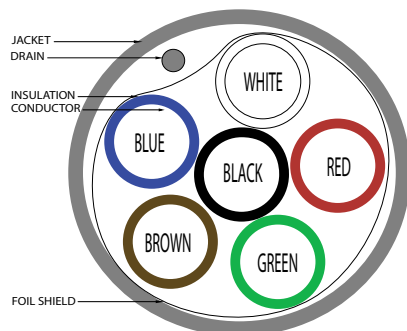
| | | | |
|--|--|-------------------------------------|--|
| Conductors Gauge & Stranding | 18AWG 16/30 Stranded Tinned Copper | Insulated Conductor Diameter | 0.065 inch; nominal |
| Voltage Rating | 300V | Twisted Conductor Diameter | 0.195 inch; nominal |
| Temperature Rating, Max. | 60°C & 80°C (140°F & 176°F) | Overall Diameter | 0.259 inch; nominal |
| Temperature Rating, Min. | -20°C (-4°F) | Jacket Color | Chrome Gray |
| Capacitance, Mutual, Nom. | 53 pF/ft | Jacket Thickness | 0.032 inch; nominal |
| Capacitance, Grounded, Nom. | 98 pF/ft | Jacket Material | Polyvinyl chloride (PVC) |
| Dielectric Withstanding, Min. | 2000V RMS | Sunlight Resistant | No |
| D.C. Resistance, Max. | 7.15 Ω / 1000ft. | Oil Resistance | No |
| Conductor Twist / Lay | Left hand / 2-1/2 Inch | Flame Retardant | None |
| Shield | Aluminized Polyester Foil Shield (100% Coverage) | Approvals* | NEC (UL) TYPE CM (UL) AWM STYLE 2464 CSA AWM FT4 |
| Drain | 20AWG 7/0.0121 Stranded Tinned Copper | | |
| Conductor Insulation Material | Polyvinyl chloride (PVC) | | |
| Conductor Identification | Black, White, Red, Green, Brown, Blue | Sample Print Legend | QUABBIN 4177 (UL) TYPE CM 18 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS -- (LOT DESIGNATOR) |
| Conductor Insulation Wall Thickness | 0.010 inch; nominal | | |
| Bare Conductor Diameter | 0.045 inch; nominal | | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

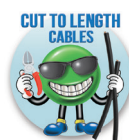
Q4177-1 Shielded 6-Conductor 18AWG Cable Specifications

| Part Number | Number of Conductors | AWG | Strand | Maximum O.D. (Inches ±10%) | Minimum Installed Bend Radius (inches) ¹ | Minimum Cut Length (ft)** | Approximate Weight (lb/ft) | Price per foot |
|--|----------------------|-----|--------|----------------------------|---|---------------------------|----------------------------|----------------|
|  | | | | | | | | |
| Q4177-1 | 6 | 18 | 16 | 0.259 [6.58 mm] | 2.59 | 30 | 0.0541 | \$0.87 |

1. Installed bend radius ≥ 10x diameter



** See web store www.automationdirect.com for maximum cut lengths



Please Note: Our prices on Control and Sensor Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Control and Signal Cable



Overview

LUTZE multi-conductor industrial grade PLTC electronic cables are suited for use in machine tools, machine and plant construction, HVAC technology, assembly and production lines, process instrumentation, and controls. LUTZE's electronic cables are designed for 300V and 105°C maximum ambient temperature. ECOLAB certified resistance allows this cable to be used in food and beverage washdown procedures.

Features

- 22AWG to 16AWG, 3 to 25 conductors
- Shielded and unshielded constructions
- UL Appliance Wiring Material (AWM) style 2464
- Color-coded Polyvinyl Chloride (PVC) conductor insulation
- Oil-resistant Polyvinyl Chloride (PVC) jacket
- Sunlight resistant
- Gas/vapor-tight shield per UL 13
- ECOLAB certified resistance to common cleaning agents and chemicals used in food and beverage washdown procedures.
- Talc and silicone free
- Cut to length in 1-foot increments
- Low 20-foot minimum length
- Made in the USA



22AWG Cable Conductor Color Code

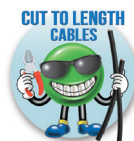
| Conductor Number | Primary Color | Conductor Number | Primary Color |
|------------------|---------------|------------------|--------------------|
| 1 | Black | 14 | White/Orange |
| 2 | Brown | 15 | White/Yellow |
| 3 | Red | 16 | White/Green |
| 4 | Orange | 17 | White/Blue |
| 5 | Yellow | 18 | White/Violet |
| 6 | Green | 19 | White/Gray |
| 7 | Blue | 20 | White/Black/Brown |
| 8 | Violet | 21 | White/Black/Red |
| 9 | Gray | 22 | White/Black/Orange |
| 10 | White | 23 | White/Black/Yellow |
| 11 | White/Black | 24 | White/Black/Green |
| 12 | White/Brown | 25 | White/Black/Blue |
| 13 | White/Red | | |

20, 18, and 16AWG Cable Conductor Color Code

| Conductor Number | Primary Color | Conductor Number | Primary Color |
|------------------|---------------|------------------|-----------------|
| 1 | Black | 14 | Red/Yellow |
| 2 | Red | 15 | Red/Black |
| 3 | White | 16 | White/Black |
| 4 | Green | 17 | White/Red |
| 5 | Orange | 18 | White/Green |
| 6 | Blue | 19 | White/Yellow |
| 7 | Brown | 20 | White/Blue |
| 8 | Yellow | 21 | White/Brown |
| 9 | Violet | 22 | White/Orange |
| 10 | Gray | 23 | White/Gray |
| 11 | Pink | 24 | White/Violet |
| 12 | Tan | 25 | White/Black/Red |
| 13 | Red/Green | | |



Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Control and Signal Cable (Unshielded)

22AWG Control and Signal Cable Specifications (Unshielded)

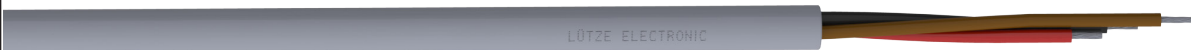
| | | | |
|--|-------------------------------------|----------------------------|--|
| Conductor Gauge & Stranding | 22 AWG, 19-stranded, tinned copper | UL Classification | (UL) Type PLTC (UL) Type CM AWM Style 2464 AWM I/II A/B |
| Conductor Markings** | Color-coded conductors | | |
| Voltage Rating | 300V | | |
| Operating Temperature | -40 to 105 deg C (-40 to 221 deg F) | Approvals* | cULus E331083 CSA LL44103 CE Meets NEC 392, 725, 800 Class I & II, Div. 2 and Class I Zone 2 per NEC 501, 502, and 505 (PLTC use only) RoHS, REACH, TSCA |
| Temperature Rating | 105 deg C | | |
| Jacket Material | PVC | | |
| Jacket Color | Gray | | |
| Flexibility | Flexible | Sample Print Legend | WWW.LUTZE.COM Part# A303XXXX LUTZE ELECTRONIC AWGXX-XXC (UL) TYPE PLTC 105C OR CM OR AWM 2464 80C 300V E331083 --- LL441103 CSA CMG OR AWM I/II A/B 105C 300V FT4 --- CE ROHS CE-45 1044 XXXXFT |
| Shielding | Unshielded | | |
| Sunlight Resistance | Yes | | |
| Outdoor Rated | No | | |
| Oil Resistance | Oil Res II | | |
| Flame Retardant | UL VW-1, FT4 | | |

Note: See web store for maximum cut lengths

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on [overview page](#) of this section

22AWG Control and Signal Cable (Unshielded)

| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal OD (in +/- 10%) | Minimum Installed Bend Radius (in) | Minimum Cut Length (ft) | Approximate Weight (lb/ft) | Price per Foot |
|--|----------------------|-----|--------|---|---------------------------------|-------------------------|------------------------------------|-------------------------|----------------------------|----------------|
|  | | | | | | | | | | |
| A3032203-1 | 3 | 22 | 19 | 10 | 37 | 0.181 | 0.72 | 20 | 0.02 | \$0.82 |
| A3032204-1 | 4 | | | | | 0.194 | 0.78 | | 0.03 | \$0.91 |
| A3032208-1 | 8 | | | | | 0.243 | 0.97 | | 0.04 | \$1.44 |
| A3032215-1 | 15 | | | | 42 | 0.318 | 1.27 | | 0.07 | \$2.32 |
| A3032225-1 | 25 | | | | 52 | 0.407 | 1.63 | | 0.12 | \$3.65 |



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Control and Signal Cable (Unshielded)

| 20AWG Control and Signal Cable Specifications (Unshielded) | | | |
|--|---|----------------------------|--|
| Conductor Gauge & Stranding | 16 AWG/20 AWG, 19-stranded, tinned copper | UL Classification | (UL) Type PLTC (UL) Type CM AWM Style 2464 AWM I/II A/B |
| Conductor Markings** | Color-coded conductors | | |
| Voltage Rating | 300V | | |
| Operating Temperature | -40 to 105 deg C (-40 to 221 deg F) | Approvals* | cULus E331083 CSA LL44103 CE Meets NEC 392, 725, 800 Class I & II, Div. 2 and Class I Zone 2 per NEC 501, 502, and 505 (PLTC use only) RoHS, REACH, TSCA |
| Temperature Rating | 105 deg C | | |
| Jacket Material | PVC | | |
| Jacket Color | Gray | | |
| Flexibility | Flexible | Sample Print Legend | WWW.LUTZE.COM Part# A303XXXX LUTZE ELECTRONIC AWGXX-XXC (UL) TYPE PLTC 105C OR CM OR AWM 2464 80C 300V E331083 --- LL441103 CSA CMG OR AWM I/II A/B 105C 300V FT4 --- CE ROHS CE-45 1044 XXXXFT |
| Shielding | Unshielded | | |
| Sunlight Resistance | Yes | | |
| Outdoor Rated | No | | |
| Oil Resistance | Oil Res II | | |
| Flame Retardant | UL VW-1, FT4 | | |

Note: See web store for maximum cut lengths

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on [overview page](#) of this section

| 20AWG Control and Signal Cable (Unshielded) | | | | | | | | | | |
|---|----------------------|-----|--------|---|---------------------------------|-------------------------|------------------------------------|-------------------------|----------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal OD (in +/- 10%) | Minimum Installed Bend Radius (in) | Minimum Cut Length (ft) | Approximate Weight (lb/ft) | Price per Foot |
| | | | | | | | | | | |
| A3032003-1 | 3 | 20 | 19 | 10 | 37 | 0.204 | 0.82 | 20 | 0.03 | \$0.88 |
| A3032004-1 | 4 | | | | | 0.220 | 0.88 | | 0.03 | \$1.06 |
| A3032008-1 | 8 | | | | 42 | 0.282 | 1.13 | | 0.06 | \$1.97 |
| A3032015-1 | 15 | | | | | 0.364 | 1.46 | | 0.10 | \$3.28 |
| A3032025-1 | 25 | | | | 52 | 0.461 | 1.84 | | 0.16 | \$5.15 |



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Control and Signal Cable (Unshielded)

18AWG Control and Signal Cable Specifications (Unshielded)

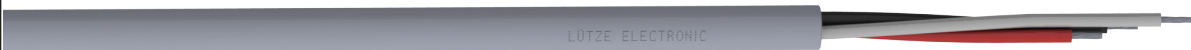
| | | | |
|--|-------------------------------------|----------------------------|--|
| Conductor Gauge & Stranding | 18 AWG, 19-stranded, tinned copper | UL Classification | (UL) Type PLTC (UL) Type CM AWM Style 2464 AWM I/II A/B |
| Conductor Markings** | Color-coded conductors | | |
| Voltage Rating | 300V | | |
| Operating Temperature | -40 to 105 deg C (-40 to 221 deg F) | Approvals* | cULus E331083 CSA LL44103 CE Meets NEC 392, 725, 800 Class I & II, Div. 2 and Class I Zone 2 per NEC 501, 502, and 505 (PLTC use only) RoHS, REACH, TSCA |
| Temperature Rating | 105 deg C | | |
| Jacket Material | PVC | | |
| Jacket Color | Gray | | |
| Flexibility | Flexible | Sample Print Legend | WWW.LUTZE.COM Part# A303XXXX LUTZE ELECTRONIC AWGXX-XXC (UL) TYPE PLTC 105C OR CM OR AWM 2464 80C 300V E331083 --- LL441103 CSA CMG OR AWM I/II A/B 105C 300V FT4 --- CE ROHS CE-45 1044 XXXXFT |
| Shielding | Unshielded | | |
| Sunlight Resistance | Yes | | |
| Outdoor Rated | No | | |
| Oil Resistance | Oil Res II | | |
| Flame Retardant | UL VW-1, FT4 | | |

Note: See web store for maximum cut lengths

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on [overview page](#) of this section

18AWG Control and Signal Cable (Unshielded)

| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal OD (in +/- 10%) | Minimum Installed Bend Radius (in) | Minimum Cut Length (ft) | Approximate Weight (lb/ft) | Price per Foot |
|--|----------------------|-----|--------|---|---------------------------------|-------------------------|------------------------------------|-------------------------|----------------------------|----------------|
|  | | | | | | | | | | |
| A3031803-1 | 3 | 18 | 19 | 10 | 37 | 0.223 | 0.89 | 20 | 0.04 | \$1.35 |
| A3031804-1 | 4 | | | | | 0.242 | 0.97 | | 0.04 | \$1.64 |
| A3031808-1 | 8 | | | | | 0.312 | 1.25 | | 0.08 | \$2.79 |
| A3031815-1 | 15 | | | | | 0.427 | 1.71 | | 0.14 | \$5.03 |
| A3031825-1 | 25 | | | | | 0.515 | 2.06 | | 0.23 | \$7.76 |



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Control and Signal Cable (Unshielded)

| 16AWG Control and Signal Cable Specifications (Unshielded) | | | |
|--|---|----------------------------|--|
| Conductor Gauge & Stranding | 16 AWG 22 AWG16 AWG16 AWG26-stranded, tinned copper | UL Classification | (UL) Type PLTC (UL) Type CM AWM Style 2464 AWM I/II A/B |
| Conductor Markings** | Color-coded conductors | | |
| Voltage Rating | 300V | | |
| Operating Temperature | -40 to 105 deg C (-40 to 221 deg F) | Approvals* | cULus E331083 CSA LL44103 CE Meets NEC 392, 725, 800 Class I & II, Div. 2 and Class I Zone 2 per NEC 501, 502, and 505 (PLTC use only) RoHS, REACH, TSCA |
| Temperature Rating | 105 deg C | | |
| Jacket Material | PVC | | |
| Jacket Color | Gray | | |
| Flexibility | Flexible | Sample Print Legend | WWW.LUTZE.COM Part# A303XXXX LUTZE ELECTRONIC AWGXX-XXC (UL) TYPE PLTC 105C OR CM OR AWM 2464 80C 300V E331083 --- LL441103 CSA CMG OR AWM I/II A/B 105C 300V FT4 --- CE ROHS CE-45 1044 XXXXFT |
| Shielding | Unshielded | | |
| Sunlight Resistance | Yes | | |
| Outdoor Rated | No | | |
| Oil Resistance | Oil Res II | | |
| Flame Retardant | UL VW-1, FT4 | | |

Note: See web store for maximum cut lengths

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on [overview page](#) of this section

| 16AWG Control and Signal Cable (Unshielded) | | | | | | | | | | |
|---|----------------------|-----|--------|---|---------------------------------|-------------------------|------------------------------------|-------------------------|----------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal OD (in +/- 10%) | Minimum Installed Bend Radius (in) | Minimum Cut Length (ft) | Approximate Weight (lb/ft) | Price per Foot |
| | | | | | | | | | | |
| A3031603-1 | 3 | 16 | 26 | 16 | 37 | 0.271 | 1.08 | 20 | 0.05 | \$1.34 |
| A3031604-1 | 4 | | | | 42 | 0.304 | 1.22 | | 0.06 | \$1.82 |
| A3031608-1 | 8 | | | | 53 | 0.407 | 1.63 | | 0.12 | \$3.32 |
| A3031615-1 | 15 | | | | | 0.532 | 2.13 | | 0.21 | \$5.59 |
| A3031625-1 | 25 | | | | | 0.669 | 2.68 | | 0.34 | \$9.20 |



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

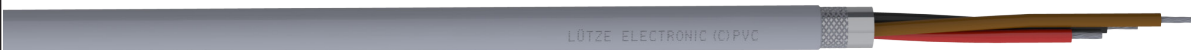
Control and Signal Cable (Shielded)

| 22AWG Control and Signal Cable Specifications (Shielded) | | | |
|--|--|----------------------------|---|
| Conductor Gauge & Stranding | 22 AWG, 19-stranded, tinned copper | UL Classification | (UL) Type PLTC (UL) Type CM AWM Style 2464 AWM I/II A/B |
| Conductor Markings** | Color-coded conductors | | |
| Voltage Rating | 300V | | |
| Operating Temperature | -40 to 105 deg C (-40 to 221 deg F) | Approvals* | cULus E331083 CSA LL44103 CE Meets NEC 392, 725, 800 Class I & II, Div. 2 and Class I Zone 2 per NEC 501, 502, and 505 (PLTC use only) RoHS, REACH, TSCA |
| Temperature Rating | 105 deg C | | |
| Jacket Material | PVC | | |
| Jacket Color | Gray | | |
| Flexibility | Flexible | Sample Print Legend | WWW.LUTZE.COM Part# A313XXXX LUTZE ELECTRONIC (C) Y AWGXX-XXC SHIELDED (UL) TYPE PLTC 105C SUN RES OR CM OR AWM 2464 80C 300V E331083 --- LL41103 CSA CMG OR AWM I/II A/B 105C 300V FT4 --- CE ROHS CE-45 1351 XXXXXFT |
| Shielding | Shielded with foil tape, tinned copper braid, and drain wire | | |
| Sunlight Resistance | Yes | | |
| Outdoor Rated | No | | |
| Oil Resistance | Oil Res II | | |
| Flame Retardant | UL VW-1, FT4 | | |

Note: See web store for maximum cut lengths

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on [overview page](#) of this section

| 22AWG Control and Signal Cable (Shielded) | | | | | | | | | | |
|--|----------------------|-----|--------|---|---------------------------------|-------------------------|------------------------------------|-------------------------|----------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal OD (in +/- 10%) | Minimum Installed Bend Radius (in) | Minimum Cut Length (ft) | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | | | | |
| A3132203-1 | 3 | 22 | 19 | 10 | 37 | 0.205 | 0.82 | 20 | 0.03 | \$1.21 |
| A3132204-1 | 4 | | | | | 0.218 | 0.87 | | 0.04 | \$1.36 |
| A3132208-1 | 8 | | | | | 0.263 | 1.05 | | 0.06 | \$1.92 |
| A3132215-1 | 15 | | | | 40 | 0.338 | 1.35 | | 0.09 | \$3.27 |
| A3132225-1 | 25 | | | | 50 | 0.423 | 1.69 | | 0.14 | \$4.52 |



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Control and Signal Cable (Shielded)

20AWG Control and Signal Cable Specifications (Shielded)

| | | | |
|--|--|----------------------------|---|
| Conductor Gauge & Stranding | 20 AWG, 19-stranded, tinned copper | UL Classification | (UL) Type PLTC (UL) Type CM AWM Style 2464 AWM I/II A/B |
| Conductor Markings** | Color-coded conductors | | |
| Voltage Rating | 300V | | |
| Operating Temperature | -40 to 105 deg C (-40 to 221 deg F) | Approvals* | cULus E331083 CSA LL44103 CE Meets NEC 392, 725, 800 Class I & II, Div. 2 and Class I Zone 2 per NEC 501, 502, and 505 (PLTC use only) RoHS, REACH, TSCA |
| Temperature Rating | 105 deg C | | |
| Jacket Material | PVC | | |
| Jacket Color | Gray | | |
| Flexibility | Flexible | Sample Print Legend | WWW.LUTZE.COM Part# A313XXXX LUTZE ELECTRONIC (C) Y AWGXX-XXC SHIELDED (UL) TYPE PLTC 105C SUN RES OR CM OR AWM 2464 80C 300V E331083 --- LL41103 CSA CMG OR AWM I/II A/B 105C 300V FT4 --- CE ROHS CE-45 1351 XXXXXFT |
| Shielding | Shielded with foil tape, tinned copper braid, and drain wire | | |
| Sunlight Resistance | Yes | | |
| Outdoor Rated | No | | |
| Oil Resistance | Oil Res II | | |
| Flame Retardant | UL VW-1, FT4 | | |

Note: See web store for maximum cut lengths

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on [overview page](#) of this section

20AWG Control and Signal Cable (Shielded)

| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal OD (in +/- 10%) | Minimum Installed Bend Radius (in) | Minimum Cut Length (ft) | Approximate Weight (lb/ft) | Price per Foot |
|----------------------------|----------------------|-----|--------|---|---------------------------------|-------------------------|------------------------------------|-------------------------|----------------------------|----------------|
| | | | | | | | | | | |
| A3132003-1 | 3 | 20 | 19 | 10 | 40 | 0.230 | 0.92 | 20 | 0.04 | \$1.47 |
| A3132004-1 | 4 | | | | | 0.246 | 0.98 | | 0.05 | \$1.67 |
| A3132008-1 | 8 | | | | 42 | 0.302 | 1.21 | | 0.08 | \$2.63 |
| A3132015-1 | 15 | | | | 52 | 0.404 | 1.62 | | 0.13 | \$4.35 |
| A3132025-1 | 25 | | | | | 0.481 | 1.92 | | 0.19 | \$6.39 |



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.


Control and Signal Cable (Shielded)

| 18AWG Control and Signal Cable Specifications (Shielded) | | | |
|--|--|----------------------------|---|
| Conductor Gauge & Stranding | 22 AWG/18 AWG, 19-stranded, tinned copper | UL Classification | (UL) Type PLTC (UL) Type CM AWM Style 2464 AWM I/II A/B |
| Conductor Markings** | Color-coded conductors | | |
| Voltage Rating | 300V | | |
| Operating Temperature | -40 to 105 deg C (-40 to 221 deg F) | Approvals* | cULus E331083 CSA LL44103 CE Meets NEC 392, 725, 800 Class I & II, Div. 2 and Class I Zone 2 per NEC 501, 502, and 505 (PLTC use only) RoHS, REACH, TSCA |
| Temperature Rating | 105 deg C | | |
| Jacket Material | PVC | | |
| Jacket Color | Gray | | |
| Flexibility | Flexible | Sample Print Legend | WWW.LUTZE.COM Part# A313XXXX LUTZE ELECTRONIC (C) Y AWGXX-XXC SHIELDED (UL) TYPE PLTC 105C SUN RES OR CM OR AWM 2464 80C 300V E331083 --- LL41103 CSA CMG OR AWM I/II A/B 105C 300V FT4 --- CE ROHS CE-45 1351 XXXXXFT |
| Shielding | Shielded with foil tape, tinned copper braid, and drain wire | | |
| Sunlight Resistance | Yes | | |
| Outdoor Rated | No | | |
| Oil Resistance | Oil Res II | | |
| Flame Retardant | UL VW-1, FT4 | | |

Note: See web store for maximum cut lengths

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on [overview page](#) of this section

| 18AWG Control and Signal Cable (Shielded) | | | | | | | | | | |
|--|----------------------|-----|--------|---|---------------------------------|-------------------------|------------------------------------|-------------------------|----------------------------|----------------|
| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal OD (in +/- 10%) | Minimum Installed Bend Radius (in) | Minimum Cut Length (ft) | Approximate Weight (lb/ft) | Price per Foot |
|  | | | | | | | | | | |
| A3131803-1 | 3 | 18 | 19 | 10 | 37 | 0.243 | 0.97 | 20 | 0.05 | \$2.11 |
| A3131804-1 | 4 | | | | | 0.262 | 1.05 | | 0.06 | \$2.35 |
| A3131808-1 | 8 | | | | 42 | 0.332 | 1.33 | | 0.10 | \$3.57 |
| A3131815-1 | 15 | | | | 52 | 0.447 | 1.79 | | 0.18 | \$6.03 |
| A3131825-1 | 25 | | | | | 0.535 | 2.14 | | 0.26 | \$9.19 |



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



Control and Signal Cable (Shielded)

16AWG Control and Signal Cable Specifications (Shielded)

| | | | |
|--|--|----------------------------|---|
| Conductor Gauge & Stranding | 16 AWG, 26-stranded, tinned copper | UL Classification | (UL) Type PLTC (UL) Type CM AWM Style 2464 AWM I/II A/B |
| Conductor Markings** | Color-coded conductors | | |
| Voltage Rating | 300V | | |
| Operating Temperature | -40 to 105 deg C (-40 to 221 deg F) | Approvals* | cULus E331083 CSA LL44103 CE Meets NEC 392, 725, 800 Class I & II, Div. 2 and Class I Zone 2 per NEC 501, 502, and 505 (PLTC use only) RoHS, REACH, TSCA |
| Temperature Rating | 105 deg C | | |
| Jacket Material | PVC | | |
| Jacket Color | Gray | | |
| Flexibility | Flexible | Sample Print Legend | WWW.LUTZE.COM Part# A313XXXX LUTZE ELECTRONIC (C) Y AWGXX-XXC SHIELDED (UL) TYPE PLTC 105C SUN RES OR CM OR AWM 2464 80C 300V E331083 --- LL41103 CSA CMG OR AWM I/II A/B 105C 300V FT4 --- CE ROHS CE-45 1351 XXXXXFT |
| Shielding | Shielded with foil tape, tinned copper braid, and drain wire | | |
| Sunlight Resistance | Yes | | |
| Outdoor Rated | No | | |
| Oil Resistance | Oil Res II | | |
| Flame Retardant | UL VW-1, FT4 | | |

Note: See web store for maximum cut lengths

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** Color code located in table on [overview page](#) of this section

16AWG Control and Signal Cable (Shielded)

| Part Number | Number of Conductors | AWG | Strand | Overall Conductor Insulation Thickness (Mils) | Overall Jacket Thickness (Mils) | Nominal OD (in +/- 10%) | Minimum Installed Bend Radius (in) | Minimum Cut Length (ft) | Approximate Weight (lb/ft) | Price per Foot |
|----------------------------|----------------------|-----|--------|---|---------------------------------|-------------------------|------------------------------------|-------------------------|----------------------------|----------------|
| | | | | | | | | | | |
| A3131603-1 | 3 | 16 | 26 | 16 | 42 | 0.302 | 1.21 | 20 | 0.07 | \$2.10 |
| A3131604-1 | 4 | | | | | 0.325 | 1.3 | | 0.08 | \$2.40 |
| A3131608-1 | 8 | | | | 53 | 0.428 | 1.71 | | 0.14 | \$3.89 |
| A3131615-1 | 15 | | | | | 0.553 | 2.21 | | 0.24 | \$6.92 |
| A3131625-1 | 25 | | | | 63 | 0.690 | 2.76 | | 0.37 | \$10.96 |



Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Type K Thermocouple Extension Wire

Overview

- Available in Shielded and Unshielded
- PVC, Fiberglass, FEP, and Silica insulations
- 20AWG and 16AWG
- Cut to length (1 ft. increments, 20 ft. minimum length)
- Standard ASTM/ANSI color codes

| Thermocouple Extension Wire | | | | | | | | | | | |
|---|------------|-------------------|--|---|--|-------------------|---------------------------------------|-----------------------|---------|--------------------------|----------------|
| Part Number | Gauge, AWG | Conductors | Conductor Insulation | Shield and Drain Wire | Jacket Material | Limits of Error** | Continuous Temperature Range | Nominal Size (inches) | Wt (lb) | Minimum Cut Length (ft)* | Price per foot |
| | | | | | | | | | | | |
| <u>THMWK-20-1U-P-1</u> | 20 | 2, solid | PVC Red = Negative Yellow = Positive | None | PVC, Yellow | Standard | -20°F to 221°F (-29°C to 105°C) | 0.095 x 0.158 | 0.02 | 20 | \$0.45 |
| | | | | | | | | | | | |
| <u>THMWK-20-1U-G-1</u> | 20 | 2, solid | Fiberglass braid Red = Negative Yellow = Positive | None | Fiberglass Braid, Brown w/ Yellow tracer | Standard | 32°F to 900°F (0°C to 482°C) | 0.059 x 0.097 | 0.01 | 20 | \$0.55 |
| | | | | | | | | | | | |
| <u>THMWK-20-1S-P-1</u> | 20 | 2, twisted, solid | PVC Red = Negative Yellow = Positive | Aluminum Mylar shield and copper 22AWG drain wire | PVC, Yellow | Standard | -20°F to 221°F (-29°C to 105°C) | 0.170 O.D. | 0.03 | 20 | \$0.63 |
| | | | | | | | | | | | |
| <u>THMWK-20-1U-F-1</u> | 20 | 2, twisted, solid | Extruded FEP Red = Negative Yellow = Positive | None | Extruded FEP, Brown | Standard | -20°F to 400°F (-29°C to 204°C) | 0.068/0.116 | 0.02 | 20 | \$0.94 |
| | | | | | | | | | | | |
| <u>THMWK-20-1U-HG-1</u> | 20 | 2, twisted, solid | Braided Fiberglass Yarn Red = Negative Yellow = Positive | None | Fiberglass, Brown | Standard | 32°F to 1300°F*** (0°C to 704°C) | 0.084/0.142 | 0.02 | 20 | \$0.78 |
| | | | | | | | | | | | |
| <u>THMWK-20-1U-S-1</u> | 20 | 2, twisted, solid | Braided Vitreous Silica White/Red Stripe = Negative Solid White = Positive | None | Braided Vitreous Silica, Grey | Standard | 32°F, to 1800°F (0°C to 982°C)**** | 0.098/0.162 | 0.02 | 20 | \$2.09 |
| | | | | | | | | | | | |
| <u>THMWK-16-1U-P-1</u> | 16 | 2, twisted, solid | Extruded PVC Red = Negative Yellow = Positive | None | Extruded PVC, Yellow | Standard | -20°F to 221°F (-29°C to 105°C) | 0.109/0.188 | 0.04 | 20 | \$1.12 |

* See web store for maximum cut lengths

** Per ASTM E230 / E230M-12

*** 1600°F single exposure

****2000°F single exposure

Note: Special connectors and terminal blocks are required to connect thermocouples to a control device. Both are available from www.automationdirect.com

Note: Maximum recommended distance between thermocouple and control device is 100 feet.








Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Type J Thermocouple Extension Wire

Overview

- Available in Shielded and Unshielded
- PVC, Fiberglass, and FEP
- 20AWG and 16AWG
- Cut to length (1 ft. increments, 20 ft. minimum length)
- Standard ASTM/ANSI color codes

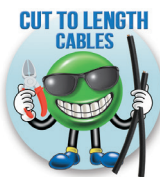
| Thermocouple Extension Wire | | | | | | | | | | | |
|--|------------|-------------------|--|---|-------------------------|-------------------|------------------------------------|-----------------------|---------|---------------------------|----------------|
| Part Number | Gauge, AWG | Conductors | Conductor Insulation | Shield and Drain Wire | Jacket Material | Limits of Error** | Continuous Temperature Range | Nominal Size (inches) | Wt (lb) | Minimum Cut Length (ft) * | Price per foot |
|  | | | | | | | | | | | |
| <u>THMWJ-20-1U-P-1</u> | 20 | 2, solid | PVC Red = Negative White = Positive | None | PVC, Black | Standard | -20°F to 221°F (-29°C to 105°C) | 0.095 x 0.158 | 0.02 | 20 | \$0.30 |
|  | | | | | | | | | | | |
| <u>THMWJ-20-1U-G-1</u> | 20 | 2, solid | Fiberglass braid Red = Negative White = Positive | None | Fiberglass braid, Brown | Standard | 32°F to 900°F (0°C to 482°C) | 0.059 x 0.097 | 0.01 | 20 | \$0.40 |
|  | | | | | | | | | | | |
| <u>THMWJ-20-1S-P-1</u> | 20 | 2, twisted, solid | PVC Red = Negative White = Positive | Aluminum Mylar shield and copper 22AWG drain wire | PVC, Black | Standard | -20°F to 221°F (-29°C to 105°C) | 0.170 O.D. | 0.03 | 20 | \$0.46 |
|  | | | | | | | | | | | |
| <u>THMWJ-20-1U-F-1</u> | 20 | 2, solid | Extruded FEP Red = Negative White = Positive | None | Extruded FEP, Brown | Standard | -20°F to 400°F (-29°C to 204°C) | 0.068/0.116 | 0.02 | 20 | \$0.71 |
|  | | | | | | | | | | | |
| <u>THMWJ-16-1U-P-1</u> | 16 | 2, solid | Extruded PVC Red = Negative White = Positive | None | Extruded PVC, Black | Standard | -20°F to 221°F (-29°C to 105°C) | 0.109/0.188 | 0.02 | 20 | \$0.71 |

* See web store for maximum cut lengths

** Per ASTM E230 / E230M-12

Note: Special connectors and terminal blocks are required to connect thermocouples to a control device. Both are available from www.automationdirect.com

Note: Maximum recommended distance between thermocouple and control device is 100 feet.



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RTD Extension Wire

Overview

- Specialized construction for use as RTD extension wire offers superior performance compared to "off-the-shelf" cable
- Available insulation types include PVC and FEP Teflon with aluminum Mylar shield and copper drain wire
- Cut to length



| RTD Extension Wire | | | | | | | | | | | | |
|--------------------|---------|----------------|------|--------------------------|------------|------------------------------------|----------------------------|--|-------------------|------------------------------|-----------------------------------|-----------------------|
| Part Number | Wt (lb) | Price per foot | Type | Minimum Cut Length (ft)* | Gauge, AWG | Conductors | Conductor Insulation | Shield and Drain Wire | Jacket Material | Ohms/Triple Foot@68°F (20°C) | Continuous Temperature Rating | Nominal Size (inches) |
| | | | | | | | | | | | | |
| RTDW-22-1U-P-1 | 0.9 | \$0.30 | RTD | 20 | 22 | 3, stranded tinned copper | PVC, 2 red, 1 white | None | PVC, white | 0.044 | -20°F to 221°F (-29°C to 105°C) | 0.160 O.D. |
| | | | | | | | | | | | | |
| RTDW-24-1S-F-1 | 0.9 | \$0.95 | RTD | 20 | 24 | 3, twisted, stranded tinned copper | FEP Teflon, 2 red, 1 white | Aluminum Mylar shield and copper 24AWG tinned drain wire | FEP Teflon, white | 0.066 | -328°F to 400°F (-200°C to 204°C) | 0.150 O.D. |

* See web store for maximum cut lengths

Note: Maximum recommended distance between RTD and control device is 300 feet.

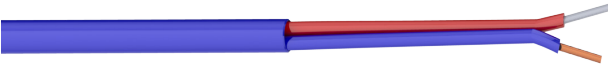




Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Type T Thermocouple Extension Wire

Overview

- Available in Shielded and Unshielded
- PVC and Fiberglass insulations
- 20AWG
- Cut to length (1 ft. increments, 20 ft. minimum length)
- Standard ASTM/ANSI color codes

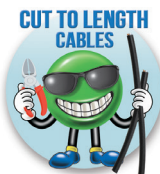
| Thermocouple Extension Wire | | | | | | | | | | | |
|--|------------|-------------------|---|---|--|-------------------|------------------------------------|-----------------------|---------|---------------------------|----------------|
| Part Number | Gauge, AWG | Conductors | Conductor Insulation | Shield and Drain Wire | Jacket Material | Limits of Error** | Continuous Temperature Range | Nominal Size (inches) | Wt (lb) | Minimum Cut Length (ft) * | Price per foot |
|  | | | | | | | | | | | |
| THMWT-20-1U-P-1 | 20 | 2, solid | PVC Red = Negative Blue = Positive | None | PVC, Blue | Standard | -20°F to 221°F (-29°C to 105°C) | 0.059 x 0.097 | 0.02 | 20 | \$0.34 |
|  | | | | | | | | | | | |
| THMWT-20-1U-G-1 | 20 | 2, solid | Fiberglass braid Red = Negative Blue = Positive | None | Fiberglass braid, Brown w/ Blue tracer | Standard | 32°F to 900°F (0°C to 482°C) | 0.059 x 0.097 | 0.01 | 20 | \$0.40 |
|  | | | | | | | | | | | |
| THMWT-20-1S-P-1 | 20 | 2, twisted, solid | PVC Red = Negative Blue = Positive | Aluminum Mylar shield and copper 22AWG drain wire | PVC, Blue | Standard | -20°F to 221°F (-29°C to 105°C) | 0.059 x 0.097 | 0.03 | 20 | \$0.51 |

* See web store for maximum cut lengths

** Per ASTM E230 / E230M-12

Note: Special connectors and terminal blocks are required to connect thermocouples to a control device. Both are available from www.automationdirect.com

Note: Maximum recommended distance between thermocouple and control device is 100 feet.



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UL Listed Type K & J Thermocouple Extension Wire

Overview

- UL Listed PLTC-UL13
- Available in Shielded and Unshielded
- PVC and FEP insulations
- 20AWG and 16AWG
- Cut to length (1 ft. increments, 20 ft. minimum length)
- Standard ASTM/ANSI color codes

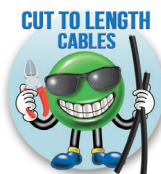
| Thermocouple Extension Wire | | | | | | | | | | | |
|-----------------------------|------------|-------------------|----------------------|---|----------------------|-------------------|---------------------------------|-----------------------|---------|--------------------------|----------------|
| Part Number | Gauge, AWG | Conductors | Conductor Insulation | Shield and Drain Wire | Jacket Material | Limits of Error** | Continuous Temperature Range | Nominal Size (inches) | Wt (lb) | Minimum Cut Length (ft)* | Price per foot |
| | | | | | | | | | | | |
| THMWK-UL-20-1U-P-1 | 20 | 2, twisted, solid | Extruded PVC | None | Extruded PVC, Yellow | Standard | -20°F to 105°F (-29°C to 41°C) | 0.136/0.198 | 0.02 | 20 | \$0.72 |
| | | | | | | | | | | | |
| THMWK-UL-20-1S-F-1 | 20 | 2, twisted, solid | Extruded FEP | Aluminum Mylar shield and copper 22AWG drain wire | Extruded FEP, Yellow | Standard | 32°F to 392°F (0°C to 200°C) | 0.150 | 0.04 | 20 | \$0.74 |
| | | | | | | | | | | | |
| THMWK-UL-16-1S-F-1 | 16 | 2, twisted, solid | Extruded FEP | Aluminum Mylar shield and copper 18AWG drain wire | Extruded FEP, Yellow | Standard | 32°F to 392°F (0°C to 200°C) | 0.188 | 0.05 | 20 | \$2.00 |
| | | | | | | | | | | | |
| THMWK-UL-16-1S-P-1 | 16 | 2, twisted, solid | Extruded PVC | Aluminum Mylar shield and copper 20AWG drain wire | Extruded PVC, Yellow | Standard | -20°F to 221°F (-29°C to 105°C) | 0.256 | 0.05 | 20 | \$1.34 |
| | | | | | | | | | | | |
| THMWJ-UL-20-1U-P-1 | 20 | 2, solid | Extruded PVC | None | Extruded PVC, Black | Standard | 32°F to 200°F (0°C to 93°C) | 0.136/0.198 | 0.02 | 20 | \$0.35 |
| | | | | | | | | | | | |
| THMWJ-UL-20-1S-F-1 | 20 | 2, solid | Extruded FEP | Aluminum Mylar shield and copper 22AWG drain wire | Extruded FEP, Black | Standard | 32°F to 200°F (0°C to 93°C) | 0.150 | 0.04 | 20 | \$0.95 |
| | | | | | | | | | | | |
| THMWJ-UL-16-1S-F-1 | 16 | 2, solid | Extruded FEP | Aluminum Mylar shield and copper 18AWG drain wire | Extruded FEP, Black | Standard | -20°F to 200°F (-29°C to 93°C) | 0.184 | 0.05 | 20 | \$1.52 |
| | | | | | | | | | | | |
| THMWJ-UL-16-1S-P-1 | 16 | 2, solid | Extruded PVC | Aluminum Mylar shield and copper 18AWG drain wire | Extruded PVC, Black | Standard | 32°F to 105°F (0°C to 40°C) | 0.256 | 0.05 | 20 | \$0.89 |

* See web store for maximum cut lengths

** Per ASTM E230 / E230M-12

Note: Special connectors and terminal blocks are required to connect thermocouples to a control device. Both are available from www.automationdirect.com

Note: Maximum recommended distance between thermocouple and control device is 100 feet.



Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

TE Wire & Cable - TC & RTD



Overview

AutomationDirect offers Thermocouple Extension Cable with either an Overall Shield (OS) or with Individually Shielded Pairs with an Overall Shield (SPOS) in both Type K and Type J. These cables allow the convenience of connecting multiple field sensors to operating instrumentation or PLC input cards with one run versus having to install multiple extension wires. With an operating temperature range of -30°C to 105°C (-22°F to 221°F) and a rugged PVC jacket these cables are designed to take on the toughest application. The alphanumeric print on the twisted pairs make identifying the pairs for installation and troubleshooting easy. Available in bulk lengths or cut to length starting at a low 20-foot minimum, AutomationDirect's Thermocouple Extension Cable is a great solution for those applications where multiple temperature sensors need to be connected to a control system.

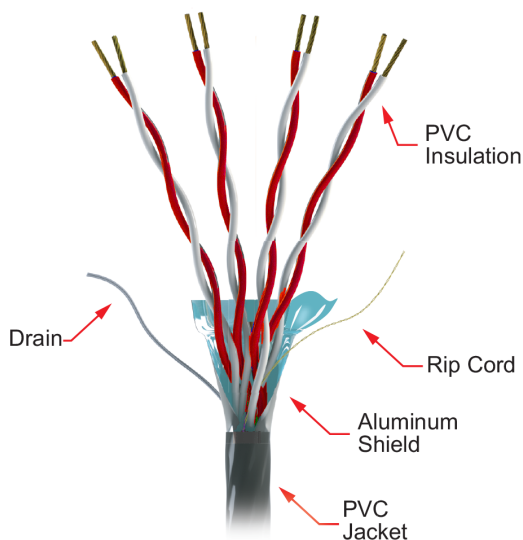
Features

- 2, 4, & 8 pair thermocouple extension cable
- UL PLTC rated
- 105C PVC Jacket
- NEC Article 725 Hazardous Locations(Class I, Div 2)
- Overall Cable Shield & Individual and Overall Cable Shields
- 20 gauge solid thermocouple alloy
- Sequentially numbered twisted pairs
- Low 20 foot minimum length
- Made in the USA

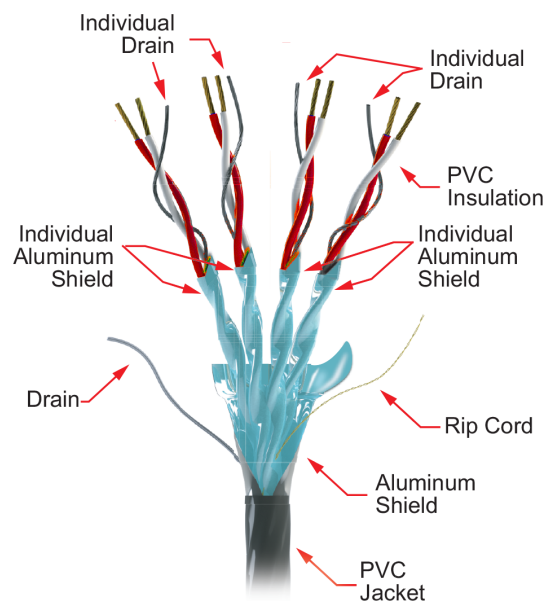


Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable

Overall Cable Shield



Individual and Overall Cable Shields





Thermocouple Extension Cable - Twisted Pair - Overall Shield

Thermocouple Extension Cable Twisted Pair Shielded Specifications

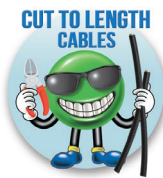
| | | | |
|--|--|-----------------------------|--|
| Conductor Gauge & Stranding | 20AWG Solid | Print Legend* | TE WIRE & CABLE (UL) TYPE PLTC 105C 20 AWG THCPL EXTN TYPE xx WWW.TEWIRE.COM |
| Voltage Rating | 300V | Flame Rating | Passes VW-1 Flame Test Passes IEEE 383 Flame Test |
| Jacket Material | Sunlight resistant PVC (polyvinyl chloride) | Applicable Standards | UL Standard 13 Type PLTC UL Standard 2250 Type ITC NEC Article 725 (Type PLTC) Hazardous Locations: NEC Article 725 (Class I, Div 2) |
| Conductor Insulation | PVC | | |
| Conductor Markings | Alphanumeric print @ 4-inch intervals | | |
| Temperature Rating | -30°C to 105°C (-22°F to 221°F) | | |
| Shield and Drain Wire | Overall aluminum polyester foil shield with a 20AWG tinned copper drain wire | | |
| Min. Bend Radius | 10x diameter | | |

*XX = Number of shielded pairs

Thermocouple Extension Cable Twisted Pair Shielded Selection

| Part Number | Number of Pairs | AWG | Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft) * | Approximate Weight (lb/ft) | Price per foot |
|--|-----------------|-----|---------------------------------------|---------------------------------|---------------------------------|-----------------------------|--------------------------------|---------------------------|----------------------------|----------------|
|  | | | | | | | | | | |
| <u>THMWK-20-2S-P-1</u> | 2 | 20 | 0.016 | 0.070 | 0.042 | 0.331 | 4.0 | 20 | 0.07 | \$1.54 |
| <u>THMWK-20-4S-P-1</u> | 4 | 20 | | | | 0.377 | 4.5 | | 0.08 | \$2.41 |
| <u>THMWK-20-8S-P-1</u> | 8 | 20 | | | | 0.493 | 6.0 | | 0.15 | \$4.09 |
|  | | | | | | | | | | |
| <u>THMWJ-20-2S-P-1</u> | 2 | 20 | 0.016 | 0.070 | 0.042 | 0.331 | 4.0 | 20 | 0.07 | \$1.07 |
| <u>THMWJ-20-4S-P-1</u> | 4 | 20 | | | | 0.377 | 4.5 | | 0.08 | \$1.75 |
| <u>THMWJ-20-8S-P-1</u> | 8 | 20 | | | | 0.492 | 6.0 | | 0.15 | \$3.76 |

* See web store for maximum cut lengths





Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

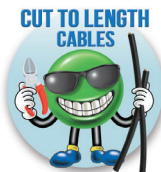
Thermocouple Extension Cable - Twisted Pair - Individual/Overall Shield

| Thermocouple Extension Cable Twisted Pair Individual/Overall Shield Specifications | | | |
|--|---|-----------------------------|--|
| Conductor Gauge & Stranding | 20AWG Solid | Min. Bend Radius | 10x diameter |
| Voltage Rating | 300V | Print Legend* | TE WIRE & CABLE (UL) TYPE PLTC 105C 20 AWG THCPL EXTN TYPE xx WWW.TEWIRE.COM |
| Jacket Material | Sunlight resistant PVC (polyvinyl chloride) | Flame Rating | Passes VW-1 Flame Test Passes IEEE 383 Flame Test |
| Conductor Insulation | PVC | Applicable Standards | UL Standard 13 Type PLTC UL Standard 2250 Type ITC NEC Article 725 (Type PLTC) Hazardous Locations: NEC Article 725 (Class I, Div 2) |
| Conductor Markings | Alphanumeric print @ 4-inch intervals | | |
| Temperature Rating | -30°C to 105°C (-22°F to 221°F) | | |
| Cable Overall Shield and Drain Wire | Individual and overall aluminum polyester foil shield with a 20AWG tinned copper drain wire | | |
| Individual Pairs Shield and Drain Wire | Aluminum polyester foil shield with a 22AWG tinned copper drain wire | | |

* XX = Number of shielded pairs

| Thermocouple Extension Cable Twisted Pair Individual/Overall Shield Selection | | | | | | | | | | |
|--|-----------------|-----|---------------------------------------|---------------------------------|---------------------------------|-----------------------------|--------------------------------|--------------------------|----------------------------|----------------|
| Part Number | Number of Pairs | AWG | Conductor Insulation Thickness (Mils) | Conductor Approx. O.D. (Inches) | Overall Jacket Thickness (Mils) | Nominal O.D. (Inches ± 10%) | Installed Bend Radius (Inches) | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
|  | | | | | | | | | | |
| <u>THMWK-20-2SS-P-1</u> | 2 | 20 | 0.016 | 0.070 | 0.042 | 0.349 | 4.25 | 20 | 0.07 | \$1.64 |
| <u>THMWK-20-4SS-P-1</u> | 4 | 20 | | | | 0.456 | 5.5 | | 0.12 | \$2.92 |
| <u>THMWK-20-8SS-P-1</u> | 8 | 20 | | | 0.053 | 0.579 | 7.0 | | 0.20 | \$4.89 |
|  | | | | | | | | | | |
| <u>THMWJ-20-2SS-P-1</u> | 2 | 20 | 0.016 | 0.070 | 0.042 | 0.349 | 4.25 | 20 | 0.07 | \$1.26 |
| <u>THMWJ-20-4SS-P-1</u> | 4 | 20 | | | | 0.455 | 5.5 | | 0.12 | \$2.25 |
| <u>THMWJ-20-8SS-P-1</u> | 8 | 20 | | | 0.053 | 0.579 | 7.0 | | 0.20 | \$4.06 |

* See web store for maximum cut lengths



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DLO, RHH, RHW-2 Heavy Duty Flexible Power Cable - Unshielded



Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable

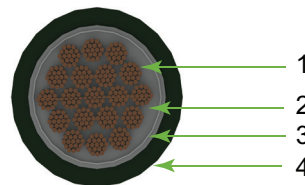
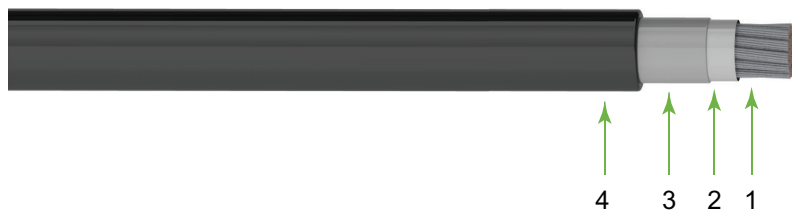


Overview

AutomationDirect's DLO, RHH, RHW-2 Heavy Duty Flexible Power Cable is a 2kV rated flexible power cable with a variety of possible applications including industrial control panel power distribution, power feeds for Variable Frequency Drives (VFDs) and motor leads in non-drive related applications, as well as non-traditional industrial applications like drilling rigs, railroad/transit car wiring, and mining equipment. With the RHH and RHW-2 ratings these cables are suitable for use in both wet and dry locations and can be used in conduits, ducts, troughs and control panels. The maximum rating for continuous use is 90°C (194°F) either wet or dry. The cable is oil, heat, flame, abrasion and sunlight resistant. AutomationDirect's Heavy Duty Flexible Power Cable is extremely flexible with a tight bend radius allowing easy installations in limited spaces. Approved for use per the NEC as Type RHH/RHW-2 and per the CSA as 2kV Type RW90.

Features

- 8AWG to 4/0 AWG
- Single conductor
- EPDM thermoset rubber conductor insulation
- CPE thermoset rubber jacket
- Cut to length in 1 foot increments
- Minimum cut lengths as low as 10 feet
- Flexibility for easy installation
- Multiple ratings and approvals
- Wide operating temperature range
- 2kV Maximum Voltage Rating
- NEC Type RHH/RHW-2
- CSA Type RW90
- Made in USA



Construction

1. Conductors: Flexible Stranded Rope-Lay Class 1 Tinned Copper per ASTM B33 and B172
2. Binder Tape: Mylar Tape
3. Conductor Insulation: Thermoset Ethylene Propylene Diene Monomer (EPDM)
4. Cable Jacket: Thermoset Chlorinated Polyethylene (CPE)

DLO, RHH, RHW-2 Cable

| DLO, RHH, RHW-2 Cable Selection | | | | | | | | | |
|---------------------------------|-----|-------------------|-----------------------------------|------------------------------|------------------|------|-------------------------------|-----------------------------|-------------------|
| Part Number | AWG | Strands ##/AWG | Insulation Thickness (EPDM) | Jacket Thickness (CPE) | Overall Diameter | | Approximate Weight (lb/ft) | Minimum Cut Length (ft)* | Price per foot |
| | | | (inches) | (inches) | (inches) | (mm) | | | |
| DLO8BK-1 | 8 | 41/24 | 0.055 | 0.030 | 0.330 | 8.4 | 0.100 | 20 | \$1.20 |
| DLO6BK-1 | 6 | 63/24 | 0.055 | 0.030 | 0.370 | 9.4 | 0.128 | 20 | \$1.72 |
| DLO4BK-1 | 4 | 105/24 | 0.060 | 0.030 | 0.440 | 11.2 | 0.187 | 20 | \$2.64 |
| DLO2BK-1 | 2 | 161/24 | 0.060 | 0.030 | 0.495 | 12.6 | 0.291 | 20 | \$3.63 |
| DLO1-0BK-1 | 1/0 | 266/24 | 0.080 | 0.045 | 0.645 | 16.4 | 0.488 | 20 | \$5.96 |
| DLO2-0BK-1 | 2/0 | 342/24 | 0.080 | 0.045 | 0.690 | 17.5 | 0.558 | 20 | \$7.36 |
| DLO3-0BK-1 | 3/0 | 418/24 | 0.080 | 0.045 | 0.760 | 19.3 | 0.654 | 10 | \$8.61 |
| DLO4-0BK-1 | 4/0 | 532/24 | 0.080 | 0.045 | 0.815 | 20.7 | 0.829 | 10 | \$10.94 |

* See web store for maximum cut lengths

| DLO, RHH, RHW-2 Cable Specifications | | | |
|--------------------------------------|---|----------------------|--|
| Conductor Stranding | Flexible Stranded Rope-Lay Class 1 Tinned Copper per ASTM B33 and B172 | Applicable Standards | ASTM B3 - Soft or Annealed Copper |
| Voltage Rating | 2kV | | ASTM B33 - Tinned Soft or Annealed Copper |
| Outer Jacket Color | Black with white print | | B172 - Rope-Lay-Stranded Copper Conductors Having Bunch Stranded Members |
| Outer Jacket Material | CPE (Chlorinated Polyethylene) thermoset rubber | | UL Subject 2806 - Type HDFPC-DLO |
| Cold Bend Test | -40°C (-40°F) | | UL 44 - Type RHH/RHW-2 |
| Operating Temperature | -40°C to 90°C (-40°F to 194°F) | | CSA C22.2 No. 38 - Type RW90 |
| Conductor Insulation | Black EPDM (ethylene propylene diene monomer) thermoset rubber | Approvals* | MSHA - P-07-KA100013 |
| Temperature Rating | 90°C (194°F) Wet or Dry | | IEEE 1202/FT4 - Flame Test (70,000 Btu/hr Vertical Tray Test). #8 and larger CSA. 1/0 and larger UL. UL 1685 - Vertical-Tray Fire-Propagation and Smoke- Release Test ICEA S-95-658 (NEMA WC70) Power cables rated 2000 volts or less for the distribution of electrical energy |
| | | Sample Print Legend | SOUTHWIRE® ROYAL® xxx SIZE AWG (xxxmm2) E30117-D (UL) TYPE HDFPC-DLO EPR/CPE 2KV DLO 90C DRY 90C WET OR TYPE RHH/RHW-2 90C DRY 90C WET 2KV -40C PRI PRII SR FOR CT USE FT4 - CSA 156205 RW90 90C DRY 90C WET TC- ER 2KV -40C PRI PRII FT1 FT4 SR P-07-KA100013- MSHA SEQUENTIAL FOOTAGE MARKS xxxxxxxxFT |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

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| DLO, RHH, RHW-2 Cable Additional Specifications | | | | | | | |
|---|-----|-------------------------------------|--------------|----------------------------------|--------------|---------------------------------|------------------------------|
| Part Number | AWG | Allowable Ampacities In Conduit* | | Allowable Ampacities In Air** | | Min. Bend Radius (inches) | Max. Pulling Tension (lb) |
| | | 75°C (167°F) | 90°C (194°F) | 75°C (167°F) | 90°C (194°F) | | |
| DLO8BK-1 | 8 | 50 | 55 | 70 | 80 | 2.63 | 132 |
| DLO6BK-1 | 6 | 65 | 75 | 95 | 105 | 2.98 | 210 |
| DLO4BK-1 | 4 | 85 | 95 | 125 | 140 | 3.37 | 334 |
| DLO2BK-1 | 2 | 115 | 130 | 170 | 190 | 4.03 | 531 |
| DLO1-0BK-1 | 1/0 | 150 | 170 | 230 | 260 | 5.52 | 845 |
| DLO2-0BK-1 | 2/0 | 175 | 195 | 265 | 300 | 5.76 | 1065 |
| DLO3-0BK-1 | 3/0 | 200 | 225 | 310 | 350 | 5.81 | 1342 |
| DLO4-0BK-1 | 4/0 | 230 | 260 | 360 | 405 | 6.47 | 1693 |

* Ampacities based on Table 310.15(B)(16) of the National Electrical Code® for not more than three current-carrying conductors in raceway, cable or earth. Based on ambient temperature of 30°C (86°F).

** Ampacities based on Table 310.15(B)(17) of the National Electrical Code® allowable ampacities of single-insulated conductors rated up to and including 2000 Volts in free air. Based on ambient temperature of 30°C (86°F).



Please Note: Our prices on DLO Power cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

ALL-FLEX MTW, THHW Heavy Duty Flexible Power Cable - Unshielded



Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable



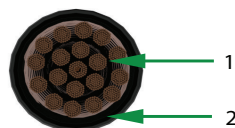
Overview

Direct Wire's ALL-FLEX MTW / THHW multipurpose power cable is a 1kV rated flexible power cable with a variety of possible applications including industrial control panel power distribution, power feeds for variable frequency drives (VFDs), servo systems, and motor leads in non-drive related applications, as well as non-traditional industrial applications like marine board application and uninterruptible power supplies (UPS), transformer wiring, battery chargers, and more.

With the THHW and MTW ratings these cables are suitable for use in both wet and dry locations and can be used in conduits, ducts, troughs, and control panels. Enhanced temperature ratings of -50°C to 75°C (-58°F to 167°F) wet; 105°C (221°F) dry makes it ideal for most wiring applications. ALL-FLEX is resistant to battery acid, crushing force, diesel fuel, engine coolant, engine oil, ethanol, extreme temperatures, flame, gasoline, power-steering fluid, and transmission fluid and is UL tested for 60°C (140°F) oil resistant temperature rating and is extremely flexible with a tight bend radius allowing easy installations in limited spaces.

Features

- 8AWG to 500MCM
- Single conductor
- PVC conductor insulation
- Cut to length in 1 foot increments
- Minimum cut lengths as low as 10 feet
- Flexibility for easy installation
- Multiple ratings and approvals
- Wide operating temperature range
- 1000V Maximum Voltage Rating
- UL1063 (MTW) and UL 83 (THHW)
- CSA C22.2 No. 75 (THHW), 127-18 (TEW), 210-15 (AWM), and 2556
- Made in USA



Construction

1. Rope-lay, bunch-stranded 30AWG copper conductor; bare or tinned ASTM Class K copper
2. PVC conductor insulation

ALL-FLEX MTW, THHW Heavy Duty Flexible Power Cable - Unshielded

ALL-FLEX MTW, THHW Cable Selection

| Part Number | AWG | Strands ##/AWG | Color | Insulation Thickness (PVC) | Overall Diameter | | Approximate Weight (lb/ft) | Minimum Cut Length (ft) (See Note) | Price per foot |
|-------------------------------|---------|-------------------|--------------------------|----------------------------------|------------------|------|-------------------------------|--|-------------------|
| | | | | (inches) | (inches) | (mm) | | | |
| MTW8BK-1 | 8 | 182/30 | Black | 0.060 | 0.270 | 6.9 | 0.077 | 20 | \$0.83 |
| MTW8GYL-1 | 8 | 182/30 | Green with Yellow stripe | 0.060 | 0.270 | 6.9 | 0.077 | 20 | \$1.10 |
| MTW8BR-1 | 8 | 182/30 | Brown | 0.060 | 0.270 | 6.9 | 0.077 | 20 | \$1.10 |
| MTW8YL-1 | 8 | 182/30 | Yellow | 0.060 | 0.270 | 6.9 | 0.077 | 20 | \$1.10 |
| MTW8OR-1 | 8 | 182/30 | Orange | 0.060 | 0.270 | 6.9 | 0.077 | 20 | \$1.10 |
| MTW6BK-1 | 6 | 273/30 | Black | 0.060 | 0.315 | 8.0 | 0.111 | 20 | \$1.17 |
| MTW6GYL-1 | 6 | 273/30 | Green with Yellow stripe | 0.060 | 0.315 | 8.0 | 0.111 | 20 | \$1.22 |
| MTW6BR-1 | 6 | 273/30 | Brown | 0.060 | 0.315 | 8.0 | 0.111 | 20 | \$1.22 |
| MTW6YL-1 | 6 | 273/30 | Yellow | 0.060 | 0.315 | 8.0 | 0.111 | 20 | \$1.22 |
| MTW6OR-1 | 6 | 273/30 | Orange | 0.060 | 0.315 | 8.0 | 0.111 | 20 | \$1.22 |
| MTW4BK-1 | 4 | 429/30 | Black | 0.060 | 0.350 | 8.9 | 0.164 | 20 | \$1.80 |
| MTW4GYL-1 | 4 | 429/30 | Green with Yellow stripe | 0.060 | 0.350 | 8.9 | 0.164 | 20 | \$1.91 |
| MTW2BK-1 | 2 | 676/30 | Black | 0.060 | 0.419 | 10.6 | 0.246 | 20 | \$2.77 |
| MTW2GYL-1 | 2 | 676/30 | Green with Yellow stripe | 0.060 | 0.419 | 10.6 | 0.246 | 20 | \$2.77 |
| MTW1BK-1 | 1 | 845/30 | Black | 0.080 | 0.490 | 12.5 | 0.320 | 20 | \$3.54 |
| MTW1GYL-1 | 1 | 845/30 | Green with Yellow stripe | 0.080 | 0.490 | 12.5 | 0.320 | 20 | \$3.54 |
| MTW1OBK-1 | 1/0 | 1066/30 | Black | 0.080 | 0.531 | 13.5 | 0.392 | 20 | \$4.45 |
| MTW1OGYL-1 | 1/0 | 1066/30 | Green with Yellow stripe | 0.080 | 0.531 | 13.5 | 0.392 | 20 | \$4.45 |
| MTW2OBK-1 | 2/0 | 1339/30 | Black | 0.080 | 0.579 | 14.7 | 0.485 | 20 | \$5.49 |
| MTW2OGYL-1 | 2/0 | 1339/30 | Green with Yellow stripe | 0.080 | 0.579 | 14.7 | 0.485 | 20 | \$5.49 |
| MTW3OBK-1 | 3/0 | 1677/30 | Black | 0.080 | 0.632 | 16.0 | 0.596 | 10 | \$6.87 |
| MTW3OGYL-1 | 3/0 | 1677/30 | Green with Yellow stripe | 0.080 | 0.632 | 16.0 | 0.596 | 10 | \$6.87 |
| MTW4OBK-1 | 4/0 | 2109/30 | Black | 0.080 | 0.695 | 17.7 | 0.741 | 10 | \$8.58 |
| MTW4OGYL-1 | 4/0 | 2109/30 | Green with Yellow stripe | 0.080 | 0.695 | 17.7 | 0.741 | 10 | \$8.58 |
| MTW250MCMBK-1 | 250 MCM | 2527/30 | Black | 0.100 | 0.793 | 20.2 | 0.916 | 10 | Retired |
| MTW350MCMBK-1 | 350 MCM | 3478/30 | Black | 0.100 | 0.915 | 23.3 | 1.242 | 10 | Retired |

Note - See web store for maximum cut lengths

ALL-FLEX MTW, THHW Cable Specifications

| | | | |
|------------------------------|--|------------------------------------|---|
| Conductor Stranding | Rope-lay, bunch-stranded 30 AWG copper conductor; bare ASTM Class K copper | Applicable Standards | UL 758, 1232, 1283, 1284, 1337, 1338, 1339, 1581, 2556, 10070, and 10269 UL 1063 (MTW) and UL 83 (THHW) UL 1426 (BC-5W2 Boat Cable) For CT Use (1/0 and larger sizes) CSA C22.2 No. 75 (THHW), 127-18 (TEW), 210-15 (AWM), and 2556 ASTM B3, B33, B49, and B172 SAE J1127 Type SGT NEC (NFPA 70) ABYC E-11 (AC/DC - Electrical Boat Systems) 33 CFR Subchapter S FT-1, FT-2, FT-4, and VW-1 |
| Voltage Rating | 600 V; AWM Style 10269 — 1,000 V | | |
| Insulation Color | Black with white print | | |
| Insulation Material | PVC | | |
| Cold Bend Test | -40°C (-40°F) | Approvals & Compliance* | UL, CSA, ABYC, RoHS, REACH, Prop 65 ALL-FLEX (UL) {E#} {AWG SIZE} BC5W2 or THHW FOR CT USE or MTW or AWM STYLES 1232/1284/1338/10070 600V or 10269 1000V VW-1 --- cRU TEW or AWM I A/B 105°C 600V O FT-2 --- (CSA) {MCF #} {AWG SIZE} TEW 600V or AWM I A/B 105°C 1000V FT-1/FT-2/ VW-1 --- ABYC E-11 --- SAE-J1127 TYPE SGT |
| Operating Temperature | -50°C to 75°C (-58°F to 167°F) wet; 105°C (221°F) dry | | |
| Temperature Rating | 75°C (167°F) wet; 105°C (221°F) | Sample Print Legend | |

* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com



Please Note: Our prices on Power cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

ALL-FLEX MTW, THHW Heavy Duty Flexible Power Cable - Unshielded

| ALL-FLEX MTW, THHW Cable Additional Specifications | | | | | | | |
|---|---------|--------------------------------|--------------|-----------------------------|--------------|---------------------------|---------------------------|
| Part Number | AWG | Allowable Ampacity In Conduit* | | Allowable Ampacity In Air** | | Min. Bend Radius (inches) | Max. Pulling Tension (lb) |
| | | 75°C (167°F) | 90°C (194°F) | 75°C (167°F) | 90°C (194°F) | | |
| <u>MTW8BK-1</u> | 8 | 50 | 55 | 70 | 80 | 2.16 | 132 |
| <u>MTW8GYL-1</u> | 8 | 50 | 55 | 70 | 80 | 2.16 | 132 |
| <u>MTW8BR-1</u> | 8 | 50 | 55 | 70 | 80 | 2.16 | 132 |
| <u>MTW8YL-1</u> | 8 | 50 | 55 | 70 | 80 | 2.16 | 132 |
| <u>MTW8OR-1</u> | 8 | 50 | 55 | 70 | 80 | 2.16 | 132 |
| <u>MTW6BK-1</u> | 6 | 65 | 75 | 95 | 140 | 2.52 | 210 |
| <u>MTW6GYL-1</u> | 6 | 65 | 75 | 95 | 140 | 2.52 | 210 |
| <u>MTW6BR-1</u> | 6 | 65 | 75 | 95 | 140 | 2.52 | 210 |
| <u>MTW6YL-1</u> | 6 | 65 | 75 | 95 | 140 | 2.52 | 210 |
| <u>MTW6OR-1</u> | 6 | 65 | 75 | 95 | 140 | 2.52 | 210 |
| <u>MTW4BK-1</u> | 4 | 85 | 95 | 125 | 165 | 2.80 | 334 |
| <u>MTW4GYL-1</u> | 4 | 85 | 95 | 125 | 165 | 2.80 | 334 |
| <u>MTW2BK-1</u> | 2 | 115 | 130 | 190 | 190 | 3.35 | 531 |
| <u>MTW2GYL-1</u> | 2 | 115 | 130 | 190 | 190 | 3.35 | 531 |
| <u>MTW1BK-1</u> | 1 | 130 | 150 | 195 | 220 | 3.92 | 670 |
| <u>MTW1GYL-1</u> | 1 | 130 | 150 | 195 | 220 | 3.92 | 670 |
| <u>MTW1-OBK-1</u> | 1/0 | 150 | 170 | 230 | 260 | 4.24 | 845 |
| <u>MTW1-OGYL-1</u> | 1/0 | 150 | 170 | 230 | 260 | 4.24 | 845 |
| <u>MTW2-OBK-1</u> | 2/0 | 175 | 195 | 265 | 300 | 4.63 | 1065 |
| <u>MTW2-OGYL-1</u> | 2/0 | 175 | 195 | 265 | 300 | 4.63 | 1065 |
| <u>MTW3-OBK-1</u> | 3/0 | 200 | 225 | 310 | 350 | 5.06 | 1342 |
| <u>MTW3-OGYL-1</u> | 3/0 | 200 | 225 | 310 | 350 | 5.05 | 1342 |
| <u>MTW4-OBK-1</u> | 4/0 | 230 | 260 | 360 | 405 | 5.56 | 1693 |
| <u>MTW4-OGYL-1</u> | 4/0 | 230 | 260 | 360 | 405 | 5.56 | 1693 |
| <u>MTW250MCMBK-1</u> | 250 MCM | 255 | 290 | 405 | 455 | 6.35 | 2000 |
| <u>MTW350MCMBK-1</u> | 350 MCM | 310 | 350 | 505 | 570 | 7.32 | 2800 |
| * Ampacities based on Table 12.5.1 of the NFPA 79 Electrical Standards for Industrial Machinery | | | | | | | |
| ** Ampacities based on Table 310.17 of the National Electrical Code® | | | | | | | |



Please Note: Our prices on Power cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Wire - Type THHN/THWN-2

Applications

Type THHN/THWN-2 building wire is intended for general purpose applications as defined by the National Electrical Code (NEC). Type THHN/THWN-2 is permitted for new construction or rewiring for 600-volt applications. For applications requiring Type THHN/THWN-2, the conductor is appropriate for use in wet or dry locations at temperatures not to exceed 90°C or not to exceed 75°C in oil or coolants. Slick nylon outer jacket for easy pulling. All sizes rated gasoline and oil resistant II. THHN/THWN-2 wire 6AWG and larger Sunlight Resistant in all colors.

THHN wire is sold in 500-foot spools.



Features

Conductors

Stranded, uncoated copper conductors per ASTM-B3, ASTM-B787 and ASTM-B8

Insulation

Color-coded Polyvinyl Chloride (PVC), heat and moisture-resistant, flame-retardant compound per UL-1063 and UL-83

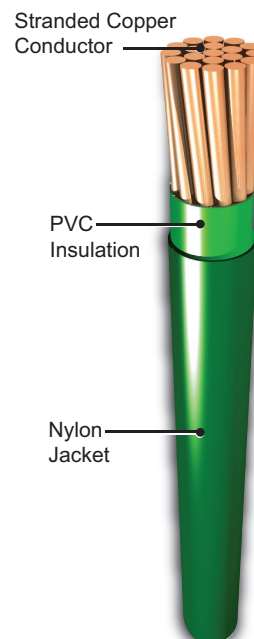
Jacket

A tough, polyamide, Nylon outer covering per UL-1063 and UL-83

Standards

- UL Standards UL-758, UL-1063
- AWM Spec 1316, 1318, 1219, 1408, 1410, 1411, 1452
- Canadian Standards Association C22.2 No. 210
- RoHS

Type THHN/THWN-2 Wire



Type THHN/THWN-2 Wire Specifications

| Size (AWG or kcmil) | Number of Strands | mm ² Equivalent | Insulation Thickness (inches) | | Overall Outside Diameter | | Allowable Ampacities* | | | Approximate Weight (lbs) 500ft | Standard Packaging spool/reel |
|---------------------------|----------------------|-------------------------------|----------------------------------|-------|-----------------------------|------|--------------------------|------|------|--------------------------------------|-------------------------------------|
| | | | PVC | Nylon | (inches) | (mm) | 60°C | 75°C | 90°C | | |
| 14 | 19 | 2.5 | 0.015 | 0.005 | 0.113 | 2.87 | 15 | 20 | 25 | 8.1 | 500' |
| 12 | 19 | 4 | 0.016 | 0.005 | 0.133 | 3.38 | 20 | 25 | 30 | 12.2 | |
| 10 | 19 | 6 | 0.020 | 0.005 | 0.166 | 4.22 | 30 | 35 | 40 | 19.2 | |
| 8 | 19 | 10 | 0.031 | 0.006 | 0.222 | 5.64 | 40 | 50 | 55 | 31.5 | |
| 6 | 19 | 16 | 0.031 | 0.006 | 0.259 | 6.58 | 55 | 65 | 75 | 47.8 | |
| 4 | 19 | 25 | 0.040 | 0.006 | 0.327 | 8.31 | 70 | 85 | 95 | 76.7 | |

*Note: Allowable ampacity shown above is per the National Electric Code. The above data is approximate and subject to normal manufacturing tolerances.

Please Note: Our prices on wire are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Wire - Type THHN/THWN-2

| Type THHN/THWN-2 Wire | | | | | | |
|---------------------------|---------------------------------|----------|---|-------------------|----------------|----------|
| Part Number | Insulation Color | Gauge | Description | Spool/Reel Length | Approx. Weight | Price |
| THHN14BK | Black | 14AWG | Type THHN/THWN-2 wire, bare copper, 19 strands, 600 Volts | 500' | 8.1 lbs | \$97.00 |
| THHN14WH | White | | | | | \$97.00 |
| THHN14RD | Red | | | | | \$97.00 |
| THHN14BL | Blue | | | | | \$97.00 |
| THHN14GN | Green | | | | | \$97.00 |
| THHN14YL | Yellow | | | | | \$84.00 |
| THHN14OR | Orange | | | | | \$97.00 |
| THHN14BN | Brown | | | | | \$97.00 |
| THHN14PL | Purple | | | | | \$84.00 |
| THHN14GY | Gray | | | | | \$97.00 |
| THHN14GYL | Green with Yellow spiral stripe | | | | | \$104.00 |
| THHN14BW | Blue with White spiral stripe | | | | | \$104.00 |
| THHN12BK | Black | | | | | 12AWG |
| THHN12WH | White | \$145.00 | | | | |
| THHN12RD | Red | \$145.00 | | | | |
| THHN12BL | Blue | \$145.00 | | | | |
| THHN12GN | Green | \$145.00 | | | | |
| THHN12YL | Yellow | \$145.00 | | | | |
| THHN12OR | Orange | \$145.00 | | | | |
| THHN12BN | Brown | \$145.00 | | | | |
| THHN12GY | Gray | \$145.00 | | | | |
| THHN12GYL | Green with Yellow spiral stripe | \$151.00 | | | | |
| THHN10BK | Black | 10AWG | Type THHN/THWN-2 wire, bare copper, 19 strands, 600 Volts | | 19.2 lbs | |
| THHN10WH | White | | | | | \$232.00 |
| THHN10GN | Green | | | | | \$232.00 |
| THHN10YL | Yellow | | | | | \$232.00 |
| THHN10OR | Orange | | | | | \$232.00 |
| THHN10BN | Brown | | | | | \$232.00 |
| THHN10GYL | Green with Yellow spiral stripe | | | | | \$238.00 |
| THHN8BK | Black | 8AWG | Type THHN/THWN-2 wire, bare copper, 19 strands, 600 Volts | | 31.5 lbs | \$380.00 |
| THHN8GN | Green | | | | | \$380.00 |
| THHN8GYL | Green with Yellow spiral stripe | | | | | \$386.00 |
| THHN6BK | Black | 6AWG | Type THHN/THWN-2 wire, bare copper, 19 strands, 600 Volts | | 47.8 lbs | \$583.00 |
| THHN4BK | Black | 4AWG | Type THHN/THWN-2 wire, bare copper, 19 strands, 600 Volts | | 76.7 lbs | \$981.00 |

Wire - Type THHN

Gauge Conversion Table

| American Wire Gauge Conversion Chart* | | | |
|---|------|---------|-----|
| This cross reference shows equivalent nominal values. Actual cross sections may vary. | | | |
| AWG | mm2 | AWG | mm2 |
| 30 | 0.05 | 6 | 16 |
| 28 | 0.08 | 4 | 25 |
| 26 | 0.14 | 2 | 35 |
| 24 | 0.25 | 1 | 50 |
| 22 | 0.34 | 1/0 | 55 |
| 21 | 0.38 | 2/0 | 70 |
| 20 | 0.50 | 3/0 | 95 |
| 18 | 0.75 | 4/0 | 120 |
| 17 | 1.00 | 300MCM | 150 |
| 16 | 1.50 | 350MCM | 185 |
| 14 | 2.50 | 500MCM | 240 |
| 12 | 4 | 600MCM | 300 |
| 10 | 6 | 750MCM | 400 |
| 8 | 10 | 1000MCM | 500 |
| *Note: Table shows commercially used equivalent values. | | | |

Wire - AWM Hook-up Wire

Applications

AWM Hook-up Wire conductors are primarily used in control cabinets, Industrial Machinery applications, and appliance wiring applications. Also for compliance in accordance with the National Electrical Code (NEC) and NFPA Standard 79. Voltage rating for all applications is 300 volts.

Features

- Gauges from 26AWG to 16AWG
- Tinned copper conductor
- Color-coded Polyvinyl Chloride (PVC) outer jacket
- Striped version available for some colors and gauges
- Multiple ratings and approvals
- 500ft or 1000ft spools available
- Made in the USA

AWM Hook-up Wire

Tinned Stranded
Copper Conductor

PVC
Insulation



AWM Hook-up Wire Specifications

| Size (AWG or kcmil) | Number of Strands | mm ² Equivalent | Insulation Thickness | Overall Outside Diameter | | Allowable Ampacities* | | | Agency Approvals | Temperature Rating per UL1007/ UL1569 | Approximate Weight (lbs) 500ft/1000ft | Standard Packaging (Spool/Reel) |
|---------------------------|-------------------------|-------------------------------|-------------------------|--------------------------------|------|--------------------------|---------------|---------------|----------------------------------|--|--|---------------------------------------|
| | | | (inches) | (inches) | (mm) | 60°C (140 °F) | 75°C (167 °F) | 90°C (194 °F) | | | | |
| 26 | 7 | 0.14 | 0.016 | 0.051 | 1.29 | - | 1 | 1 | RoHS Compliant UL1569, UL1007 | 80°C (176°F) 105°C (221°F) | 0.98/1.96 | 1000ft |
| 24 | 7 | 0.25 | 0.016 | 0.056 | 1.42 | 2 | 2 | 2 | | | 1.31/2.61 | |
| 22 | 7 | 0.34 | 0.016 | 0.062 | 1.58 | 3 | 3 | 3 | | | 1.8/3.6 | |
| 20 | 10 | 0.38 | 0.016 | 0.070 | 1.78 | 5 | 5 | 5 | | | 2.42/4.83 | 500ft |
| 18 | 16 | 0.75 | 0.016 | 0.080 | 2.08 | 7 | 7 | 14 | | | 3.47/6.94 | |
| 16 | 26 | 1.50 | 0.016 | 0.091 | 2.31 | 10 | 10 | 18 | | | 5.20/10.4 | |

*Note: Allowable ampacity shown above is per the NFPA79 Electrical Standard for Industrial Machinery 2018 Table 12.5.1 Conductor Ampacity Based on Copper Conductors with 60 °C [140 °F], 75 °C [167 °F], and 90 °C [194 °F] Insulation in an Ambient Temperature of 30 °C [86°F]. The above data is approximate and subject to normal manufacturing tolerance.

Product Color Disclaimer: The product photos shown are representative of our wire colors. The actual wire colors may vary from the images shown. Although our suppliers maintain a high-quality standard, there can be color variation from production. As a result, we cannot guarantee color spools will match up perfectly.

**Note: Unless specifically permitted elsewhere in NFPA 70 overcurrent protection should not exceed 10 amps 16AWG, 15 amps for 14AWG, 20 amps for 12AWG, and 30 amps for 10AWG.

To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.automationdirect.com

Please Note: Our prices on wire are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Wire - AWM Hook-up Wire

| AWM Hook-up Wire | | | | | | |
|----------------------------|--------------------------|--------|--|-------------------|----------------------|---------|
| Part Number | Insulation Color | Gauge | Description | Spool/Reel Length | Approx. Weight | Price |
| AWM26BL10 | blue | 26 AWG | Type AWM, single conductor, 7-stranded, tinned copper, PVC conductor insulation material, 300 Volts | 1000ft | 1.96 lb [0.89 kg] | \$32.75 |
| AWM26BK10 | black | | | | | \$32.75 |
| AWM26RD10 | red | | | | | \$32.75 |
| AWM26WH10 | white | | | | | \$32.75 |
| AWM26BW10 | blue with white stripe | | | | | \$44.25 |
| AWM26BN10 | brown | | | | | \$32.75 |
| AWM26GN10 | green | | | | | \$32.75 |
| AWM26OR10 | orange | | | | | \$32.75 |
| AWM26YL10 | yellow | | | | | \$32.75 |
| AWM26GY10 | gray | | | | | \$32.75 |
| AWM26WB10 | white with blue stripe | | | | | \$44.25 |
| AWM26PL10 | purple | | | | | \$32.75 |
| AWM26GYL10 | green with yellow stripe | | | | | \$44.25 |
| AWM24BL10 | blue | 24 AWG | Type AWM, single conductor, 7-stranded, tinned copper, PVC conductor insulation material, 300 Volts | 1000ft | 2.61 lb [1.18 kg] | \$38.50 |
| AWM24BK10 | black | | | | | \$38.50 |
| AWM24RD10 | red | | | | | \$38.50 |
| AWM24WH10 | white | | | | | \$38.50 |
| AWM24BW10 | blue with white stripe | | | | | \$49.75 |
| AWM24BN10 | brown | | | | | \$38.50 |
| AWM24GN10 | green | | | | | \$38.50 |
| AWM24OR10 | orange | | | | | \$38.50 |
| AWM24YL10 | yellow | | | | | \$38.50 |
| AWM24GY10 | gray | | | | | \$38.50 |
| AWM24WB10 | white with blue stripe | | | | | \$49.75 |
| AWM24PL10 | purple | | | | | \$38.50 |
| AWM24GYL10 | green with yellow stripe | | | | | \$49.75 |
| AWM22BL10 | blue | 22 AWG | Type AWM, single conductor, 7-stranded, tinned copper, PVC conductor insulation material, 300 Volts | 1000ft | 3.6 lb [1.63 kg] | \$47.75 |
| AWM22BK10 | black | | | | | \$47.75 |
| AWM22RD10 | red | | | | | \$47.75 |
| AWM22WH10 | white | | | | | \$47.75 |
| AWM22BW10 | blue with white stripe | | | | | \$59.00 |
| AWM22BN10 | brown | | | | | \$47.75 |
| AWM22GN10 | green | | | | | \$47.75 |
| AWM22OR10 | orange | | | | | \$47.75 |
| AWM22YL10 | yellow | | | | | \$47.75 |
| AWM22GY10 | gray | | | | | \$47.75 |
| AWM22WB10 | white with blue stripe | | | | | \$59.00 |
| AWM22PL10 | purple | | | | | \$47.75 |
| AWM22GYL10 | green with yellow stripe | | | | | \$59.00 |
| AWM20BL | blue | 20 AWG | Type AWM, single conductor, 10-stranded, tinned copper, PVC conductor insulation material, 300 Volts | 500ft | 2.41 lb [1.09 kg] | \$31.00 |
| AWM20BK | black | | | | | \$31.00 |
| AWM20RD | red | | | | | \$31.00 |
| AWM20WH | white | | | | | \$31.00 |
| AWM20BW | blue with white stripe | | | | | \$36.50 |
| AWM20BN | brown | | | | | \$31.00 |
| AWM20GN | green | | | | | \$31.00 |
| AWM20OR | orange | | | | | \$31.00 |
| AWM20YL | yellow | | | | | \$31.00 |
| AWM20GY | gray | | | | | \$31.00 |
| AWM20WB | white with blue stripe | | | | | \$36.50 |
| AWM20PL | purple | | | | | \$31.00 |
| AWM20GYL | green with yellow stripe | | | | | \$36.50 |

Wire - AWM Hook-up Wire

| AWM Hook-up Wire | | | | | | |
|--------------------------|--------------------------|--------|--|-------------------|----------------------|---------|
| Part Number | Insulation Color | Gauge | Description | Spool/Reel Length | Approx. Weight | Price |
| AWM18BL | blue | 18 AWG | Type AWM, single conductor, 16-stranded, tinned copper, PVC conductor insulation material, 300 Volts | 500ft | 3.86 lb [1.75 kg] | \$38.75 |
| AWM18BK | black | | | | | \$38.75 |
| AWM18RD | red | | | | | \$38.75 |
| AWM18WH | white | | | | | \$38.75 |
| AWM18BW | blue with white stripe | | | | | \$44.50 |
| AWM18BN | brown | | | | | \$38.75 |
| AWM18GN | green | | | | | \$38.75 |
| AWM18OR | orange | | | | | \$38.75 |
| AWM18YL | yellow | | | | | \$38.75 |
| AWM18GY | gray | | | | | \$38.75 |
| AWM18WB | white with blue stripe | | | | | \$44.50 |
| AWM18PL | purple | | | | | \$38.75 |
| AWM18GYL | green with yellow stripe | | | | | \$44.50 |
| AWM16BL | blue | 16 AWG | Type AWM, single conductor, 26-stranded, tinned copper, PVC conductor insulation material, 300 Volts | 500ft | 3.47 lb [1.57 kg] | \$54.50 |
| AWM16BK | black | | | | | \$54.50 |
| AWM16RD | red | | | | | \$54.50 |
| AWM16WH | white | | | | | \$54.50 |
| AWM16BW | blue with white stripe | | | | | \$60.25 |
| AWM16BN | brown | | | | | \$54.50 |
| AWM16GN | green | | | | | \$54.50 |
| AWM16OR | orange | | | | | \$54.50 |
| AWM16YL | yellow | | | | | \$54.50 |
| AWM16GY | gray | | | | | \$54.50 |
| AWM16WB | white with blue stripe | | | | | \$60.25 |
| AWM16PL | purple | | | | | \$54.50 |
| AWM16GYL | green with yellow stripe | | | | | \$60.25 |

Wire - AWM Hook-up Wire

Gauge Conversion Table

| American Wire Gauge Conversion Chart* | | | |
|---|------|---------|-----|
| This cross reference shows equivalent nominal values. Actual cross sections may vary. | | | |
| AWG | mm2 | AWG | mm2 |
| 30 | 0.05 | 6 | 16 |
| 28 | 0.08 | 4 | 25 |
| 26 | 0.14 | 2 | 35 |
| 24 | 0.25 | 1 | 50 |
| 22 | 0.34 | 1/0 | 55 |
| 21 | 0.38 | 2/0 | 70 |
| 20 | 0.50 | 3/0 | 95 |
| 18 | 0.75 | 4/0 | 120 |
| 17 | 1.00 | 300MCM | 150 |
| 16 | 1.50 | 350MCM | 185 |
| 14 | 2.50 | 500MCM | 240 |
| 12 | 4 | 600MCM | 300 |
| 10 | 6 | 750MCM | 400 |
| 8 | 10 | 1000MCM | 500 |

*Note: Table shows commercially used equivalent values.

Conductor Ampacity Table

| Allowable Ampacity | | | |
|---------------------------|--------------|--------------|--------------|
| AWG | 60°C [140°F] | 75°C [167°F] | 90°C [194°F] |
| 30 | — | 0.5 | 0.5 |
| 28 | — | 0.8 | 0.8 |
| 26 | — | 1 | 1 |
| 24 | 2 | 2 | 2 |
| 22 | 3 | 3 | 3 |
| 20 | 5 | 5 | 5 |
| 18 | 7 | 7 | 14 |
| 16** | 10 | 10 | 18 |
| 14** | 20 | 20 | 25 |
| 12** | 25 | 25 | 30 |
| 10** | 30 | 35 | 40 |
| 8 | 40 | 50 | 55 |
| 6 | 55 | 65 | 75 |
| 4 | 70 | 85 | 95 |
| 3 | 85 | 100 | 110 |
| 2 | 95 | 115 | 130 |
| 1 | 110 | 130 | 150 |
| 1/0 | 125 | 150 | 170 |
| 2/0 | 145 | 175 | 195 |
| 3/0 | 165 | 200 | 225 |
| 4/0 | 195 | 230 | 260 |
| 250MCM | 215 | 255 | 290 |
| 300MCM | 240 | 285 | 320 |
| 350MCM | 260 | 310 | 350 |
| 400MCM | 280 | 335 | 380 |
| 500MCM | 320 | 380 | 430 |
| 600MCM | 355 | 420 | 475 |
| 700MCM | 385 | 460 | 520 |
| 750MCM | 400 | 475 | 535 |
| 800MCM | 410 | 490 | 555 |
| 900MCM | 435 | 520 | 585 |
| 1000MCM | 455 | 545 | 615 |

*Note: Allowable ampacity shown above is per NFPA79 Electrical Standard for Industrial Machinery 2018 Table 12.5.1 Conductor Ampacity Based on Copper Conductors with 60°C [140°F], 75°C [167°F], and 90°C [194°F] Insulation in an Ambient Temperature of 30°C [86°F]

**Note: Unless specifically permitted elsewhere in NFPA 70 overcurrent protection should not exceed 10 amps 16AWG, 15 amps for 14AWG, 20 amps for 12AWG, and 30 amps for 10AWG.

Wire - Type MTW

Applications

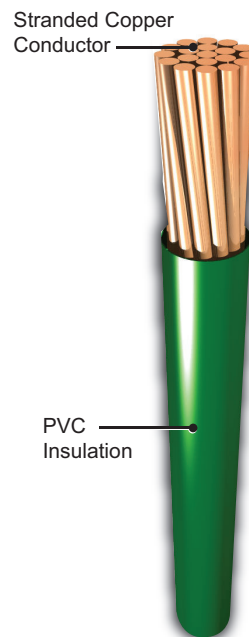
Type MTW conductors are primarily used in control cabinets, in machine tool applications, and in appliance wiring applications. For use in accordance with the National Electrical Code (NEC) and NFPA Standard 79. Voltage rating for all applications is 600 volts.

MTW wire is sold in a variety of colors and gauges on 500ft, 1000ft and 2500ft spools.

Features

- Gauges from 22AWG to 10AWG
- Bare copper conductor
- Color-coded Polyvinyl Chloride (PVC) outer jacket
- Striped version available for some colors and gauges
- Multiple ratings and approvals
- 500ft, 1000ft and 2500ft spools or reels available for most gauges & colors
- Made in the USA

Type MTW Wire



| Type MTW Wire Specifications | | | | | | | | | | | | |
|--|-------------------------|-------------------|-------------------------|--------------------------------|---------------|--------------------------|---------------|---------------|---|-------------------------------------|-----------------------------------|--|
| Size (AWG or kcmil) | Number of Strands | mm2 Equivalent | Insulation Thickness | Overall Outside Diameter | | Allowable Ampacities* | | | Agency Approvals | Temperature Rating per UL1015 | Approximate Weight (lbs) 500ft | Standard Packaging (Spool/Reel) |
| | | | | (inches) | (inches) (mm) | 60°C (140 °F) | 75°C (167 °F) | 90°C (194 °F) | | | | |
| 22 | 7 | 0.34 | 0.030 | 0.092 | 2.34 | 3 | 3 | 3 | UL 758 UL 1015 UL 1032 UL 1230 UL 1011 UL 1013 UL 1335 CSA TEW or AWM I A/B UL File No E80256 | 105°C (221°F) | 3.9 | 500ft or 1000ft |
| 20 | 10 | 0.50 | 0.030 | 0.099 | 2.51 | 5 | 5 | 5 | | | 4.0 | |
| 18 | 16 | 0.75 | 0.030 | 0.110 | 2.79 | 7 | 7 | 14 | | | 4.6 | 1000ft or 2500ft. Some colors not offered in 1000ft and 2500ft reels. |
| 16** | 26 | 1.5 | 0.030 | 0.121 | 3.07 | 10 | 10 | 18 | 6.5 | | | |
| 14** | 41 | 2.5 | 0.030 | 0.137 | 3.48 | 20 | 20 | 25 | 9.5 | | | |
| 12** | 65 | 4 | 0.030 | 0.157 | 3.99 | 25 | 25 | 30 | 13.9 | | 500ft | |
| 10** | 105 | 6 | 0.030 | 0.182 | 4.62 | 30 | 35 | 40 | CSA TEW or AWM I A/B UL File No E215651 | 20.5 | 500ft | |
| *Note: Allowable ampacity shown above is per the NFPA79 Electrical Standard for Industrial Machinery 2018 Table 12.5.1 Conductor Ampacity Based on Copper Conductors with 60 °C [140 °F], 75 °C [167 °F], and 90 °C [194 °F] Insulation in an Ambient Temperature of 30 C [86F]. The above data is approximate and subject to normal manufacturing tolerance. | | | | | | | | | | | | |
| Product Color Disclaimer: The product photos shown are representative of our wire colors. The actual wire colors may vary from the images shown. Although our suppliers maintain a high-quality standard, there can be color variation from production. As a result, we cannot guarentee color spools will match up perfectly. | | | | | | | | | | | | |
| **Note: Unless specifically permitted elsewhere in NFPA 70 overcurrent protection should not exceed 10 amps 16AWG, 15 amps for 14AWG, 20 amps for 12AWG, and 30 amps for 10AWG. | | | | | | | | | | | | |
| To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.automationdirect.com | | | | | | | | | | | | |

Please Note: Our prices on wire are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Wire - Type MTW

| Type MTW Wire | | | | | | |
|--------------------------|---------------------------------|-------|---|-------------------|-----------------------|---------|
| Part Number | Insulation Color | Gauge | Description | Spool/Reel Length | Approx. Weight | Price |
| MTW22BK | Black | 22AWG | Type MTW wire, bare copper, 7 strands, 600 Volts | 500ft | [3.9 lb] [1.76 kg] | \$27.00 |
| MTW22WH | White | | | | | \$27.00 |
| MTW22RD | Red | | | | | \$27.00 |
| MTW22BL | Blue | | | | | \$27.00 |
| MTW22GN | Green | | | | | \$27.00 |
| MTW22YL | Yellow | | | | | \$27.00 |
| MTW22OR | Orange | | | | | \$27.00 |
| MTW22BN | Brown | | | | | \$27.00 |
| MTW22PL | Purple | | | | | \$27.00 |
| MTW22GY | Gray | | | | | \$27.00 |
| MTW22BW | Blue with White spiral stripe | | | | | \$31.00 |
| MTW22WB | White with Blue spiral stripe | | | | | \$31.00 |
| MTW22WO | White with Orange spiral stripe | | | | | \$31.00 |
| MTW22GYL | Green with Yellow spiral stripe | | | | | \$31.00 |
| MTW20BK | Black | 20AWG | Type MTW wire, bare copper, 10 strands, 600 Volts | | [4.0 lb] [1.81 kg] | \$32.00 |
| MTW20WH | White | | | | | \$32.00 |
| MTW20RD | Red | | | | | \$32.00 |
| MTW20BL | Blue | | | | | \$32.00 |
| MTW20GN | Green | | | | | \$32.00 |
| MTW20YL | Yellow | | | | | \$32.00 |
| MTW20OR | Orange | | | | | \$32.00 |
| MTW20BN | Brown | | | | | \$32.00 |
| MTW20PL | Purple | | | | | \$32.00 |
| MTW20GY | Gray | | | | | \$32.00 |
| MTW20BW | Blue with White spiral stripe | | | | | \$41.50 |
| MTW20WB | White with Blue spiral stripe | | | | | \$41.50 |
| MTW20WO | White with Orange spiral stripe | | | | | \$41.50 |
| MTW20GYL | Green with Yellow spiral stripe | | | | | \$41.50 |
| MTW18BK | Black | 18AWG | Type MTW wire, bare copper, 16 strands, 600 Volts | | [4.6 lb] [2.08 kg] | \$47.00 |
| MTW18WH | White | | | | | \$47.00 |
| MTW18RD | Red | | | | | \$47.00 |
| MTW18BL | Blue | | | | | \$47.00 |
| MTW18GN | Green | | | | | \$47.00 |
| MTW18YL | Yellow | | | | | \$47.00 |
| MTW18OR | Orange | | | | | \$47.00 |
| MTW18BN | Brown | | | | | \$47.00 |
| MTW18PL | Purple | | | | | \$47.00 |
| MTW18GY | Gray | | | | | \$47.00 |
| MTW18BW | Blue with White spiral stripe | | | | | \$53.00 |
| MTW18WB | White with Blue spiral stripe | | | | | \$53.00 |
| MTW18WO | White with Orange spiral stripe | | | | | \$53.00 |
| MTW18GYL | Green with Yellow spiral stripe | | | | | \$58.00 |
| MTW16BK | Black | 16AWG | Type MTW wire,bare copper, 26 strands, 600 Volts | | [6.5 lb] [2.94 kg] | \$67.00 |
| MTW16WH | White | | | | | \$67.00 |
| MTW16RD | Red | | | | | \$67.00 |
| MTW16BL | Blue | | | | | \$67.00 |
| MTW16GN | Green | | | | | \$67.00 |
| MTW16YL | Yellow | | | | | \$67.00 |
| MTW16OR | Orange | | | | | \$67.00 |
| MTW16BN | Brown | | | | | \$67.00 |
| MTW16PL | Purple | | | | | \$67.00 |
| MTW16GY | Gray | | | | | \$67.00 |
| MTW16BW | Blue with White spiral stripe | | | | | \$73.00 |
| MTW16WB | White with Blue spiral stripe | | | | | \$59.00 |
| MTW16GYL | Green with Yellow spiral stripe | | | | | \$73.00 |

Wire - Type MTW

| Type MTW Wire | | | | | | |
|----------------------------|---------------------------------|--------|--|-------------------|------------------------|----------|
| Part Number | Insulation Color | Gauge | Description | Spool/Reel Length | Approx. Weight | Price |
| MTW14BK | Black | 14 AWG | Type MTW wire, bare copper, 41 strands, 600 Volts | 500ft | [9.5 lb] [4.31 kg] | \$96.00 |
| MTW14WH | White | | | | | \$96.00 |
| MTW14RD | Red | | | | | \$96.00 |
| MTW14BL | Blue | | | | | \$96.00 |
| MTW14GN | Green | | | | | \$96.00 |
| MTW14YL | Yellow | | | | | \$96.00 |
| MTW14OR | Orange | | | | | \$96.00 |
| MTW14BN | Brown | | | | | \$96.00 |
| MTW14PL | Purple | | | | | \$96.00 |
| MTW14GY | Gray | | | | | \$96.00 |
| MTW14BW | Blue with White spiral stripe | | | | | \$102.00 |
| MTW14WB | White with Blue spiral stripe | | | | | \$102.00 |
| MTW14GYL | Green with Yellow spiral stripe | | | | | \$102.00 |
| MTW12BK | Black | 12AWG | Type MTW wire, bare copper, 65 strands, 600 Volts | 500ft | [13.9 lb] [6.3 kg] | \$142.00 |
| MTW12WH | White | | | | | \$142.00 |
| MTW12RD | Red | | | | | \$142.00 |
| MTW12BL | Blue | | | | | \$142.00 |
| MTW12GN | Green | | | | | \$142.00 |
| MTW12YL | Yellow | | | | | \$142.00 |
| MTW12OR | Orange | | | | | \$142.00 |
| MTW12BN | Brown | | | | | \$142.00 |
| MTW12GY | Gray | | | | | \$142.00 |
| MTW10BK | Black | 10AWG | Type MTW wire, bare copper, 105 strands, 600 Volts | 500ft | [20.5 lb] [9.30 kg] | \$227.00 |
| MTW10WH | White | | | | | \$227.00 |
| MTW10GN | Green | | | | | \$227.00 |
| MTW10YL | Yellow | | | | | \$227.00 |
| MTW10OR | Orange | | | | | \$227.00 |
| MTW10BN | Brown | | | | | \$227.00 |
| MTW22BK10 | Black | 22AWG | Type MTW wire, bare copper, 7 strands, 600 Volts | 1000ft | [6.8 lb] [3.08kg] | \$48.50 |
| MTW22BL10 | Blue | | | | | \$48.50 |
| MTW22BN10 | Brown | | | | | \$48.50 |
| MTW22BW10 | Blue with White spiral stripe | | | | | \$59.00 |
| MTW22GN10 | Green | | | | | \$48.50 |
| MTW22GYL10 | Green with Yellow spiral stripe | | | | | \$59.00 |
| MTW22OR10 | Orange | | | | | \$48.50 |
| MTW22RD10 | Red | | | | | \$48.50 |
| MTW22WB10 | White with Blue spiral stripe | | | | | \$59.00 |
| MTW22WH10 | White | | | | | \$48.50 |
| MTW22YL10 | Yellow | | | | | \$48.50 |

Wire - Type MTW

| Type MTW Wire | | | | | | |
|----------------------------|---------------------------------|-------|---|-------------------|-----------------------|----------|
| Part Number | Insulation Color | Gauge | Description | Spool/Reel Length | Approx. Weight | Price |
| MTW20BK10 | Black | 20AWG | Type MTW wire, bare copper, 10 strands, 600 Volts | 1000ft | [8.3lb] [3.76kg] | \$59.00 |
| MTW20BL10 | Blue | | | | | \$59.00 |
| MTW20BN10 | Brown | | | | | \$58.00 |
| MTW20BW10 | Blue with White spiral stripe | | | | | \$65.00 |
| MTW20GN10 | Green | | | | | \$59.00 |
| MTW20GYL10 | Green with Yellow spiral stripe | | | | | \$65.00 |
| MTW20OR10 | Orange | | | | | \$59.00 |
| MTW20RD10 | Red | | | | | \$59.00 |
| MTW20WB10 | White with Blue spiral stripe | | | | | \$65.00 |
| MTW20WH10 | White | | | | | \$59.00 |
| MTW20YL10 | Yellow | | | | | \$59.00 |
| MTW18BK10 | Black | 18AWG | Type MTW wire, bare copper, 16 strands, 600 Volts | 1000ft | [10.6lb] [4.80kg] | \$91.00 |
| MTW18BL10 | Blue | | | | | \$91.00 |
| MTW18BN10 | Brown | | | | | \$91.00 |
| MTW18BW10 | Blue with White spiral stripe | | | | | \$98.00 |
| MTW18GN10 | Green | | | | | \$91.00 |
| MTW18GYL10 | Green with Yellow spiral stripe | | | | | \$99.00 |
| MTW18GY10 | Gray | | | | | \$91.00 |
| MTW18OR10 | Orange | | | | | \$91.00 |
| MTW18PL10 | Purple | | | | | \$91.00 |
| MTW18RD10 | Red | | | | | \$91.00 |
| MTW18WB10 | White with Blue spiral stripe | | | | | \$99.00 |
| MTW18WH10 | White | | | | | \$91.00 |
| MTW18YL10 | Yellow | | | | | \$91.00 |
| MTW16BK10 | Black | 16AWG | Type MTW wire, bare copper, 26 strands, 600 Volts | 1000ft | [14.6lb] [6.62kg] | \$127.00 |
| MTW16BL10 | Blue | | | | | \$127.00 |
| MTW16BW10 | Blue with White spiral stripe | | | | | \$141.00 |
| MTW16GN10 | Green | | | | | \$127.00 |
| MTW16GYL10 | Green with Yellow spiral stripe | | | | | \$141.00 |
| MTW16RD10 | Red | | | | | \$127.00 |
| MTW16WB10 | White with Blue spiral stripe | | | | | \$141.00 |
| MTW16WH10 | White | | | | | \$127.00 |
| MTW16YL10 | Yellow | | | | | \$127.00 |
| MTW14BK10 | Black | 14AWG | Type MTW wire, bare copper, 41 strands, 600 Volts | 1000ft | [19.0lb] [8.62kg] | \$192.00 |
| MTW14BL10 | Blue | | | | | \$192.00 |
| MTW14GN10 | Green | | | | | \$192.00 |
| MTW14GYL10 | Green with Yellow spiral stripe | | | | | \$196.00 |
| MTW14RD10 | Red | | | | | \$192.00 |
| MTW14WH10 | White | | | | | \$178.00 |
| MTW18BK25 | Black | 18AWG | Type MTW wire, bare copper, 16 strands, 600 Volts | 2500ft | [26.5lb] [12.02kg] | \$217.00 |
| MTW18RD25 | Red | | | | | \$217.00 |
| MTW18BL25 | Blue | | | | | \$217.00 |
| MTW18BW25 | Blue with White spiral stripe | | | | | \$249.00 |

Wire - Type MTW

| Type MTW Wire | | | | | | |
|---------------------------|-------------------------------|-------|---|-------------------|-----------------------|----------|
| Part Number | Insulation Color | Gauge | Description | Spool/Reel Length | Approx. Weight | Price |
| MTW16BK25 | Black | 16AWG | Type MTW wire, bare copper, 26 strands, 600 Volts | 2500ft | [36.5lb] [16.5kg] | \$286.00 |
| MTW16WH25 | White | | | | | \$286.00 |
| MTW16RD25 | Red | | | | | \$286.00 |
| MTW16BL25 | Blue | | | | | \$286.00 |
| MTW16BW25 | Blue with White spiral stripe | | | | | \$286.00 |
| MTW14BK25 | Black | 14AWG | Type MTW wire, bare copper, 41 strands, 600 Volts | | [47.5lb] [21.55kg] | \$461.00 |
| MTW14BN25 | Brown | | | | | Retired |
| MTW14BW25 | Blue with White spiral stripe | | | | | Retired |

Gauge Conversion Table

| American Wire Gauge Conversion Chart* | | | |
|---|------|---------|-----|
| This cross reference shows equivalent nominal values. Actual cross sections may vary. | | | |
| AWG | mm2 | AWG | mm2 |
| 30 | 0.05 | 6 | 16 |
| 28 | 0.08 | 4 | 25 |
| 26 | 0.14 | 2 | 35 |
| 24 | 0.25 | 1 | 50 |
| 22 | 0.34 | 1/0 | 55 |
| 21 | 0.38 | 2/0 | 70 |
| 20 | 0.50 | 3/0 | 95 |
| 18 | 0.75 | 4/0 | 120 |
| 17 | 1.00 | 300MCM | 150 |
| 16 | 1.50 | 350MCM | 185 |
| 14 | 2.50 | 500MCM | 240 |
| 12 | 4 | 600MCM | 300 |
| 10 | 6 | 750MCM | 400 |
| 8 | 10 | 1000MCM | 500 |

*Note: Table shows commercially used equivalent values.

Conductor Ampacity Table

| Allowable Ampacity | | | |
|--------------------|--------------|--------------|--------------|
| AWG | 60°C [140°F] | 75°C [167°F] | 90°C [194°F] |
| 30 | — | 0.5 | 0.5 |
| 28 | — | 0.8 | 0.8 |
| 26 | — | 1 | 1 |
| 24 | 2 | 2 | 2 |
| 22 | 3 | 3 | 3 |
| 20 | 5 | 5 | 5 |
| 18 | 7 | 7 | 14 |
| 16** | 10 | 10 | 18 |
| 14** | 20 | 20 | 25 |
| 12** | 25 | 25 | 30 |
| 10** | 30 | 35 | 40 |
| 8 | 40 | 50 | 55 |
| 6 | 55 | 65 | 75 |
| 4 | 70 | 85 | 95 |
| 3 | 85 | 100 | 110 |
| 2 | 95 | 115 | 130 |
| 1 | 110 | 130 | 150 |
| 1/0 | 125 | 150 | 170 |
| 2/0 | 145 | 175 | 195 |
| 3/0 | 165 | 200 | 225 |
| 4/0 | 195 | 230 | 260 |
| 250MCM | 215 | 255 | 290 |
| 300MCM | 240 | 285 | 320 |
| 350MCM | 260 | 310 | 350 |
| 400MCM | 280 | 335 | 380 |
| 500MCM | 320 | 380 | 430 |
| 600MCM | 355 | 420 | 475 |
| 700MCM | 385 | 460 | 520 |
| 750MCM | 400 | 475 | 535 |
| 800MCM | 410 | 490 | 555 |
| 900MCM | 435 | 520 | 585 |
| 1000MCM | 455 | 545 | 615 |

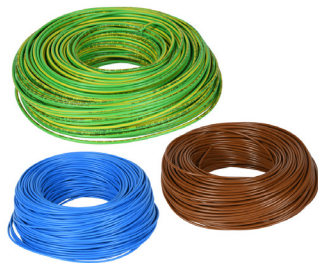
*Note: Allowable ampacity shown above is per NFPA79 Electrical Standard for Industrial Machinery 2018 Table 12.5.1 Conductor Ampacity Based on Copper Conductors with 60°C [140°F], 75°C [167°F], and 90°C [194°F] Insulation in an Ambient Temperature of 30°C [86°F]

**Note: Unless specifically permitted elsewhere in NFPA 70 overcurrent protection should not exceed 10 amps 16AWG, 15 amps for 14AWG, 20 amps for 12AWG, and 30 amps for 10AWG.

Wire - Type HAR/MTW

Applications

Type HAR/MTW conductors are primarily used in control cabinets, in machine tool applications, and in appliance wiring applications. For use in accordance with the National Electrical Code (NEC) and NFPA Standard 79. Voltage rating for all applications is 300 to 750 volts.



Features

- Gauges from 0.75 mm² (19AWG) to 4.0 mm² (12AWG)
- Suited for use in Europe (HAR) and North America (UL MTW)
- Tinned copper conductor
- Color-coded Polyvinyl Chloride (PVC) outer jacket
- Striped version available for some colors and gauges
- Multiple ratings and approvals
- 328ft (100m) boxed coils

Standards

- HAR: HD 21.3 S3
 - H05V-K (\leq AWG18)
 - H07V-K (\geq AWG 16)
- UL 1063 MTW Listed
- UL AWM 1015
- RoHS, REACH



Type HAR/MTW

Stranded, Tinned Copper Conductor

PVC Insulation



Type HAR/MTW Wire Specifications

| mm ² Equivalent | Number of Strands | Size (AWG or kcmil) | Insulation Thickness | Overall Outside Diameter | | Allowable Ampacities* | | | Voltage Rating | Agency Approvals | Temperature Rating per UL 1063/ UL AWM 1015 | Approx. Weight (lbs/1000ft) | Standard Packaging (carton) |
|----------------------------|-------------------|---------------------|----------------------|--------------------------|------|-----------------------|---------------|---------------|---------------------------------|--|---|-----------------------------|-----------------------------|
| | | | (inches) | (inches) | (mm) | 60°C (140 °F) | 75°C (167 °F) | 90°C (194 °F) | | | | | |
| 0.75 | 24 | 19 | 0.016 | 0.106 | 2.7 | 7 | 7 | 14 | HAR 300/500 Volts MTW 600 Volts | HAR: HD 21.3 S3 - H05V-K (≤ AWG18) - H07V-K (≥ AWG 16) UL1063 MTW, UL AWM1015 | -5°C (176°F) to 90°C (194°F) | 9 | 328ft [100m] |
| 1.0 | 24 | 18 | 0.016 | 0.114 | 2.9 | 7 | 7 | 14 | | | | | |
| 1.5 | 30 | 16 | 0.016 | 0.130 | 3.3 | 10 | 10 | 18 | HAR 450/750 Volts MTW 600 Volts | | | 14 | |
| 2.5 | 50 | 14 | 0.016 | 0.145 | 3.7 | 20 | 20 | 25 | | | | 21 | |
| 4.0 | 56 | 12 | 0.016 | 0.169 | 4.3 | 25 | 25 | 30 | | | | 31 | |

*Note: Allowable ampacity shown above is per the NFPA79 Electrical Standard for Industrial Machinery 2018 Table 12.5.1 Conductor Ampacity Based on Copper Conductors with 60 °C [140 °F], 75 °C [167 °F], and 90 °C [194 °F] Insulation in an Ambient Temperature of 30 °C [86°F]. The above data is approximate and subject to normal manufacturing tolerance.

Product Color Disclaimer: The product photos shown are representative of our wire colors. The actual wire colors may vary from the images shown. Although our suppliers maintain a high-quality standard, there can be color variation from production. As a result, we cannot guarantee color spools will match up perfectly.

**Note: Unless specifically permitted elsewhere in NFPA 70 overcurrent protection should not exceed 10 amps 16AWG, 15 amps for 14AWG, 20 amps for 12AWG, and 30 amps for 10AWG.

To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.automationdirect.com

Please Note: Our prices on wire are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Wire - Type HAR/MTW

| Type HAR/MTW Wire Specifications | | | | | | |
|----------------------------------|------------------|--------|---|-------------------|----------------|----------|
| Part Number | Insulation Color | Gauge | Description | Spool/Reel Length | Approx. Weight | Price |
| A61900 | green/yellow | 19 AWG | Type MTW, single conductor, 24-stranded, tinned copper, PVC conductor insulation material, 300/500 Volts (HAR), 600 Volts (MTW) | 328ft [100m] | 9lbs/1000ft | \$82.00 |
| A61901 | black | | | | | \$82.00 |
| A61902 | blue | | | | | \$82.00 |
| A61903 | brown | | | | | \$82.00 |
| A61904 | red | | | | | \$82.00 |
| A61914 | dark blue | | | | | \$82.00 |
| A61800 | green/yellow | 18 AWG | Type MTW, single conductor, 32-stranded, tinned copper, PVC conductor insulation material, 300/500 Volts (HAR), 600 Volts (MTW) | | 10lbs/1000ft | \$98.00 |
| A61801 | black | | | | | \$98.00 |
| A61802 | blue | | | | | \$98.00 |
| A61803 | brown | | | | | \$98.00 |
| A61804 | red | | | | | \$98.00 |
| A61814 | dark blue | | | | | \$98.00 |
| A61844 | white/blue | 16 AWG | Type MTW, single conductor,30-stranded, tinned copper, PVC conductor insulation material, 450/750 Volts (HAR), 600 Volts (MTW) | | 14lbs/1000ft | \$98.00 |
| A61600 | green/yellow | | | | | \$125.00 |
| A61601 | black | | | | | \$125.00 |
| A61602 | blue | | | | | \$125.00 |
| A61603 | brown | | | | | \$125.00 |
| A61604 | red | | | | | \$125.00 |
| A61605 | white | | | | | \$125.00 |
| A61609 | orange | | | | | \$125.00 |
| A61614 | dark blue | | | | | \$125.00 |
| A61615 | blue/white | | | | | \$125.00 |
| A61644 | white/blue | 14 AWG | Type MTW, single conductor,50-stranded, tinned copper, PVC conductor insulation material, 450/750 Volts (HAR), 600 Volts (MTW) | | 21lbs/1000ft | \$125.00 |
| A61400 | green/yellow | | | | | \$183.00 |
| A61401 | black | | | | | \$183.00 |
| A61402 | blue | | | | | \$183.00 |
| A61403 | brown | | | | | \$183.00 |
| A61404 | red | | | | | \$183.00 |
| A61405 | white | | | | | \$183.00 |
| A61414 | dark blue | 12 AWG | Type MTW, single conductor,56-stranded, tinned copper, PVC conductor insulation material, 450/750 Volts (HAR), 600 Volts (MTW) | | 31lbs/1000ft | \$183.00 |
| A61200 | green/yellow | | | | | \$275.00 |
| A61201 | black | | | | | \$275.00 |

Wire - Type HAR/MTW

Gauge Conversion Table

| American Wire Gauge Conversion Chart* | | | |
|--|-----------------|---------|-----------------|
| This cross reference shows equivalent nominal values. Actual cross sections may vary. | | | |
| AWG | mm ² | AWG | mm ² |
| 30 | 0.05 | 6 | 16 |
| 28 | 0.08 | 4 | 25 |
| 26 | 0.14 | 2 | 35 |
| 24 | 0.25 | 1 | 50 |
| 22 | 0.34 | 1/0 | 55 |
| 21 | 0.38 | 2/0 | 70 |
| 20 | 0.50 | 3/0 | 95 |
| 19 | 0.75 | 4/0 | 120 |
| 18 | 0.75 - 1.00 | 300MCM | 150 |
| 17 | 1.00 | 350MCM | 185 |
| 16 | 1.50 | 500MCM | 240 |
| 14 | 2.50 | 600MCM | 300 |
| 12 | 4 | 750MCM | 400 |
| 10 | 6 | 1000MCM | 500 |
| 8 | 10 | | |

*Note: Table shows commercially used equivalent values.

Conductor Ampacity Table

| Allowable Ampacity | | | |
|---------------------------|--------------|--------------|--------------|
| AWG | 60°C [140°F] | 75°C [167°F] | 90°C [194°F] |
| 30 | — | 0.5 | 0.5 |
| 28 | — | 0.8 | 0.8 |
| 26 | — | 1 | 1 |
| 24 | 2 | 2 | 2 |
| 22 | 3 | 3 | 3 |
| 20 | 5 | 5 | 5 |
| 18 | 7 | 7 | 14 |
| 16** | 10 | 10 | 18 |
| 14** | 20 | 20 | 25 |
| 12** | 25 | 25 | 30 |
| 10** | 30 | 35 | 40 |
| 8 | 40 | 50 | 55 |
| 6 | 55 | 65 | 75 |
| 4 | 70 | 85 | 95 |
| 3 | 85 | 100 | 110 |
| 2 | 95 | 115 | 130 |
| 1 | 110 | 130 | 150 |
| 1/0 | 125 | 150 | 170 |
| 2/0 | 145 | 175 | 195 |
| 3/0 | 165 | 200 | 225 |
| 4/0 | 195 | 230 | 260 |
| 250MCM | 215 | 255 | 290 |
| 300MCM | 240 | 285 | 320 |
| 350MCM | 260 | 310 | 350 |
| 400MCM | 280 | 335 | 380 |
| 500MCM | 320 | 380 | 430 |
| 600MCM | 355 | 420 | 475 |
| 700MCM | 385 | 460 | 520 |
| 750MCM | 400 | 475 | 535 |
| 800MCM | 410 | 490 | 555 |
| 900MCM | 435 | 520 | 585 |
| 1000MCM | 455 | 545 | 615 |

*Note: Allowable ampacity shown above is per NFPA79 Electrical Standard for Industrial Machinery 2018 Table 12.5.1 Conductor Ampacity Based on Copper Conductors with 60°C [140°F], 75°C [167°F], and 90°C [194°F] Insulation in an Ambient Temperature of 30°C [86°F]

**Note: Unless specifically permitted elsewhere in NFPA 70 overcurrent protection should not exceed 10 amps 16AWG, 15 amps for 14AWG, 20 amps for 12AWG, and 30 amps for 10AWG.

Wire - Type TFFN

Applications

Type TFFN conductors are primarily used as fixture wire as defined by the National Electrical Code (NEC) at temperatures not to exceed 90°C in dry locations. All conductors are permitted for new construction or rewiring for 600-volt applications. Rated gasoline and oil-resistant II.

TFFN wire is sold in 500 foot spools; certain sizes are also available in 2500 foot reels.



Conductor Insulation

Color-coded Polyvinyl Chloride (PVC), heat and moisture-resistant, flame-retardant compound

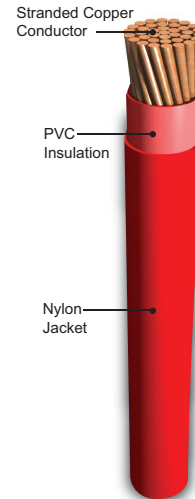
Jacket

A tough, polyamide, Nylon outer covering

Ratings

- UL Standards UL-66, UL-758 and UL-1063
- AWM Spec 1316, 1408, 1452 Canadian Standard Association C22.2 No. 210
- RoHS

Type TFFN Wire



Please Note: Our prices on wire are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Type TFFN Wire Specifications

| Size (AWG or kcmil) | Number of Strands | mm2 Equivalent | Insulation Thickness (inches) | | Overall Outside Diameter | | Allowable Ampacities* | Approx. Weight (lbs) 500'/2500' | Standard Packaging spool/reel |
|---------------------------|----------------------|-------------------|-------------------------------|-------|-----------------------------|------|--------------------------|---------------------------------------|----------------------------------|
| | | | PVC | Nylon | (inches) | (mm) | | | |
| 18 | 16 | 0.75 | 0.015 | 0.005 | 0.0 | 2.24 | 6 | 4 / 20 | 500' or 2500' |
| 16 | 26 | 1.5 | 0.015 | 0.005 | 0.101 | 2.57 | 8 | 5.5 / 27.5 | |

*Note: Allowable ampacity shown above is per the National Electric Code. The above data is approximate and subject to normal manufacturing tolerances.

Type TFFN Wire

| Part Number | Insulation Color | Gauge | Description | Spool/Reel Length | Approx. Weight | Price |
|--------------------------|-------------------------------|-------|--|-------------------|----------------|---------|
| TFFN18BK | Black | 18AWG | Type TFFN wire, bare copper, 16 strands, 600 Volts | 500' | 4 lbs | \$47.50 |
| TFFN18WH | White | | | | | \$47.50 |
| TFFN18RD | Red | | | | | \$47.50 |
| TFFN18BL | Blue | | | | | \$47.50 |
| TFFN18GN | Green | | | | | \$47.50 |
| TFFN18YL | Yellow | | | | | \$45.50 |
| TFFN18OR | Orange | | | | | \$47.50 |
| TFFN18BN | Brown | | | | | \$47.50 |
| TFFN18PL | Purple | | | | | \$47.50 |
| TFFN18GY | Gray | | | | | \$45.50 |
| TFFN18BW | Blue with White spiral stripe | | | | | \$54.00 |
| TFFN16BK | Black | 16AWG | Type TFFN wire, bare copper, 26 strands, 600 Volts | | 5.5 lbs | \$57.00 |
| TFFN16WH | White | | | | | \$57.00 |
| TFFN16RD | Red | | | | | \$57.00 |
| TFFN16BL | Blue | | | | | \$57.00 |
| TFFN16GN | Green | | | | | \$57.00 |
| TFFN16YL | Yellow | | | | | \$57.00 |
| TFFN16OR | Orange | | | | | \$57.00 |
| TFFN16BN | Brown | | | | | \$57.00 |
| TFFN16GY | Gray | | | | | \$57.00 |
| TFFN16BW | Blue with White spiral stripe | | | | | \$60.00 |

Wire - Type TFFN

| Type TFFN Wire | | | | | | |
|----------------------------|-------------------------------|-------|--|-------------------|----------------|----------|
| Part Number | Color | Gauge | Description | Spool/Reel Length | Approx. Weight | Price |
| TFFN18BK25 | Black | 18AWG | Type TFFN wire, bare copper, 16 strands, 600 Volts | 2500' | 20 lbs | \$220.00 |
| TFFN18RD25 | Red | | | | | \$220.00 |
| TFFN18BL25 | Blue | | | | | \$220.00 |
| TFFN18BW25 | Blue with White spiral stripe | | | | | \$252.00 |
| TFFN16RD25 | Red | 16AWG | Type TFFN wire, bare copper, 26 strands, 600 Volts | | 27.5 lbs | \$268.00 |
| TFFN16BL25 | Blue | | | | | \$272.00 |

Gauge Conversion Table

| American Wire Gauge Conversion Chart* | | | |
|---|------|---------|-----|
| This cross reference shows equivalent nominal values. Actual cross sections may vary. | | | |
| AWG | mm2 | AWG | mm2 |
| 30 | 0.05 | 6 | 16 |
| 28 | 0.08 | 4 | 25 |
| 26 | 0.14 | 2 | 35 |
| 24 | 0.25 | 1 | 50 |
| 22 | 0.34 | 1/0 | 55 |
| 21 | 0.38 | 2/0 | 70 |
| 20 | 0.50 | 3/0 | 95 |
| 18 | 0.75 | 4/0 | 120 |
| 17 | 1.00 | 300MCM | 150 |
| 16 | 1.50 | 350MCM | 185 |
| 14 | 2.50 | 500MCM | 240 |
| 12 | 4 | 600MCM | 300 |
| 10 | 6 | 750MCM | 400 |
| 8 | 10 | 1000MCM | 500 |

*Note: Table shows commercially used equivalent values.