



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

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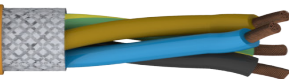
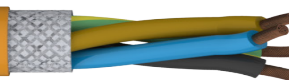
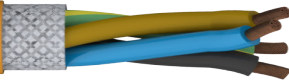

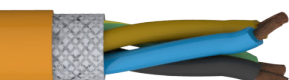


Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable

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

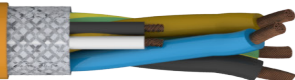
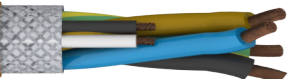
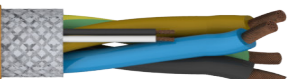
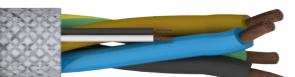
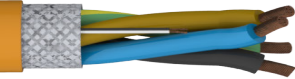
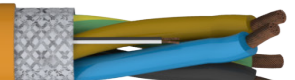
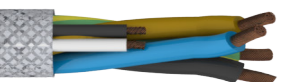
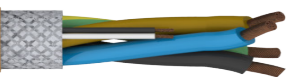
LUTZE Servo Cable Selection															
Part Number	Number of Conductors (includes ground)	AWG	Conductor OD inches	Strand	Power Conductors (AWG)	Ground (AWG)	Minimum Cut Length (ft)	Nom. Insulation Thickness PVC/Nylon (mils)	Nominal Jacket Thickness (mils)	Nominal OD inches	*Ampacity NEC 310.16 Amps		Min. Bend Radius inches	Approximate Weight (lb/ft)	Price per foot
											60°C	90°C			
LUTZE Siflex* M(C) TPE 															
<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	\$;4!u9:
LUTZE Siflex* M(C) TPE 															
<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	\$;4!ua:
LUTZE Siflex* M(C) TPE 															
<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	\$;4!ub:
LUTZE Siflex* M(C) TPE 															
<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	\$;4!uc:
LUTZE Siflex* M(C) TPE 															
<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	\$;4!ud:

* 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.



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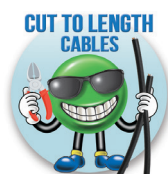
Servo Cable

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			
<div>LOTZE Silflex*MC TPE</div> 																
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	\$;4!ue:
<div>LOTZE Silflex*MC TPE</div> 																
A3171404-1	4	14	0.136	41/30	14	14	20	0.016/0.005	60	18	0.505	15	15	3	0.196	\$;4!uf:
<div>LOTZE Silflex*MC TPE</div> 																
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	\$;4!ug:
<div>LOTZE Silflex*MC TPE</div> 																
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	\$;4!uh:
<div>LOTZE Silflex*MC TPE</div> 																
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	\$;4!ui:
<div>LOTZE Silflex*MC TPE</div> 																
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	\$;4!uj:
<div>LOTZE Silflex*MC TPE</div> 																
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	\$;4!uk:
<div>LOTZE Silflex*MC TPE</div> 																
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	\$;4!ul:

* 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

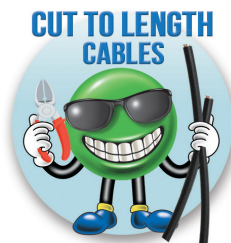
LUTZE Servo Cable Specifications Continued

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 ● ○ ● ● ●

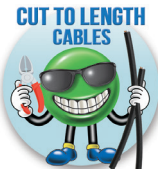
HELUKABEL®

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	\$6ce6:
H11161803-1	18/3	0.365 [9.27]		10	20	0.09	\$6ce7:
H11161804-1	18/4	0.390 [9.91]		7	20	0.10	\$6ce8:
* 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	\$6ce9:
H11161603-1	16/3	0.390 [9.91]		13	20	0.10	\$6cea:
H11161604-1	16/4	0.415 [10.54]		10	20	0.12	\$6ce1:
H11161605-1	16/5	0.500 [12.57]		10	20	0.16	\$6ce2:
* 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	\$6ce3:
H11161403-1	14/3	0.525 [13.34]		18	20	0.19	\$6ce4:
H11161404-1	14/4	0.570 [14.48]		15	20	0.22	\$6ce5:
H11161405-1	14/5	0.670 [16.97]	0.095 [2.41]	12	20	0.27	\$6ceb:
* Per NFPA 70 NEC Table 400.5 (A)(1)							
** See web store for maximum cut lengths							



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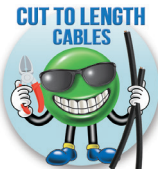
HELUKABEL®

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	\$6cec:
H11161203-1	12/3	0.595 [15.11]		25	20	0.24	\$6ced:
H11161204-1	12/4	0.645 [16.51]		20	20	0.27	\$6cee:
H11161205-1	12/5	0.710 [18.11]		16	20	0.35	\$6cef:
* 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.

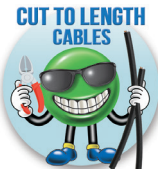
HELUKABEL®

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	\$6ceg:
H11161003-1	10/3	0.660 [16.76]		30	20	0.32	\$6ceh:
H11161004-1	10/4	0.710 [18.03]		25	20	0.38	\$-6cei:
H11161005-1	10/5	0.770 [19.56]		20	20	0.44	\$-6cej:
* 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.

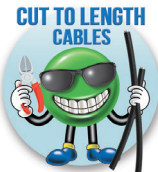
HELUKABEL®

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	\$6cek:
H11160804-1	8/4	0.976 [19.56]	0.125 [3.18]	35	10	0.61	\$-6cel:
* 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®

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	\$6cen:
H11160604-1	6/4	1.106 [21.21]	0.140 [3.56]	45	10	0.82	\$6ceo:
* Per NFPA 70 NEC Table 400.5 (A)(1)							
** See web store for maximum cut lengths							



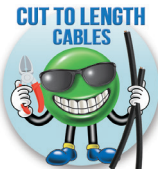
Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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	\$.2df3:
<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	\$.2df5:
* 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 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)		NEC (NFPA 70) 501.140 Class 1 Div 2
Conductor Insulation	EPDM (ethylene propylene diene monomer) thermoset rubber	Approvals*	MSHA
Conductor Nominal Insulation Thickness	0.030" [0.76 mm]	Sample Print Legend	UL (E46194), CSA (90458)
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	\$40oh:

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

** See web store for maximum cut lengths



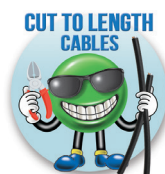
Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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	\$;2del:
<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						



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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	\$.2de[
<u>SOOW-12-3BK-1</u>	12/3	0.595 [15.11]	25	20	0.22	\$2de_:
<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						



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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						



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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 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			

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	\$58h_:
<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						



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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	\$6cep:
H11131803-1	18/3	0.310 [7.87]		10	20	0.07	\$6ceq:
H11131804-1	18/4	0.330 [8.38]		7	20	0.07	\$6ces:
* 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®

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	\$;6cet:
H11131603-1	16/3	0.330 [8.38]		13	20	0.08	\$6ceu:
H11131604-1	16/4	0.357 [9.07]		10	20	0.09	\$6cev:
* 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)		

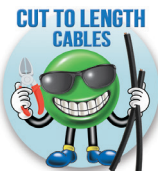
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

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	\$6cex:
H11131403-1	14/3	0.365 [9.27]		18	20	0.10	\$6cey:
H11131404-1	14/4	0.395 [10.03]		15	20	0.13	\$6cez:

* 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

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
H11131202-1	12/2	0.410 [10.41]	0.045 [1.14]	25	20	0.12	\$;6ce[
H11131203-1	12/3	0.430 [10.92]		25	20	0.15	\$;6ce[
H11131204-1	12/4	0.470 [11.94]		20	20	0.18	\$6ce_

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

** See web store for maximum cut lengths



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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	\$6ce#:
H11131004-1	10/4	0.635 [16.13]		25	20	0.36	\$;6ce!:
* 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 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

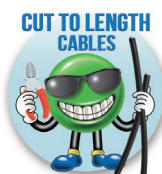
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

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
SJOOW-18-2BK-1	18/2	0.285 [7.24]	10	20	0.05	Retired
SJOOW-18-3BK-1	18/3	0.310 [7.87]	10	20	0.06	\$2dev:
SJOOW-18-4BK-1	18/4	0.330 [8.38]	7	20	0.07	\$2dex:

* 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	\$.2det:
* Per NFPA 70 NEC Table 400.5 (A)(1)						
** See web store for maximum cut lengths						



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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	\$2den:
<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	\$2dep:
* Per NFPA 70 NEC Table 400.5 (A)(1)						
** See web store for maximum cut lengths						



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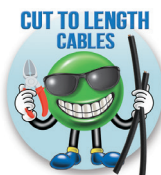


Southwire®

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	\$-2dej:
<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						



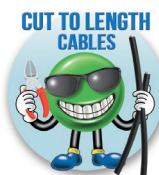
Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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	\$2deh:
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						



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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	\$2de0:
<u>SEOW-18-3BK-1</u>	18/3	0.365 [9.27]	10	20	0.07	\$2de1:
<u>SEOW-18-4BK-1</u>	18/4	0.395 [10.03]	7	20	0.08	\$2de2:
* Per NFPA 70 NEC Table 400.5 (A)(1)						
** See web store for maximum cut lengths						



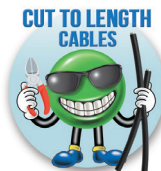
Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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
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
SEOW-16-3BK-1	16/3	0.390 [9.91]	13	20	0.08	\$2dd?:
SEOW-16-4BK-1	16/4	0.420 [10.67]	10	20	0.10	\$.2dd,:
* Per NFPA 70 NEC Table 400.5 (A)(1)						
** See web store for maximum cut lengths						



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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	\$2dd#:
<u>SEOW-14-4BK-1</u>	14/4	0.575 [14.61]	15	20	0.18	\$.2dd!:
* Per NFPA 70 NEC Table 400.5 (A)(1) ** See web store for maximum cut lengths						



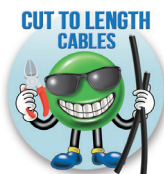
Please Note: Our prices on flexible cord are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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		MSHA
Operating Temperature	-50°C to 105°C (-58°F to 221°F)	Approvals*	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	\$2ddz:
<u>SEOW-12-4BK-1</u>	12/4	0.645 [16.38]	20	20	0.24	\$.2ddj:
* 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.

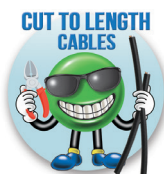


Southwire®

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
SEOW-10-4BK-1	10/4	0.705 [17.91]	25	20	0.32	\$2ddy:
* Per NFPA 70 NEC Table 400.5 (A)(1) ** See web store for maximum cut lengths						



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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	\$2dee:
<u>SJE00W-18-3BK-1</u>	18/3	0.310 [7.87]	10	20	0.06	\$;2def:
<u>SJE00W-18-4BK-1</u>	18/4	0.335 [8.51]	7	20	0.07	\$2deg:
* Per NFPA 70 NEC Table 400.5 (A)(1)						
** See web store for maximum cut lengths						



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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	\$2deb:
<u>SJE00W-16-3BK-1</u>	16/3	0.330 [8.32]	13	20	0.07	\$2dec:
<u>SJE00W-16-4BK-1</u>	16/4	0.360 [9.14]	10	20	0.08	\$2ded:

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

** See web store for maximum cut lengths



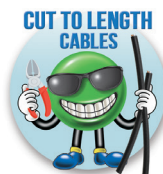
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Southwire® 14AWG SJE00W Portable Cord

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	\$2de8:
<u>SJE00W-14-3BK-1</u>	14/3	0.370 [9.14]	18	20	0.80	\$2de9:
<u>SJE00W-14-4BK-1</u>	14/4	0.400 [10.16]	15	20	0.10	\$2dea:
* Per NFPA 70 NEC Table 400.5 (A)(1)						
** See web store for maximum cut lengths						



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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	\$2de5:
SJE00W-12-3BK-1	12/3	0.435 [11.05]	25	20	0.12	\$2de6:
SJE00W-12-4BK-1	12/4	0.480 [12.19]	20	20	0.16	\$2de7:

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

** See web store for maximum cut lengths



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Southwire® 10AWG SJE00W Portable Cord

10AWG SJE00W Portable Cord Specifications

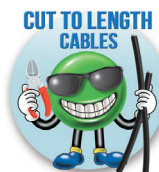
Conductor Gauge	10AWG	Conductor Color	Per UL 62 Annex B
Conductor Stranding	104/30 bare copper, Class K stranding ASTM B 174		3 conductor - Black, White, Green
Voltage Rating	300V		4 conductor - Black, White, Red, Green
Outer Jacket Material	TPE (thermoplastic elastomer)		
Outer Jacket Color	Black with 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	\$2de3:
SJE00W-10-4BK-1	10/4	0.640 [16.26]	25	20	0.28	\$2de4:

* 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	\$;2dfa:

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

** See web store for maximum cut lengths



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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 WTTTC 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 WTTTC 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 WTTTC 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

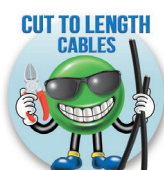
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

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	\$5n?h:
															
A1061604-1	4	16	0.123	26/30	16	16	20	0.032	60	0.425	10	18	2.6	0.159	\$-5n?i:
															
A1061404-1	4	14	0.138	41/30	14	14	20	0.032	60	0.456	15	20	2.7	0.214	\$-5n?j:
															
A1061204-1	4	12	0.160	65/30	12	12	20	0.032	60	0.510	25	30	3.1	0.321	\$5n?k:
															
A1061004-1	4	10	0.194	105/30	10	10	20	0.032	80	0.650	35	40	3.9	0.490	\$-5n?l:
															
A1060804-1	4	8	0.268	168/30	8	8	20	0.032	80	0.810	50	55	4.9	0.490	\$5n?n:

* 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.

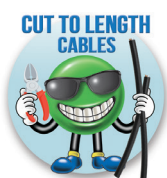


Please Note: Our prices on Servo Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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



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



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		

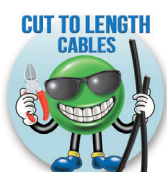
* See web store for minimum and maximum cut lengths

** 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	\$5n?o:
																
A4061604-1	4	16	0.12	65/34	16	16	20	32	32	0.425	10	18	2.55	5.1	55	\$5n?p:
																
A4061404-1	4	14	0.131	104/34	14	14	20	32	32	0.45	20	25	2.7	5.4	76	\$5n?q:
																
A4061204-1	4	12	0.167	168/34	12	12	20	32	32	0.535	25	30	3.21	6.42	115	\$5n?s:
																
A4061004-1	4	10	0.192	259/34	10	10	20	32	32	0.625	35	40	3.75	7.5	165	\$5n?t:
																
A4060804-1	4	8	0.254	336/34	8	8	20	46	46	0.775	50	55	4.65	9.3	259	\$5n?u:

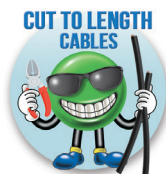
* Ampacity based on NFPA 79 12.5.1 Conductor Ampacity Based on Copper Conductors



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



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® 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	\$-5dlc:
A3251805-1	5					0.34	1.32	20	0.07	\$-5dlid:
A3251807-1	7					0.37	1.44	20	0.09	\$-5dle:
A3251812-1	12					0.47	1.84	20	0.14	\$;-5dlf:
A3251819-1	19					0.59	2.36	20	0.22	\$-5dlg:

* 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		

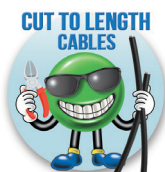
* 3-conductor is two Blue with white numbers and green/yellow ground

**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	\$-5dlh:
A3251605-1	5					0.37	1.48	20	0.09	\$--5dli:
A3251607-1	7					0.40	1.60	20	0.11	\$--5dlj:
A3251612-1	12					0.54	2.16	20	0.20	\$-5dlk:
A3251619-1	19					0.64	2.56	20	0.27	\$--5dll:

* 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.

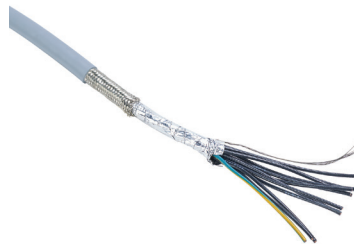


SYSTEMATIC TECHNOLOGY

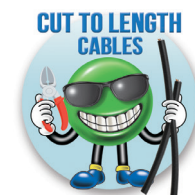
SILFLEX® Control Cable



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)

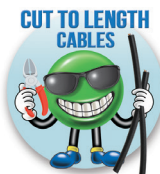
20 Gauge SILFLEX® Control Cable Specifications (Unshielded)			
Conductor Gauge & Stranding	20AWG 10/30 bare copper, Class K	Applicable Standards	MSHA Flame Rating
Voltage Rating	300V Power Limited Tray Cable - Exposed Run (PLTC-ER)		UL 13 Standard for Power-Limited Circuit Cables
	300V Instrumentation 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**	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	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	\$598q:
A3082004-1	4					0.29	1.16	20	0.05	\$598s:
A3082005-1	5					0.31	1.24	20	0.06	\$598t:
A3082007-1	7				62	0.34	1.36	20	0.07	\$598u:
A3082012-1	12					0.43	1.72	20	0.11	\$598v:
A3082025-1	25					0.67	2.68	20	0.22	\$598k:

* 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 (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	\$-598l:
A3081804-1	4					0.31	1.24	20	0.06	\$598n:
A3081805-1	5					0.33	1.32	20	0.07	\$598o:
A3081807-1	7					0.36	1.44	20	0.09	\$598p:
A3081809-1	9					0.41	1.64	20	0.11	\$598x:
A3081812-1	12					0.46	1.84	20	0.14	\$598y:
A3081818-1	18				45	0.55	2.20	20	0.21	\$598z:
A3081825-1	25				60	0.64	2.56	20	0.25	\$,598j:

* 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)

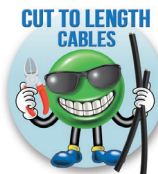
16 Gauge SILFLEX® Control Cable Specifications (Unshielded)			
Conductor Gauge & Stranding	16AWG 26/30 bare copper, Class K	Applicable Standards	MSHA Flame Rating
Voltage Rating	600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP)		UL 1277 - Type TC-ER
	1000 V 90C Wind Turbine Tray Cable (WTTC)		UL 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	\$;598[:
A3081604-1	4					0.34	1.36	20	0.08	\$598 .:
A3081605-1	5					0.37	1.48	20	0.09	\$598#:
A3081607-1	7					0.40	1.60	20	0.11	\$;598!:
A3081612-1	12				50	0.51	2.04	20	0.20	\$598?:
A3081618-1	18				65	0.62	2.48	20	0.28	\$;598.:
A3081625-1	25					0.72	2.88	20	0.35	\$5990:
A3081641-1	41				85	0.91	3.64	20	0.56	\$5991:

* 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	\$5992:
A3081404-1	4					0.37	1.48	20	0.11	\$5993:
A3081405-1	5					0.41	1.64	20	0.13	\$5994:
A3081425-1	25				65	0.81	3.24	20	0.57	\$5995:

* 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)

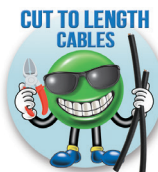
12 Gauge SILFLEX® Control Cable Specifications (Unshielded)			
Conductor Gauge & Stranding	12AWG 65/30 bare copper, Class K	Applicable Standards	MSHA Flame Rating
Voltage Rating	600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP)		UL 1277 - Type TC-ER
	1000 V 90C Wind Turbine Tray Cable (WTTC)		UL 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 specific 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	\$5997:

* 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.

10 Gauge SILFLEX® Control Cable (Unshielded)

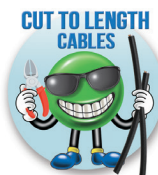
10 Gauge SILFLEX® Control Cable Specifications (Unshielded)			
Conductor Gauge & Stranding	10 AWG 105/30 bare copper, Class K	Applicable Standards	MSHA Flame Rating
Voltage Rating	600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP)		UL 1277 - Type TC-ER
	1000 V 90C Wind Turbine Tray Cable (WTTTC)		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	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
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

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	\$5999:

* 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		UL (E324458), CSA (91737)
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	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

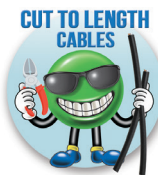
* Per ASTM B174

** 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	\$599a:
A3092004-1	4					0.28	1.24	20	0.04	\$599b:
A3092005-1	5					0.30	1.32	20	0.05	\$599c:
A3092007-1	7				62	0.33	1.44	20	0.06	\$599d:
A3092012-1	12					0.45	1.84	20	0.11	\$599e:
A3092025-1	25					0.60	2.56	20	0.20	\$599f:

* 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)

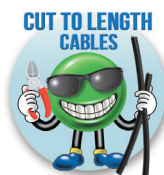
18 Gauge SILFLEX® Control Cable Specifications (Shielded)			
Conductor Gauge & Stranding	18AWG 16/30 bare copper, Class K	Applicable Standards	MSHA Flame Rating
Voltage Rating	600V 90C Tray Cable Exposed Run Joist Pull (TC-ER-JP)		UL 1277 - Type TC-ER
	1000 V 90C Wind Turbine Tray Cable (WTTC)		UL 2277 - 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	\$599g:
A3091804-1	4					0.33	3.96	20	0.07	\$599h:
A3091805-1	5					0.35	4.20	20	0.08	\$-599i:
A3091807-1	7					0.38	4.56	20	0.10	\$-599j:
A3091812-1	12					0.47	5.64	20	0.16	\$599k:
A3091825-1	25							62	0.66	7.92

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

** See web store for maximum cut lengths



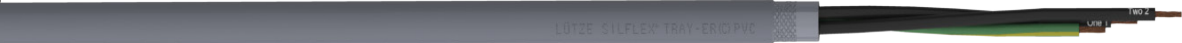
Please Note: Our prices on flexible control cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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		

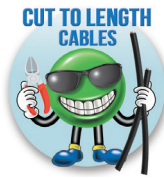
* Per ASTM B174

** 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	\$599n:
A3091604-1	4					0.36	4.32	20	0.10	\$599o:
A3091605-1	5					0.39	4.68	20	0.11	\$599p:
A3091607-1	7					0.42	5.04	20	0.14	\$599q:
A3091625-1	25				76	0.75	9.00	20	0.41	\$599s:

* 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)		UL 758 - AWM Style 20886
Jacket Material	Flexible Gray (PVC) - sunlight & oil resistant	Approvals**	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
Shield	Overall aluminized polyester foil shield 100% coverage & tinned copper braid 85% coverage with 16 AWG drain		UL (E324630)
Conductor Colors	Black with white numbers and green/ yellow ground		Sample Print Legend
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	\$,599t:
A3091404-1	4					0.40	4.80	20	0.13	\$599u:

* 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		

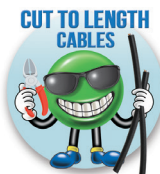
* Per ASTM B174

** 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	\$599v.

* 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



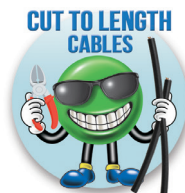
Overview

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

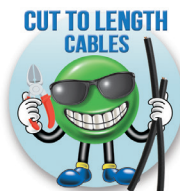




20 Gauge SILFLEX® FBP Food and Beverage Rated Control Cable (Unshielded)

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	\$-5j2c:			
A6012004-1	4					0.219	0.876	20	0.03	\$-5j1e:			
A6012005-1	5					0.237	0.948	20	0.04	\$;-5j1f:			
A6012007-1	7					0.255	1.020	20	0.05	\$-5j1g:			
A6012012-1	12				38	0.339	1.356	20	0.08	\$-5j1h:			
A6012018-1	18					0.391	1.564	20	0.11	\$-5j2d:			
A6012025-1	25					0.448	1.792	20	0.14	\$-5j2e:			
* 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		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 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		

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	\$-5j1i:
A6011804-1	4					0.248	0.992	20	0.05	\$-5j1j:
A6011805-1	5					0.269	1.076	20	0.06	\$-5j1k:
A6011807-1	7				38	0.303	1.212	20	0.08	\$-5j1l:
A6011809-1	9					0.349	1.396	20	0.10	\$-5j1n:
A6011812-1	12					0.389	1.556	20	0.12	\$-5j1o:
A6011818-1	18					0.448	1.792	20	0.18	\$-5j2f:
A6011825-1	25					0.539	2.156	20	0.24	\$-5j1p:

*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	\$-5j1q:
A6011604-1	4					0.274	1.096	20	0.06	\$-5j1s:
A6011605-1	5					0.298	1.192	20	0.07	\$-5j1t:
A6011607-1	7				38	0.336	1.344	20	0.1	\$-5j1u:
A6011612-1	12				42	0.443	1.772	20	0.16	\$-5j1v:
A6011618-1	18					0.514	2.056	20	0.22	\$-5j1x:
A6011625-1	25				48	0.604	2.416	20	0.31	\$-5j1y:

*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	\$-5j2g:
A6011404-1	4					0.336	1.344	20	0.09	\$-5j1z:
A6011405-1	5				42	0.367	1.468	20	0.11	\$;-5j1j]:
A6011407-1	7					0.419	1.676	20	0.15	\$;-5j1i[:
A6011412-1	12					0.542	2.168	20	0.24	\$-5j2h:
* Installed bend radius ≥ 4x diameter										
** See web store for maximum cut lengths										



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

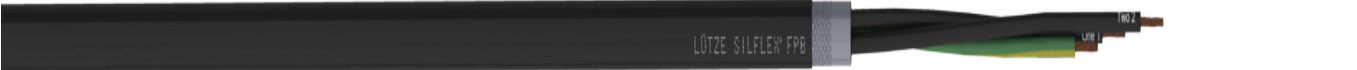
12 Gauge SILFLEX® FBP Control Cable Specifications (Unshielded)			
Conductor Gauge & Stranding	12AWG 65/30 bare copper, Class K	Applicable Standards	FDA 21 CFR 175.300
Voltage Rating	1000V 90C UL AWM 20886		NFPA 79 12.9 Compliant
			UL 758 - AWM Style 20886
			CSA C22.2 No. 210 - CSA AWM I/II A/B
Static 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
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A6011204-1	4	12	65	16	48	0.410	1.640	20	0.14	\$-5j1_:
A6011205-1	5					0.447	1.788	20	0.17	\$-5j2i:
* 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	\$-5j2j:
A6022004-1	4					0.248	0.992	20	0.05	\$-5j1#:
A6022005-1	5					0.266	1.064	20	0.05	\$;-5j1!:
A6022007-1	7				38	0.285	1.14	20	0.06	\$-5j1?:
A6022012-1	12					0.369	1.476	20	0.1	\$;-5j1,.
A6022018-1	18					0.421	1.684	20	0.13	\$-5j2k:
A6022025-1	25					0.486	1.944	20	0.17	\$-5j2l:
* 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	\$-5j2n:
A6021804-1	4					0.289	1.156	20	0.07	\$-5j20:
A6021805-1	5					0.310	1.240	20	0.08	\$-5j21:
A6021807-1	7					0.333	1.332	20	0.10	\$-5j22:
A6021812-1	12				38	0.427	1.708	20	0.15	\$-5j23:
A6021818-1	18					0.489	1.956	20	0.20	\$-5j2o:
A6021825-1	25					0.569	2.276	20	0.27	\$-5j2p:
* 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	\$-5j24:
A6021604-1	4					0.316	1.264	20	0.08	\$-5j25:
A6021605-1	5					0.340	1.360	20	0.10	\$-5j2q:
A6021607-1	7				38	0.366	1.464	20	0.12	\$-5j26:
A6021612-1	12				42	0.472	1.888	20	0.19	\$-5j27:
A6021618-1	18					0.556	2.224	20	0.26	\$-5j28:
A6021625-1	25				48	0.639	2.556	20	0.35	\$-5j29:
* 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	\$-5j2s:
A6021404-1	4					0.374	1.496	20	0.12	\$-5j2a:
A6021405-1	5				42	0.405	1.620	20	0.14	\$-5j2b:
A6021407-1	7					0.449	1.796	20	0.18	\$,-5j2t:
A6021412-1	12					0.572	2.288	20	0.28	\$-5j2u:
* 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
			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 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	\$-5j2v:
A6021205-1	5					0.476	1.904	20	0.20	\$-5j2x:
* 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	\$-5j2y:
* Installed bend radius ≥ 4x diameter ** See web store for maximum cut lengths										

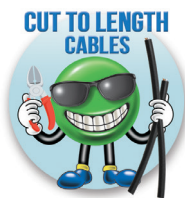


SILFLEX® M FBP Motor Cable for Food & Beverage Applications



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		

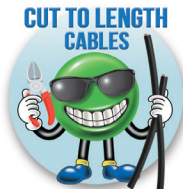
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

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	\$6k07:
A6061604-1		16	26			0.123	0.74		0.054	\$6k08:
A6061404-1		14	41			0.138	0.83		0.076	\$6k09:
A6061204-1		12	65			0.160	0.96		0.118	\$6k0a:
A6061004-1		10	105		60	0.194	1.164		0.183	\$6k0b:

* 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.

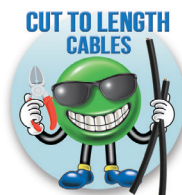
With multiple ratings and approvals, Helukabel Traycontrol 600V multi-conductor control cable has the versatility to meet a wide range of industrial control, power and instrumentation applications. These flexible multi-conductor cables provide an economical way to organize and simplify control wiring 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
							
H62020-1	2	20	10	0.264	20	0.04	\$,;5,x#:
							
H62021-1	3	20	10	0.276	20	0.04	\$,;5,x!:
							
H62022-1	4	20	10	0.295	20	0.05	\$,;5,x?:
							
H62023-1	5	20	10	0.319	20	0.06	\$,;5,x,::
							
H62024-1	7	20	10	0.343	20	0.07	\$,;5,y1:




* See web store for maximum cut lengths



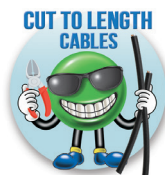
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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	\$,5,y3:
							
<u>H62027-1</u>	18	20	10	0.508	20	0.16	\$,5,y4:
							
<u>H62028-1</u>	25	20	10	0.618	20	0.23	\$,5,y5:

* 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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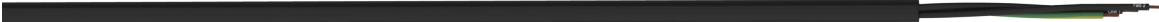



1.0 mm² (18AWG) Unshielded Flexible Control Cable

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

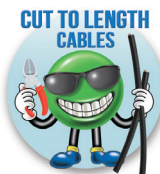
Conductors Gauge & Stranding	1.0mm ² (18AWG) 19/30 bare copper	Outer Jacket	Black PVC
Voltage Ratings	600V (Types ITC-ER, PLTC-ER, MTW) 1000V (Type WTTC) Tested to 3000V	UV Resistance	Yes
Minimum Bend Radius	Moving, 5.0 x diameter	Oil Resistance	Yes
Temperature Ratings	UL/CSA TC, -40°C to +90°C Moving, +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
							
H62902-1	2	18	19	0.287	20	0.05	\$;5,y6:
							
H62903-1	3	18	19	0.299	20	0.06	\$;5,y7:
							
H62904-1	4	18	19	0.323	20	0.07	\$;5,y8:
							
H62905-1	5	18	19	0.350	20	0.08	\$;5,y9:
							
H62906-1	7	18	19	0.378	20	0.10	\$;5,ya:





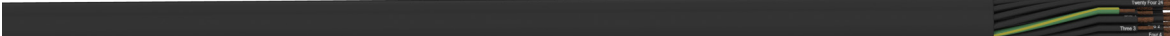
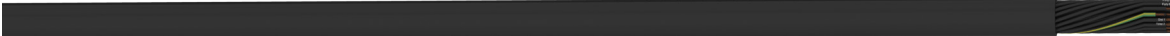
* See web store for maximum cut lengths



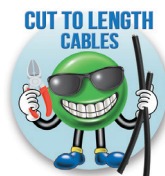
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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1.0 mm² (18AWG) Unshielded Flexible Control Cable

1.0 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	\$;5,yb:
							
<u>H62908-1</u>	10	18	19	0.465	20	0.14	\$;5,yc:
							
<u>H62909-1</u>	12	18	19	0.480	20	0.15	\$;5,yd:
							
<u>H62912-1</u>	18	18	19	0.594	20	0.24	\$;5,yf:
							
<u>H62914-1</u>	25	18	19	0.685	20	0.25	\$;5,yg:
							
<u>H62918-1</u>	41	18	19	0.827	20	0.48	\$;5,yh:

* 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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1.5 mm² (16AWG) Unshielded Flexible Control Cable

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

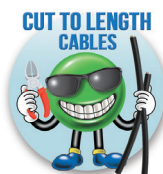
Conductors Gauge & Stranding	1.5 mm ² (16AWG) 26/30 bare copper	Outer Jacket	Black PVC
Voltage Ratings	600V (Types ITC-ER, PLTC-ER, TC-ER-JP, MTW) 1000V (Type WTTC)	UV Resistance	Yes
	Tested to 3000V	Oil Resistance	Yes
Minimum Bend Radius	Moving, 5.0 x diameter	Flame Retardant	Yes, per CSA FT4
		Silicone-free	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	\$;-5,yi:
							
H62922-1	3	16	26	0.323	20	0.07	\$;-5,yj:
							
H62923-1	4	16	26	0.346	20	0.08	\$;5,yk:
							
H62924-1	5	16	26	0.378	20	0.10	\$;-5,yl:
							
H62926-1	7	16	26	0.413	20	0.12	\$;5,yo:




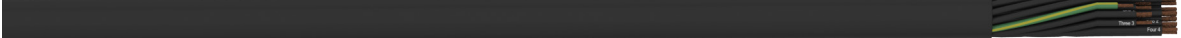
** See web store for maximum cut lengths



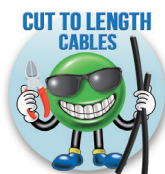
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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	\$;5,yq:
							
<u>H62930-1</u>	12	16	26	0.528	20	0.19	\$;5,yt:
							
<u>H62934-1</u>	18	16	26	0.646	20	0.30	\$;5,yx:
							
<u>H62939-1</u>	30	16	26	0.787	20	0.46	\$;5,yy:

* 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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2.0mm² (14AWG) Unshielded Flexible Control Cable

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

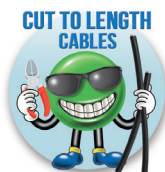
Conductors Gauge & Stranding	2.0mm ² (14AWG) 41/30 bare copper	Outer Jacket	Black PVC
Voltage Ratings	600V (Types ITC-ER, PLTC-ER, TC-ER-JP, MTW) 1000V (Type WTTC) Tested to 3000V	UV Resistance	Yes
Minimum Bend Radius	Moving, 5.0 x diameter	Oil Resistance	Yes
Temperature Ratings	UL/CSA TC, -40°C to +90°C 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	\$;5,y[:
							
H62947-1	4	14	41	0.398	20	0.09	\$;5,y[:
							
H62948-1	5	14	41	0.429	20	0.13	\$;5,y#:
							
H62950-1	7	14	41	0.472	20	0.17	\$;5,y?:




** See web store for maximum cut lengths



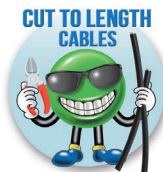
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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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	\$,;5,y,;
							
<u>H62953-1</u>	12	14	41	0.646	20	0.30	\$,5,z0:
							
<u>H62955-1</u>	18	14	41	0.744	20	0.41	\$,5,z1:

* 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)

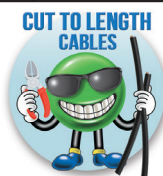
Conductors Gauge & Stranding	3.5mm ² (12AWG) 65/30 bare copper	Outer Jacket	Black PVC
Voltage Ratings	600V (Types ITC-ER, PLTC-ER, TC-ER-JP, MTW) 1000V (Type WTTC) Tested to 3000V	UV Resistance	Yes
Minimum Bend Radius	Moving, 5.0 x diameter	Oil Resistance	Yes
Temperature Ratings	UL/CSA TC, -40°C to +90°C 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	\$;5,z3:
							
<u>H62960-1</u>	4	12	65	0.441	20	0.15	\$;5,z4:
							
<u>H62961-1</u>	5	12	65	0.480	20	0.18	\$;5,z5:
							
<u>H62963-1</u>	7	12	65	0.528	20	0.24	\$;5,z7:
							
<u>H62965-1</u>	12	12	65	0.720	20	0.42	\$;5,z9:

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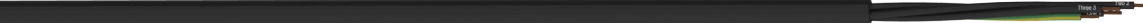
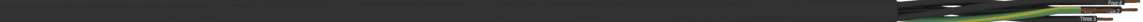
6.0mm² (10AWG) Unshielded Flexible Control Cable

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

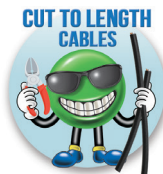
Conductors Gauge & Stranding	6.0mm ² (10AWG) 105/30 bare copper	Outer Jacket	Black PVC
Voltage Ratings	600V (Types TC-ER-JP, MTW) 1000V (Type WTTC)	UV Resistance	Yes
	Tested to 3000V	Oil Resistance	Yes
Minimum Bend Radius	Moving, 5.0 x diameter	Flame Retardant	Yes, per CSA FT4
		Silicone-free	Yes
Temperature 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 (6.00mm2)/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 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	\$;5,zb:
							
<u>H62972-1</u>	4	10	105	0.567	20	0.24	\$;5,zc:
							
<u>H62973-1</u>	5	10	105	0.622	20	0.29	\$;5,zd:

* 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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10mm² (8AWG) Unshielded Flexible Control Cable

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

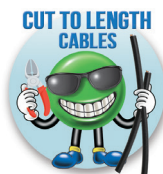
Conductors Gauge & Stranding	10mm ² (8AWG) 168/30 bare copper	Outer Jacket	Black PVC
Voltage Ratings	600V (Types TC-ER-JP, MTW) 1000V (Type WTTC)	UV Resistance	Yes
	Tested to 3000V	Oil Resistance	Yes
Minimum Bend Radius	Moving, 5.0 x diameter	Flame Retardant	Yes, per CSA FT4
		Silicone-free	Yes
Temperature 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	\$,5,ze:

* 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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16mm² (6AWG) Unshielded Flexible Control Cable

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

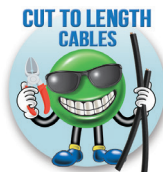
Conductors Gauge & Stranding	16mm ² (6AWG) 266/30 bare copper	Outer Jacket	Black PVC
Voltage Ratings	600V (Types TC-ER-JP, MTW) 1000V (Type WTTC)	UV Resistance	Yes
	Tested to 3000V	Oil Resistance	Yes
Minimum Bend Radius	Moving, 5.0 x diameter	Flame Retardant	Yes, per CSA FT4
		Silicone-free	Yes
Temperature 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	\$,;5,zf:

* 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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25mm² (4AWG) Unshielded Flexible Control Cable

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

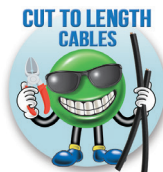
Conductors Gauge & Stranding	25mm ² (4AWG) 420/30 bare copper	Outer Jacket	Black PVC
Voltage Ratings	600V (Types TC, TC-ER, MTW), 1000V (Type WTTC)	UV Resistance	Yes
	Tested to 3000V	Oil Resistance	Yes
Minimum Bend Radius	Moving, 5.0 x diameter	Flame Retardant	Yes, per CSA FT4
		Silicone-free	Yes
Temperature 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	\$;5.zg:

* 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		

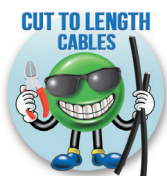
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** 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	\$64gq:
H63140-1		16 AWG	26-stranded			0.492	5.8	0.220	\$64gp:
H63141-1		12 AWG	65-stranded		0.070	0.618	6.2	0.280	\$64gs:
H63142-1		10 AWG	105-stranded			0.697	6.95	0.360	\$64gt:
H63143-1		8 AWG	168-stranded	0.090	0.090	0.906	9.05	0.570	\$64gu:
H63144-1		6 AWG	266-stranded			0.972	9.71	0.760	\$64gl:
H63145-1		4 AWG	420-stranded			1.090	10.92	1.020	\$64gn:
H63146-1		2 AWG	665-stranded			1.252	12.5	1.420	\$64go:
* 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

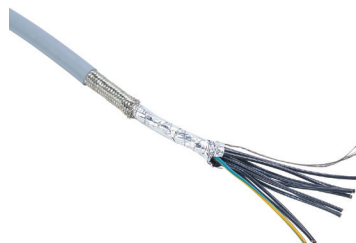


Please Note: Our prices on VFD Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

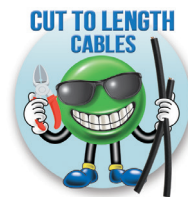
Multi-Conductor Flexible Control Cable



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	\$4h18:
V30158-1	4					0.28	1.24	20	0.04	\$4h19:
V30160-1	5					0.30	1.32	20	0.05	\$4h1a:
V30162-1	7				62	0.33	1.44	20	0.06	\$4h1b:
V30164-1	9					0.41	1.64	20	0.09	\$4h1c:
V30186-1	12					0.45	1.84	20	0.11	\$4h15:
V30188-1	18					0.52	2.20	20	0.15	\$4h16:
V30190-1	25					0.60	2.56	20	0.20	\$4h17:

* 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	\$;2df6:
V40168-1	4					0.31	1.24	20	0.06	\$;2df7:
V40170-1	5					0.33	1.32	20	0.07	\$;2df8:
V40172-1	7					0.36	1.44	20	0.09	\$;2df9:
V40174-1	9					0.41	1.64	20	0.11	\$;2dfb:
V40176-1	12					0.46	1.84	20	0.14	\$;2dfc:
V40178-1	18				45	0.55	2.20	20	0.21	\$;2dfd:
V40180-1	25				60	0.64	2.56	20	0.25	\$;2dfe:

* 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	\$;2dff:
V50198-1	4					0.34	1.36	20	0.08	\$;2dfg:
V50200-1	5					0.37	1.48	20	0.09	\$;2dfh:
V50202-1	7					0.40	1.60	20	0.11	\$;2dfi:
V50206-1	9					0.46	1.84	20	0.14	\$;2dfj:
V50208-1	12				50	0.51	2.04	20	0.20	\$;2dfk:
V50212-1	18				65	0.62	2.48	20	0.28	\$;2dfl:
V50214-1	25					0.72	2.88	20	0.35	\$;2dfn:
V50216-1	41				85	0.91	3.64	20	0.56	\$;2dfo:

* 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			

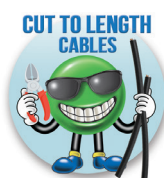
* Per ASTM B174

** 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 $\pm 10\%$)	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	\$;2dfp:
V60129-1	4					0.37	1.48	20	0.11	\$;2dfq:
V60131-1	5					0.41	1.64	20	0.13	\$;2dfs:
V60133-1	7					0.45	1.80	20	0.16	\$;2dft:
V60135-1	9					0.52	2.08	20	0.21	\$;2dfu:
V60137-1	12				65	0.60	2.40	20	0.28	\$;2dfv:
V60139-1	18					0.70	2.80	20	0.40	\$;2dfx:
V60141-1	25					0.81	3.24	20	0.57	\$;2dfy:

* 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.

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 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	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 WTTC 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	\$;2dfz:

* 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 (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 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			

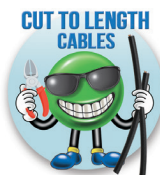
* Per ASTM B174

** 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	\$;2df;

* 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
	UL1685, UL MTW NFPA 79 2007			
Oil Resistance	Oil Res I & II			

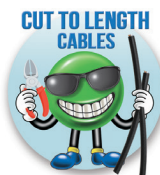
* Per ASTM B174

** 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 (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	\$2dda:
MCTC-18-4S-1	4					0.33	3.96	20	0.07	\$2ddb:
MCTC-18-5S-1	5					0.35	4.20	20	0.08	\$2ddc:
MCTC-18-7S-1	7					0.38	4.56	20	0.10	\$2ddd:
MCTC-18-9S-1	9					0.44	5.28	20	0.14	\$2dde:
MCTC-18-12S-1	12					0.47	5.64	20	0.16	\$2dd8:
MCTC-18-25S-1	25				62	0.66	7.92	20	0.31	\$2dd9:

* 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		

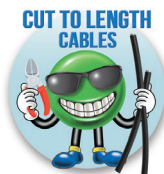
* Per ASTM B174

** 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	\$2dd3:
MCTC-16-4S-1	4					0.36	4.32	20	0.10	\$2dd4:
MCTC-16-5S-1	5					0.39	4.68	20	0.11	\$2dd5:
MCTC-16-7S-1	7					0.42	5.04	20	0.14	\$2dd6:
MCTC-16-9S-1	9					0.49	5.88	20	0.18	\$2dd7:
MCTC-16-12S-1	12				73	0.56	6.72	20	0.28	\$2dd1:
MCTC-16-25S-1	25				76	0.75	9.00	20	0.41	\$2dd2:

* 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			

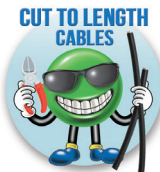
* Per ASTM B174

** 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 $\pm 10\%$)	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	\$2dc?:
MCTC-14-4S-1	4					0.40	4.80	20	0.13	\$.2dc,:
MCTC-14-7S-1	7					0.47	5.64	20	0.20	\$2dd0:

* 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.

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	Approvals**	UL (E75755), CSA (90458)
Cold Impact	-40°C (-40°F) per UL 1277		
Min. Bend Radius	12x diameter		
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		

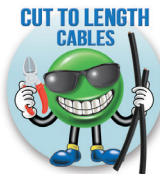
* Per ASTM B174

** 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 $\pm 10\%$)	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	\$;2dcl:

* 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			

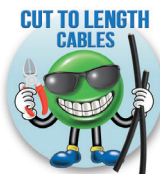
* Per ASTM B174

** 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	\$2dc#:

* 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 C1C 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) C1C/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 $\pm 10\%$)	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	\$47yg:
PMTC-18U-4BK-1	4					0.31	1.24	20	0.06	\$47yh:
PMTC-18U-5BK-1	5					0.33	1.32	20	0.07	\$47yi:
PMTC-18U-7BK-1	7					0.36	1.44	20	0.09	\$47yj:
PMTC-18U-9BK-1	9					0.41	1.64	20	0.11	\$47yk:
PMTC-18U-12BK-1	12					0.46	1.84	20	0.14	\$47yb:
PMTC-18U-25BK-1	25				60	0.64	2.56	20	0.25	\$47yc:

* Installed bend radius $\geq 4 \times$ 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		

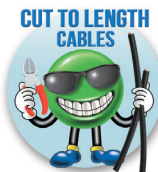
* Per ASTM B174

** 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	\$47yd:
PMTC-16U-4BK-1	4					0.34	1.36	20	0.08	\$47ye:
PMTC-16U-5BK-1	5					0.37	1.48	20	0.09	\$47yf:
PMTC-16U-9BK-1	9					0.46	1.84	20	0.14	\$47yl:
PMTC-16U-12BK-1	12				50	0.51	2.04	20	0.20	\$47yn:

* 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 ± 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	\$47yo:
PMTC-14U-4BK-1	4					0.37	1.48	20	0.11	\$47yp:
PMTC-14U-9BK-1	9					0.52	2.08	20	0.21	\$47yq:
PMTC-14U-12BK-1	12				65	0.60	2.40	20	0.28	\$47ys:
PMTC-14U-18BK-1	18					0.70	2.80	20	0.40	\$47yt:

* 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.

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 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	40.4 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 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

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 ± 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	\$47yu:
PMTC-12U-4BK-1	4					0.42	1.68	20	0.15	\$47yv:
PMTC-12U-5BK-1	5					0.46	1.85	20	0.18	\$47yx:
PMTC-12U-7BK-1	7					0.50	2.01	20	0.23	\$47yy:

* 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.

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	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 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	\$47yz.
PMTC-10U-5BK-1	5					0.53	2.12	20	0.26	\$;47yz]

* 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		

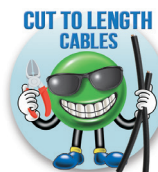
* Per ASTM B174

** 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	\$;47y[

* 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



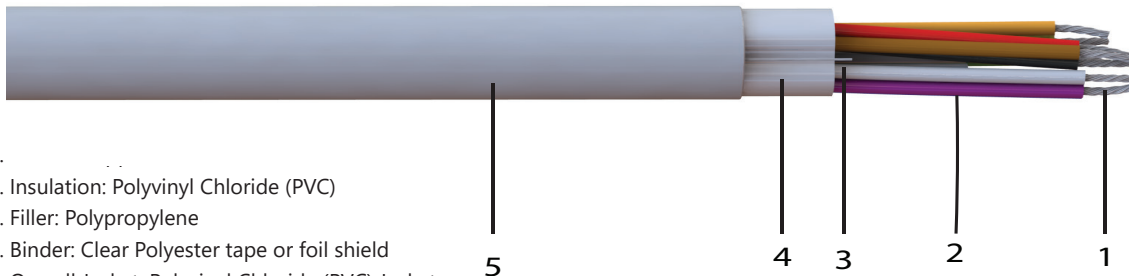
Overview

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)

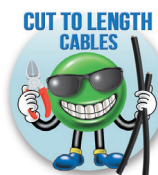
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** 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	\$544c:
CC600-20-4U-1	4					0.236	2.36	20	33.3	\$-544i:
CC600-20-9U-1	9					0.323	3.23	20	65.1	\$544p:
CC600-20-12U-1	12					0.351	3.51	20	81.2	\$544x:
CC600-20-15U-1	15					0.395	3.95	20	99.8	\$544#::
CC600-20-19U-1	19					0.417	4.17	20	121	\$5447:
CC600-20-25U-1	25					0.498	4.98	20	156.8	\$5448:

* 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)

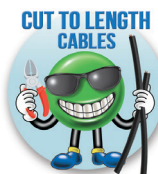
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** 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	\$5449:
CC600-18-3U-1	3					0.223	2.23	20	34.7	\$544a:
CC600-18-4U-1	4					0.253	2.53	20	41.2	\$544b:
CC600-18-5U-1	5					0.275	2.75	20	52.2	\$544d:
CC600-18-7U-1	7					0.298	2.98	20	64.6	\$544e:
CC600-18-9U-1	9					0.348	3.48	20	83.1	\$544f:
CC600-18-15U-1	15					0.428	4.28	20	131.8	\$544g:
CC600-18-19U-1	19					0.452	4.52	20	156	\$544h:
CC600-18-25U-1	25					0.541	5.41	20	205.5	\$544j:

* 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	\$544k:
CC600-16-5U-1	5					0.307	3.07	20	72	\$-544l:
CC600-16-7U-1	7					0.334	3.34	20	91.1	\$544n:
CC600-16-9U-1	9					0.392	3.92	20	115.2	\$544o:
CC600-16-12U-1	12					0.427	4.27	20	148.8	\$544q:
CC600-16-15U-1	15					0.484	4.84	20	182.6	\$544s:
CC600-16-19U-1	19					0.512	5.12	20	225	\$;544t:
CC600-16-25U-1	25				52	0.654	6.54	20	318	\$544u:

* 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)

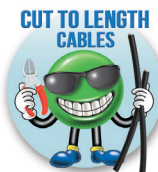
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** 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	\$544v:
CC600-14-3U-1	3					0.286	2.86	20	66.3	\$544y:
CC600-14-4U-1	4					0.314	3.14	20	79.4	\$544z:
CC600-14-5U-1	5					0.342	3.42	20	97.7	\$544j:
CC600-14-7U-1	7					0.373	3.73	20	129	\$544l:

* 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)

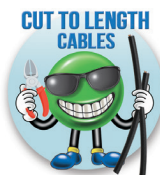
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** 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	\$544.:
CC600-18-4S-1	4					0.272	2.72	20	48.2	\$,544!:
CC600-18-5S-1	5					0.278	2.78	20	58.2	\$544?:
CC600-18-7S-1	7					0.321	3.21	20	71.8	\$,544,::
CC600-18-9S-1	9					0.351	3.51	20	90.6	\$5450:
CC600-18-12S-1	12					0.382	3.82	20	111.5	\$5451:
CC600-18-19S-1	19					0.476	4.76	20	164.7	\$5452:

* 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)

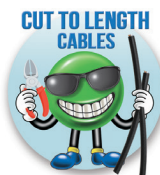
* To obtain the most current agency approval information, see Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

** 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	\$5453:
<u>CC600-16-4S-1</u>	4					0.304	3.04	20	69.9	\$5454:

* 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	\$5455:

* 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]

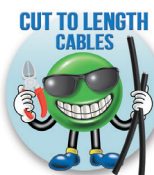
* Per ASTM B174

** 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	\$-4jl6:
VNTC-18-6-BK-1	6					0.453	1.4	20	0.08	\$-4jl7:
VNTC-18-8-BK-1	8					0.490	1.6	20	0.09	\$-4jl8:
VNTC-18-10-BK-1	10					0.551	1.8	20	0.12	\$-4jl9:
VNTC-18-12-BK-1	12					0.573	1.8	20	0.13	\$-4jla:
VNTC-18-19-BK-1	19					0.705	2.3	20	0.21	\$-4jl1:
VNTC-18-24-BK-1	24					0.826	2.6	20	0.26	\$-4jl2:

* 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]	

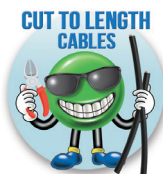
* Per ASTM B174

** 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	\$--4jl3:
VNTC-16-4-BK-1	4					0.398	1.3	20	0.07	\$--4jl4:
VNTC-16-5-BK-1	5					0.432	1.4	20	0.08	\$--4jl5:
VNTC-16-7-BK-1	7					0.466	1.5	20	0.11	\$--4jlb:
VNTC-16-9-BK-1	9					0.539	1.7	20	0.14	\$--4jlc:
VNTC-16-12-BK-1	12					0.604	1.9	20	0.17	\$--4jld:
VNTC-16-19-BK-1	19				60	0.746	2.4	20	0.27	\$--4jle:

* 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	\$--4jlf:
VNTC-14-4-BK-1	4					0.437	1.4	20	0.09	\$--4jlg:
VNTC-14-5-BK-1	5					0.475	1.5	20	0.11	\$--4jlh:
VNTC-14-7-BK-1	7					0.516	1.7	20	0.15	\$--4jli:
VNTC-14-12-BK-1	12				60	0.710	2.3	20	0.26	\$--4jlj:

* 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]

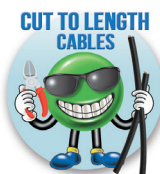
* Per ASTM B174

** 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	\$--4jlk:
VNTC-12-4-BK-1	4					0.490	1.6	20	0.13	\$---4jll:
VNTC-12-5-BK-1	5					0.539	1.7	20	0.16	\$--4jln:

* 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 #cmil] 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 ± 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	\$--4jlo:
VNTC-10-4-BK-1	4					0.591	1.9	20	0.20	\$--4jlp:
VNTC-10-5-BK-1	5					0.650	2.1	20	0.24	\$--4jlq:

* 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.

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		
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 (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

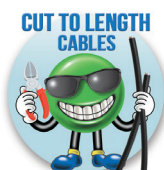
Part Number	Nom. Capacitance Conductor to Shield (pF/ft.)	Nom. Capacitance Conductor to Conductor (pF/ft.)	Nom. Conductor DC Resistance @ 20°C (Ohm/1000 ft.)	Nominal Outer Shield DC Resistance @ 20°C (Ohm/1000 ft.)	Impedance (ohms)	Velocity of Propagation	Max. Operating Voltage - UL
VFDC-16-4B-1	36.34	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	\$;2cle:
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	\$;;2clf:
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	\$;2clg:
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	\$;2clh:
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	\$;-2cli:
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	\$;2clb:
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	\$;2clc:
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	\$;2clcd:

* 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.



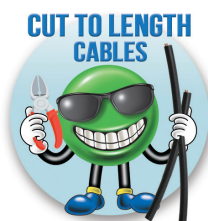
Please Note: Our prices on VFD Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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		
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

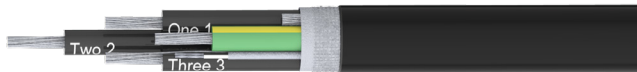
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

VFD / Servo Cable - 4 Conductor

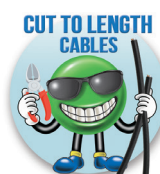
VFD/Servo Cable 4-Conductor Cable Specifications Continued

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
<u>VFD-SC-16-4B-1P-1</u>	36.34	20.19	4.49	2.40	86.6	600V / 1000V
<u>VFD-SC-14-4B-1P-1</u>	44.10	24.50	2.82	2.31	71.4	600V / 1000V
<u>VFD-SC-12-4B-1P-1</u>	46.93	26.07	1.77	2.48	67.1	600V / 1000V
<u>VFD-SC-10-4B-1P-1</u>	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			
																
<u>VFD-SC-16-4B-1P-1</u>	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	\$;4c2[:
<u>VFD-SC-14-4B-1P-1</u>	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	\$4c2_:
<u>VFD-SC-12-4B-1P-1</u>	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	\$4c2#:
<u>VFD-SC-10-4B-1P-1</u>	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	\$;4c2!:

* 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

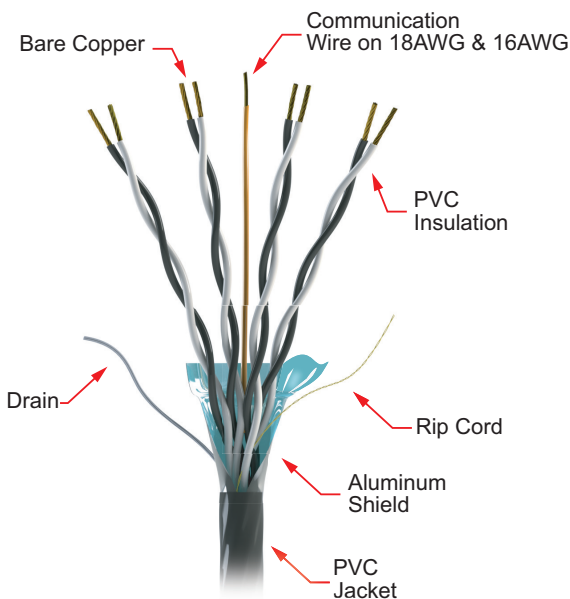
Our instrumentation cables are dual listed as UL 2250 Type ITC (Instrumentation Tray Cables) and UL 13 Type PLTC (Power Limited Tray Cables). Type ITC cables can be used for instrumentation and control circuits operating at 150 volts or less and 5 amperes or less as described in NEC Article 727. Type 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.



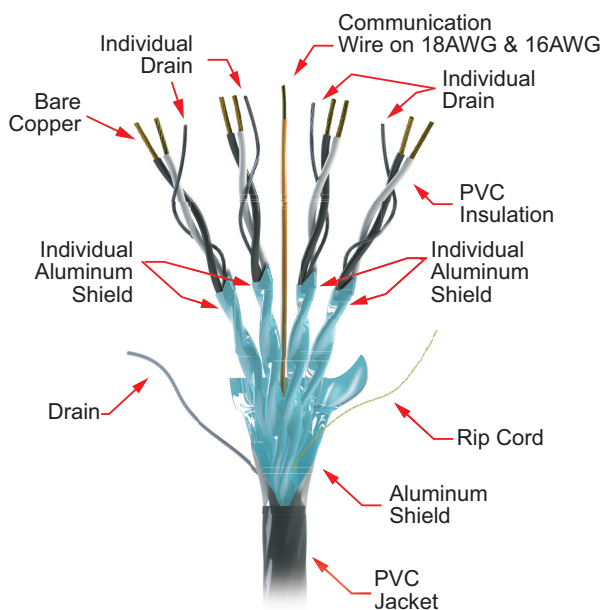
Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable



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	\$,-;4tk,:
PLTC3-20-2S-1	2						0.264	2.64	20	0.04	\$,-;4tl0:
PLTC3-20-4S-1	4						0.333	3.33	20	0.06	\$,-;4tl1:
PLTC3-20-8S-1	8						0.453	4.53	20	0.11	\$,-;4tl2:

* 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

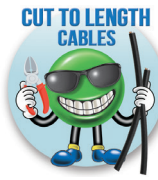
18AWG Instrumentation Cable - Overall Shield Specifications			
Conductor Gauge & Stranding	18AWG Class B 7 stranded bare copper per ASTM B-3 and B-8	Shield and Drain Wire	Overall aluminum polyester foil shield with a tinned copper drain wire
Voltage Rating	300V	Min. Bend Radius	10x diameter
Jacket Material	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	\$2ddn:
PLTC3-18-2S-1	2						0.385	3.85	20	0.07	\$2ddo:
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	\$,2ddt:

* See web store for maximum cut lengths




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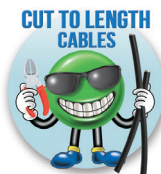
18AWG Instrumentation Cable - Overall Shield

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	\$6a58:
PLTC-18-2S-1	2					42	47	0.318	3.18	20	0.06	\$6a59:
PLTC-18-4S-1	4					52	43	0.417	4.17	20	0.10	\$6a5a:
PLTC-18-8S-1	8						41	0.535	5.35	20	0.17	\$6a5b:

* See web store for maximum cut lengths



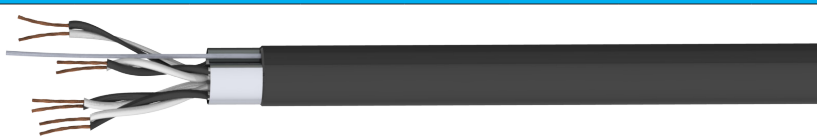
Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

16AWG Instrumentation Cable - Overall Shield

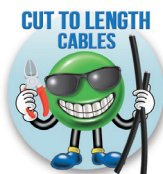
16AWG Instrumentation Cable - Overall Shield Specifications			
Conductor Gauge & Stranding	16AWG Class B 7 stranded bare copper per ASTM B-3 and B-8	Shield and Drain Wire	Overall aluminum polyester foil shield with a tinned copper drain wire
Voltage Rating	300V	Min. Bend Radius	10x diameter
Jacket Material	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	\$;2ddf.
<u>PLTC3-16-2S-1</u>	2						0.407	4.07	20	0.08	\$2ddg.
<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	\$2ddk.

* 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	\$6a55:
<u>PLTC-16-2S-1</u>	2					42	51	0.378	3.78	20	0.08	\$6a56:

* See web store for maximum cut lengths




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20AWG Instrumentation Cable - Individual and Overall Shields

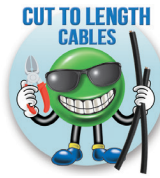
20AWG Instrumentation Cable - Individual and Overall Shields Specifications			
Conductor Gauge & Stranding	20AWG Class B 7 stranded bare copper per ASTM B-3 and B-8	Shield and Drain Wire	Individual and overall aluminum polyester foil shield with a tinned copper drain wire
Voltage Rating	300V	Min. Bend 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	\$;-4tl5:
PLTC3-20-4SS-1	4					52	0.411	4.11	20	0.09	\$;-4tl3:
PLTC3-20-8SS-1	8						0.520	5.20	20	0.14	\$;-4tl4:

* See web store for maximum cut lengths




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18AWG Instrumentation Cable - Individual and Overall Shields

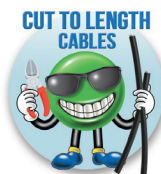
18AWG Instrumentation Cable - Individual and Overall Shields Specifications			
Conductor Gauge & Stranding	18AWG Class B 7 stranded bare copper per ASTM B-3 and B-8	Min. Bend Radius	10x diameter
Voltage Rating	300V	Shield and Drain Wire	Individual and overall aluminum polyester foil shield with a tinned 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	\$2ddp:
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	\$2ddu:

* See web store for maximum cut lengths

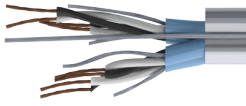


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18AWG Instrumentation Cable - Individual and Overall Shields

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 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 - 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	\$6a5c:
<u>PLTC-18-4SS-1</u>	4					52		0.483	4.83	20	0.12	\$6a53:
<u>PLTC-18-8SS-1</u>	8					62		0.639	6.39	20	0.22	\$6a54:

* See web store for maximum cut lengths




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16AWG Instrumentation Cable - Individual and Overall Shields

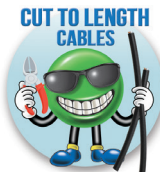
16AWG Instrumentation Cable - Individual and Overall Shields Specifications			
Conductor Gauge & Stranding	16AWG Class B 7 stranded bare copper per ASTM B-3 and B-8	Shield and Drain Wire	Individual and overall aluminum polyester foil shield with a tinned copper drain wire
Voltage Rating	300V	Min. Bend 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	\$-2ddj:
PLTC3-16-8SS-1	8					75	0.690	6.90	20	0.32	Retired

* See web store for maximum cut lengths




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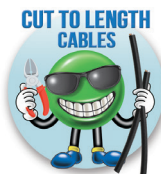
16AWG Instrumentation Cable - Individual and Overall Shields

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	\$6a57:


* See web store for maximum cut lengths



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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	\$4u2#:
PLTC3-20-2TS-1	2					42	0.358	3.58	20	0.05	\$;4u2!:
PLTC3-20-4TS-1	4					52	0.432	4.32	20	0.09	\$4u2?:
PLTC3-20-8TS-1	8						0.560	5.60	20	0.16	\$;4u2,::

* See web store for maximum cut lengths



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18AWG Triad Instrumentation Cable - Overall Shield

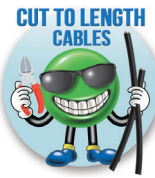
18AWG Triad Instrumentation Cable - Overall Shield Specifications			
Conductor Gauge & Stranding	18AWG 7 stranded bare copper	Shield and Drain Wire	Overall aluminum polyester foil shield with a 22AWG tinned copper drain wire
Voltage Rating	300V	Min. Bend Radius	10x diameter
Jacket Material	Sunlight resistant 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	\$4u33:
PLTC3-18-2TS-1	2					52	0.442	4.42	20	0.08	\$4u34:
PLTC3-18-4TS-1	4					62	0.513	5.13	20	0.13	\$4u35:
PLTC3-18-8TS-1	8					62	0.681	6.81	20	0.24	\$4u36:


* See web store for maximum cut lengths



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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	\$4u30:
PLTC3-20-4TSS-1	4					52	0.444	4.44	20	0.11	\$4u31:
PLTC3-20-8TSS-1	8						0.576	5.76	20	0.18	\$4u32:


* See web store for maximum cut lengths



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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	\$4u37:
<u>PLTC3-18-4TSS-1</u>	4						0.527	5.27	20	0.15	\$4u38:
<u>PLTC3-18-8TSS-1</u>	8					62	0.701	7.01	20	0.28	\$4u39:

* 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.

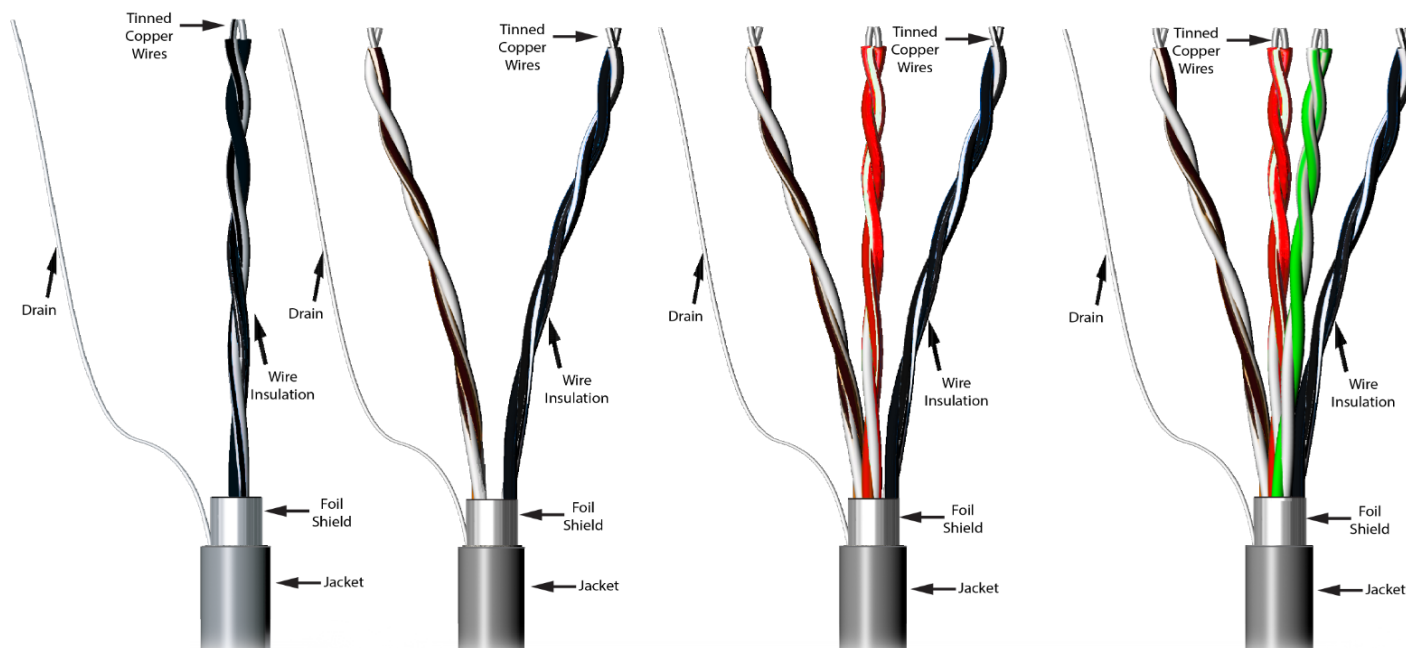


Features

- 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	\$56xy:
<u>Q8504-1</u>	2		0.24		0.023	\$;56x!:
<u>Q8506-1</u>	3		0.28		0.028	\$56y3:

* See web store for maximum cut lengths



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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	\$56y9:
<u>Q8604-1</u>	2		0.294		0.0317	\$56ya:
<u>Q8606-1</u>	3		0.324		0.0411	\$56xs:
<u>Q8804-1</u>	2		0.242		0.0317	\$56xt:
<u>Q8806-1</u>	3		0.239		0.0354	\$56xu:

* See web store for maximum cut lengths



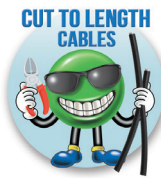
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Data Cable Specifications

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	\$56xv:
<u>Q8304-1</u>	2		0.250		0.0351	\$56xx:
<u>Q8606-1</u>	3		0.258		0.0377	\$56xs:
<u>Q8308-1</u>	4		0.298		0.0467	\$56xj:

* See web store for maximum cut lengths



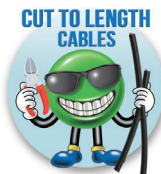
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Data Cable Specifications

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	\$5guc:
Q0357-1	1.5	22	0.249	25	0.0369	\$5gud:
Q0358-1	1.5	20	0.292	25	0.0497	\$5gue:

* See web store for maximum cut lengths



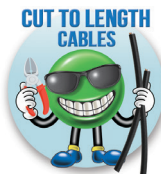
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Data Cable Specifications

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	\$;56x[:
<u>Q6155-1</u>			0.325		0.0545	\$56x_:
<u>Q7380-1</u>		22	0.270		0.0393	\$56x#:

* See web store for maximum cut lengths



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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

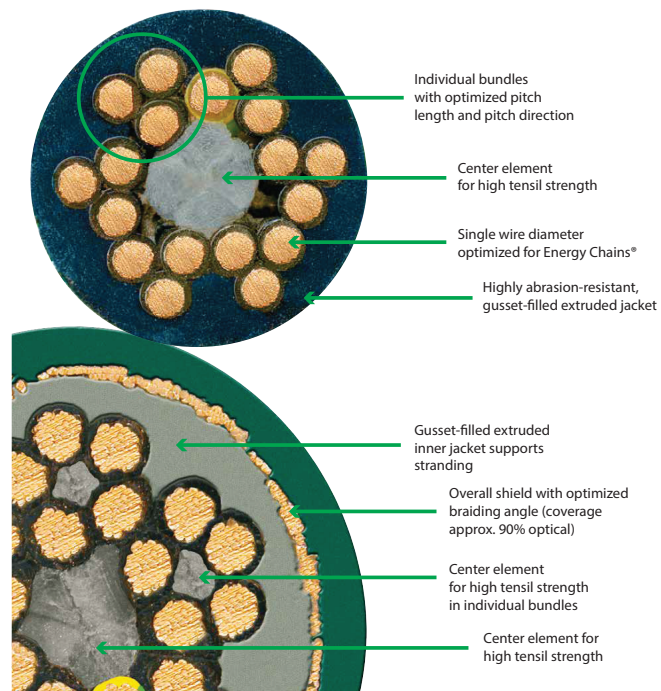
A pressure extruded inner jacket is used in igus continuous flexing cables, as opposed to inexpensive fleece wrap or filler. This extruded inner jacket both ensures that the insulated conductors are efficiently guided, as well as maintaining the integrity of the cable core and providing a continuous 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 | 4 Travel in ft. |
| 2 Velocity, v max. unsupported/gliding ft/s | 5 Min. bend radius [factor x diameter] at 5, 7.5 or 10 million cycles |
| 3 Acceleration, a max. ft/s | |

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

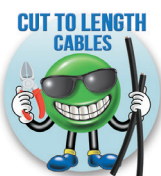
0.5 mm ² (20AWG) Multi-Conductor Flexing Control Cable Specifications (Unshielded)			
Conductors Gauge & Stranding	0.5 mm ² (20AWG) 16/32 bare copper	Conductor Insulation	Black TPE with green/yellow ground
Voltage Ratings	600V per UL	Conductor Markings	"#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch 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	\$2dc6:
							
CF5-05-05-1	5	0.5 mm ² (20AWG)	16	0.28	20	0.05	\$2dc7:
							
CF5-05-07-1	7	0.5 mm ² (20AWG)	16	0.31	20	0.05	\$2dc8:




* See web store for maximum cut lengths



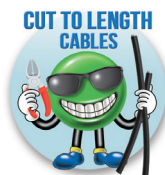
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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	\$2dc9:
							
<u>CF5-05-18-1</u>	18	0.5 mm ² (20AWG)	16	0.51	20	0.13	\$2dca:
							
<u>CF5-05-25-1</u>	25	0.5 mm ² (20AWG)	16	0.63	20	0.19	\$2dc1:

* 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	\$2dc2:
							
CF5-07-04-1	4	0.75 mm ² (18AWG)	24	0.28	20	0.05	\$2dc3:
							
CF5-07-05-1	5	0.75 mm ² (18AWG)	24	0.30	20	0.06	\$2dc4:





* See web store for maximum cut lengths



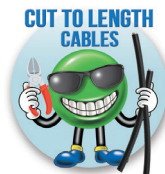
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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	\$2dc5:
 igus chainflex CF5.07.12							
<u>CF5-07-12-1</u>	12	0.75 mm ² (18AWG)	24	0.49	20	0.13	\$2dcb:
 igus chainflex CF5.07.18							
<u>CF5-07-18-1</u>	18	0.75 mm ² (18AWG)	24	0.59	20	0.19	\$2dcc:
 igus chainflex CF5.07.25							
<u>CF5-07-25-1</u>	25	0.75 mm ² (18AWG)	24	0.69	20	0.27	\$2dcd:

* See web store for maximum cut lengths



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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		

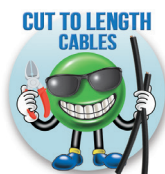
* Per EN 60811-504 standard

** 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	\$2dce:
							
CF5-15-04-1	4	1.5 mm ² (16AWG)	30	0.31	20	0.07	\$;2dcf:
							
CF5-15-05-1	5	1.5 mm ² (16AWG)	30	0.35	20	0.09	\$2dcg:



* 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.

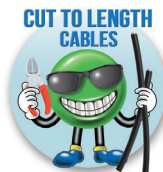


1.5 mm² (16AWG) Flexing Control Cable CF5 Series Unshielded

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	\$2dch:
 igus chainflex CF5.15.12							
<u>CF5-15-12-1</u>	12	1.5 mm ² (16AWG)	30	0.59	20	0.19	\$-2dci:

* 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)		
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)	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.

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	\$-2dcj:
							
CF5-25-07-1	7*	2.5 mm ² (14AWG)	50	0.51	20	0.20	\$2dck:

* 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

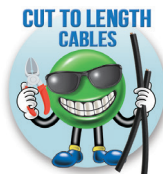
0.5 mm ² (20AWG) Multi-Conductor Flexing Control Cable Specifications (Shielded)			
Conductors Gauge & Stranding	0.5 mm ² (20AWG) 16/32 bare copper	Conductor Markings	"#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4
Voltage Ratings	600V per UL	Inner Jacket	Tan PVC
	Tested to 2000V	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	\$-2dcl:
							
CF6-05-07-1	7	0.5 mm ² (20AWG)	16	0.39	20	0.09	\$2dcn:
							
CF6-05-12-1	12	0.5 mm ² (20AWG)	16	0.51	20	0.16	\$2dco:

* 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.


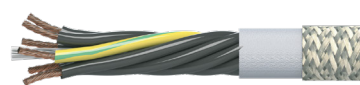



0.75 mm² (18AWG) Flexing Control Cable CF6 Series Shielded

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) Gliding, 16 ft/s (5 m/s)		
Max. Acceleration	262.5 ft/s ² (80 m/s ²)	Sample Print Legend	
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	\$2dcp:
							
CF6-07-07-1	7	0.75 mm ² (18AWG)	24	0.41	20	0.11	\$2dcq:
							
CF6-07-12-1	12	0.75 mm ² (18AWG)	24	0.55	20	0.19	\$2dcs:

* 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	\$;2dct:
							
CF6-15-07-1	7*	1.5 mm ² (16AWG)	30	0.51	20	0.18	\$2dcu:
							
CF6-15-12-1	12	1.5 mm ² (16AWG)	30	0.67	20	0.26	\$2dcv:

* 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

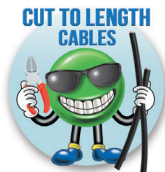
2.5 mm ² (14AWG) Multi-Conductor Flexing Control Cable Specifications (Shielded)				
Conductors Gauge & Stranding	2.5 mm ² (14AWG) 50/30 bare copper	Conductor Markings	"#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4	
Voltage Ratings	600V per UL	Inner Jacket	Tan PVC	
	Tested to 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	\$2dcx:

* 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



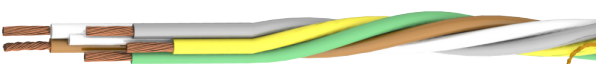


0.5 mm² (20AWG) High Flex Control Cable CF9 Series Unshielded

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	\$-4ohj:
							
CF9-UL-05-04-1	4	0.5 mm ² (20AWG)	28	0.28	20	0.04	\$4ohk:
							
CF9-UL-05-05-1	5	0.5 mm ² (20AWG)	28	0.31	20	0.05	\$-4ohl:

* See web store for maximum cut lengths



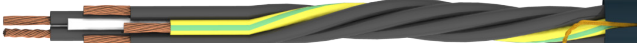
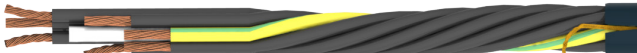
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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

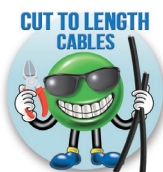
0.75 mm ² (18AWG) Multi-Conductor High Flex Control Cable Specifications (Unshielded)			
Conductors Gauge & Stranding	0.75 mm ² (18AWG) 42/0.15 mm ² bare copper	Conductor Insulation	Black TPE with green/yellow ground
Voltage Ratings	300/500V per UL	Conductor Markings	"#1-ONE", "2-TWO", "3-THREE", etc... @ 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)		
	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

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	\$40hn:
							
CF9-UL-07-07-1	7	0.75 mm ² (18AWG)	42	0.28	20	0.09	\$40ho:

* 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		

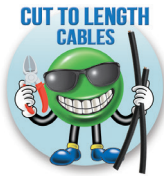
* Per EN 60811-504 standard

** 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	\$40he:
							
CF9-UL-15-05-1	5	1.5 mm ² (16AWG)	80	0.31	20	0.10	\$;40hf:

* 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.



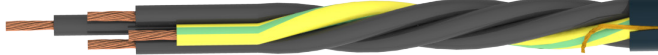
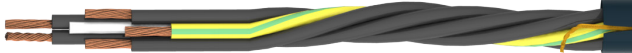
2.5 mm² (14AWG) High Flex Control Cable CF9 Series Unshielded

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

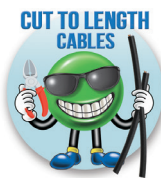
** For 7 conductor cable with travel distance ≥ 5m (16.4ft) requires bending radius ≥ 17 x diameter

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	\$4ohg:
							
CF9-UL-25-05-1	5	2.5 mm ² (14AWG)	76	0.51	20	0.16	\$4ohh:

* 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

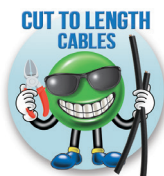
0.5 mm ² (20AWG) Multi-Conductor High Flex Control Cable Specifications (Shielded)			
Conductors Gauge & Stranding	0.5 mm ² (20AWG) 28/0.15 mm ² bare copper	Conductor Markings	#1 white, #2 brown, #3 green, #4 yellow, #5 grey
Voltage Ratings	300/500V per UL	Inner Jacket	Tan TPE
	Tested to 2000V	Outer 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	\$-4ohi:
							
CF10-UL-05-05-1	5	0.5 mm ² (20AWG)	28	0.39	20	0.07	\$4ohp:

* 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.

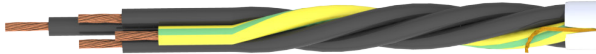
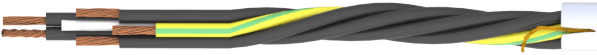


0.75 mm² (18AWG) High Flex Control Cable CF10 Series Shielded

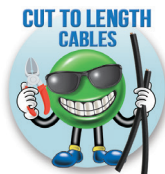
0.75mm ² (18AWG) Multi-Conductor High Flex Control Cable Specifications (Shielded)			
Conductors Gauge & Stranding	0.75 mm ² (18AWG) 42/0.15 mm ² bare copper	Conductor Markings	"#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, ICEA Method 4
Voltage Ratings	300/500V per UL	Inner Jacket	Tan TPE
	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	\$4ohq:
							
CF10-UL-07-05-1	5	0.75 mm ² (18AWG)	42	0.41	20	0.10	\$4ohs:

* See web store for maximum cut lengths



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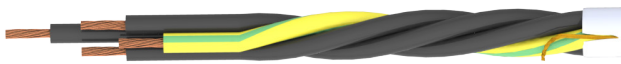
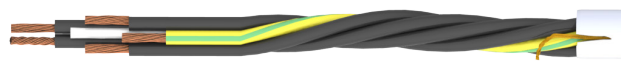
1.5 mm² (16AWG) High Flex Control Cable CF10 Series Shielded

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

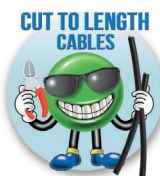
** For 7 conductor cable with travel distance $\geq 5m$ (16.4ft) requires bending radius $\geq 17 \times$ diameter

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 $\pm 10\%$)	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	\$40ht:
							
CF10-UL-15-05-1	5	1.5 mm ² (16AWG)	80	0.51	20	0.15	\$40hu:

* For 7 conductor cable with travel distance $\geq 5m$ (16.4ft) requires bending radius $\geq 17 \times$ diameter

** See web store for maximum cut lengths



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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 mm ²) Tray Rated Multi-Conductor Flexing Control Cable Specifications (Unshielded)			
Conductors Gauge & Stranding	18AWG (0.75 mm ²) 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)	Approvals	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/s ² (20 m/s ²)	Sample Print Legend	Sunlight resistant
			Direct Burial
Length of Travel	Unsupported travel distances and for gliding applications up to 30ft (9m)		Oil Resistant I
Torsion	90° rotation with 3.281 ft (1m) of cable length		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
			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	\$4ay3:
CF130US-07-12-1	12	18AWG (0.75 mm ²)	24 x 30	0.50	20	0.14	\$4ay4:
CF130US-07-18-1	18	18AWG (0.75 mm ²)	24 x 30	0.58	20	0.20	\$4ay5:
CF130US-07-25-1	25	18AWG (0.75 mm ²)	24 x 30	0.69	20	0.27	\$4ay6:

* See web store for maximum cut lengths



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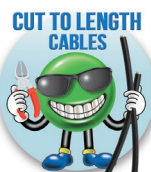
16AWG (1.5 mm²) Tray Rated Cable CF130US Series Unshielded

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) 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 IGUS P/N CF130US-15-XX 16AWG ##/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
	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	
	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.

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	\$4ay7:
CF130US-15-12-1	12	16AWG (1.5 mm ²)	30 x 30	0.56	20	0.20	\$4ay8:
CF130US-15-18-1	18	16AWG (1.5 mm ²)	30 x 30	0.65	20	0.28	\$4ay9:

* See web store for maximum cut lengths



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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	\$4aya:
CF130US-25-07-1	7	14AWG (2.5 mm ²)	50 x 30	0.51	20	0.17	\$4ayb:

* 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

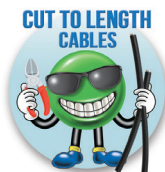
12AWG (4.0 mm ²) Tray Rated Multi-Conductor Flexing Control Cable Specifications (Unshielded)			
Conductors Gauge & Stranding	12AWG (4.0 mm ²) 56/28 bare copper	Conductor Insulation	Mechanically high-quality, PVC/Nylon, black with white numbers, one green-yellow
Voltage Ratings	600V per UL	Conductor 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	\$4ayc:

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

** See web store for maximum cut lengths



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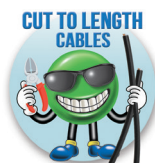
18AWG (0.75 mm²) Tray Rated Cable CF140US Series Shielded

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	\$4ayd:
CF140US-07-05-1	5	18AWG (0.75 mm ²)	24 x 30	0.43	20	0.10	\$4aye:
CF140US-07-12-1	12	18AWG (0.75 mm ²)	24 x 30	0.57	20	0.20	\$4ayf:
CF140US-07-18-1	18	18AWG (0.75 mm ²)	24 x 30	0.66	20	0.27	\$4ayg:

* See web store for maximum cut lengths



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igus 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 mm ²) to 24AWG (0.25 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 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)	Silicone-free	Yes
	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)	Approvals	Halogen-free Following DIN EN 60754 REACH RoHS-II Cleanroom According to ISO Class 1. CE
	Gliding, 19.7 ft/s (6m/s)		
Max. Acceleration	328.1 ft/s ² (100m/s ²)		
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
							
CF11-01-04-02-1	4	26	18	0.30	20	0.43	\$-56yj:
CF11-02-01-02-1	1	24	32	0.24		0.26	\$56yk:
CF11-02-02-02-1	2			0.26		0.33	\$-56yl:
CF11-02-03-02-1	3			0.31		0.55	\$56yn:
CF11-02-04-02-1	4			0.33		0.60	\$56yo:

* See web store for maximum cut lengths



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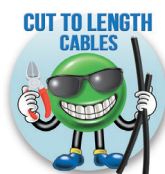
Continuous Flexing Control and Signal Cable CF211 Series (Shielded)

Continuous Flexing Control and Signal Cable CF211 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 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/s ² (50m/s ²)	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 +++
Length of Travel	Unsupported travels and up to 100m for gliding applications, Class 5		
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	\$56x?:
<u>CF211-02-02-02-1</u>	2			0.24		0.28	\$56x.:
<u>CF211-02-04-02-1</u>	4			0.31		0.48	\$56y1:
<u>CF211-03-03-02-1</u>	3	22	42	0.31		0.54	\$56y2:
<u>CF211-05-01-02-1</u>	1	20	28	0.22		0.28	\$56y4:
<u>CF211-05-02-02-1</u>	2			0.28		0.48	\$56y5:
<u>CF211-05-03-02-1</u>	3			0.35		0.70	\$56y6:
<u>CF211-05-04-02-1</u>	4			0.37		0.86	\$56y7:

* See web store for maximum cut lengths




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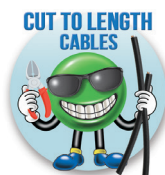
Continuous Flexing Control and Signal Cable CF211-PUR Series (Shielded)

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) Gliding, 19.7 ft/s (6m/s)		
Max. Acceleration	328.1 ft/s ² (100m/s ²)	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 +++
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	\$56y8:
CF211-P-02-02-02-1	2			0.24		0.23	\$56yb:
CF211-P-02-03-02-1	3			0.28		0.42	\$56yc:
CF211-P-02-04-02-1	4			0.30		0.44	\$56yd:
CF211-P-05-01-02-1	1	20	28	0.22		0.27	\$56yf:
CF211-P-05-02-02-1	2			0.28		0.40	\$56yg:
CF211-P-05-04-02-1	4			0.37		0.80	\$56yi:

* See web store for maximum cut lengths





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

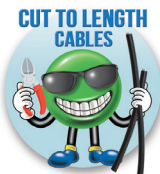
16AWG (1.5 mm ²) Tray Rated Multi-Conductor Flexing Control Cable Specifications (Shielded)			
Conductors Gauge & Stranding	16AWG (1.5 mm ²) 30/30 Finely stranded bundled bare copper wires. Designed in accordance with ASTM B174-95	Conductor Markings	"#1-ONE", "2-TWO", "3-THREE", etc... @ 4.5 inch intervals, 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	\$4ayh:
							
CF140US-15-04-1	4	16AWG (1.5 mm ²)	30 x 30	0.43	20	0.11	\$;4bff:

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

** See web store for maximum cut lengths




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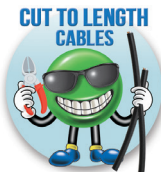
14AWG (2.5 mm²) Flexing Control Cable CF140US Series Shielded

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	\$-4ayj:

* 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.



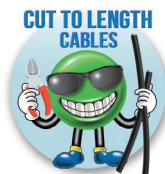
12AWG (4.0 mm²) Flexing Control Cable CF140US Series Shielded

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	\$4ayk:

* 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



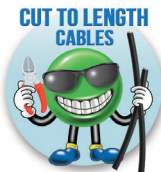
24AWG (0.25 mm²) Flexing Control Cable CFBUS-PVC Series Shielded

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. Outer jacket material complies with CF240-02-24, tested by IPA according to standard 14644-1
Conductor Insulation	Red, Green PVC with blue filler material		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	\$-4ayl:

* 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	\$2exy:
CF30-25-04-1	4	14AWG (2.5 mm ²)	50x30	0.41	20	0.11	\$2exz:
CF30-40-04-1	4	12AWG (4.0 mm ²)	56x28	0.47	20	0.17	\$.2exj:
CF30-60-04-1	4	10AWG (6.0 mm ²)	84x28	0.55	20	0.24	\$.2exi:
CF30-100-04-1	4	8AWG (10.0 mm ²)	80x26	0.69	10	0.41	\$2ex_:
CF30-160-04-1	4	6AWG (16.0 mm ²)	128x26	0.83	10	0.62	\$2exs:
CF30-250-04-1	4	4AWG (25 mm ²)	200x26	1.00	10	0.95	\$.2ext:
CF30-350-04-1	4	2AWG (35 mm ²)	280x26	1.14	10	1.30	\$2exu:

* See web store for maximum cut length



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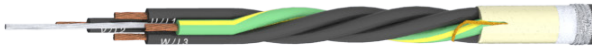


Motor Supply Cable CF31 Series Shielded

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	\$2exv:
CF31-25-04-1	4	14AWG (2.5 mm ²)	50x30	0.47	20	0.16	\$2exx:
CF31-40-04-1	4	12AWG (4.0 mm ²)	56x28	0.53	20	0.23	\$2ex#:
CF31-60-04-1	4	10AWG (6.0 mm ²)	84x28	0.63	20	0.33	\$;2ex!:
CF31-100-04-1	4	8AWG (10.0 mm ²)	80x26	0.81	10	0.56	\$2ex?:
CF31-160-04-1	4	6AWG (16.0 mm ²)	128x26	0.93	10	0.76	\$;2ex,:
CF31-250-04-1	4	4AWG (25 mm ²)	200x26	1.12	10	1.15	\$2ey0:
CF31-350-04-1	4	2AWG (35 mm ²)	280x26	1.28	10	1.54	\$2ey1:

* See web store for maximum cut length



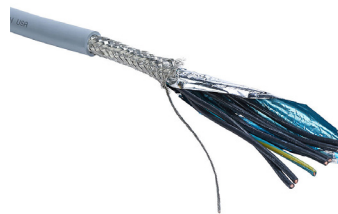
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LUTZE SUPERFLEX® PVC Control Cable



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.

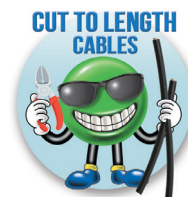
With multiple ratings and approvals, LUTZE SUPERFLEX® PVC multi-conductor control cable has the versatility to meet a wide range of industrial applications. These flexible multi-conductor cables provide an economical way to organize and simplify control wiring in machines and facilities. Suitable for 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



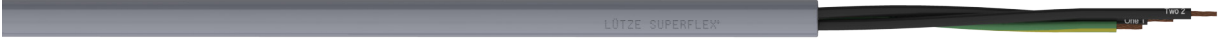
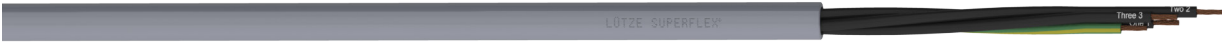





0.5 mm² (21AWG) Unshielded Continuous Flexing Control Cable

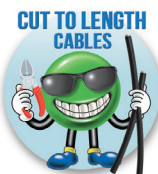
0.5 mm² (21AWG) Continuous Flexing Control Cable Specifications (Unshielded)

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	\$2dc6:
							
A1482004-1	4	0.5 mm ² (21AWG)	28	0.220	20	0.034	\$2dc7:
							
A1482005-1	5	0.5 mm ² (21AWG)	28	0.240	20	0.042	\$2dc8:
							
A1482007-1	7	0.5 mm ² (21AWG)	28	0.283	20	0.058	\$5_43:
							
A1482012-1	12	0.5 mm ² (21AWG)	28	0.339	20	0.083	\$5_44:



* See web store for maximum cut lengths



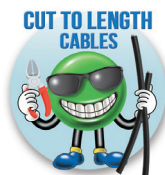
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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	\$5_3_:
							
<u>A1482025-1</u>	25	0.5 mm ² (21AWG)	28	0.496	20	0.177	\$5_3#:

* See web store for maximum cut lengths



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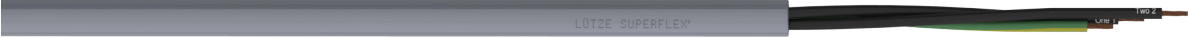

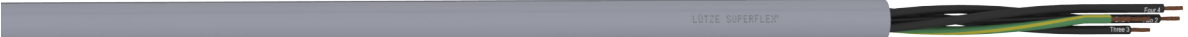




1.0 mm² (18AWG) Unshielded Continuous Flexing Control Cable

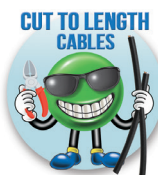
1.0 mm² (18AWG) Continuous Flexing Control Cable Specifications (Unshielded)

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
							
A1481803-1	3	1.0 mm ² (18AWG)	56	0.240	20	0.044	\$5_31:
							
A1481804-1	4	1.0 mm ² (18AWG)	56	0.264	20	0.053	\$5_37:
							
A1481805-1	5	1.0 mm ² (18AWG)	56	0.283	20	0.065	\$5_3:
							
A1481807-1	7	1.0 mm ² (18AWG)	56	0.335	20	0.092	\$5_45:
							
A1481812-1	12	1.0 mm ² (18AWG)	56	0.417	20	0.141	\$5_46:




* See web store for maximum cut lengths



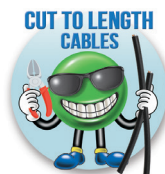
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



1.0 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	\$5_47:
							
<u>A1481825-1</u>	25	1.0 mm ² (18AWG)	56	0.602	20	0.291	\$5_48:
							
<u>A1481834-1</u>	34	1.0 mm ² (18AWG)	56	0.685	20	0.392	\$5_49:

* 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

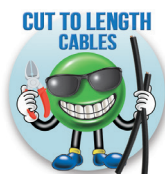
1.5 mm² (16AWG) Continuous Flexing Control Cable Specifications (Unshielded)

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 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
A1481603-1	3	1.5 mm ² (16AWG)	82	0.276	20	0.059	\$5.4a:
A1481604-1	4	1.5 mm ² (16AWG)	82	0.303	20	0.073	\$5.4b:
A1481605-1	5	1.5 mm ² (16AWG)	82	0.331	20	0.090	\$5.4c:
A1481607-1	7	1.5 mm ² (16AWG)	82	0.402	20	0.132	\$5.4d:
A1481612-1	12	1.5 mm ² (16AWG)	82	0.500	20	0.203	\$5.4e:



* See web store for maximum cut lengths



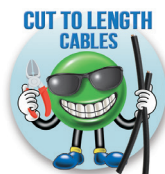
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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	\$;5_4f:
							
<u>A1481625-1</u>	25	1.5 mm ² (16AWG)	82	0.717	20	0.417	\$5_4g:

* 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.

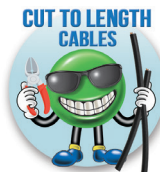


2.5 mm² (14AWG) Unshielded Continuous Flexing Control Cable

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	\$5.4h:
<u>A1481405-1</u>	5	2.5 mm ² (14AWG)	134	0.382	20	0.132	\$-5.4i:
<u>A1481407-1</u>	7	2.5 mm ² (14AWG)	134	0.469	20	0.194	\$-5.4j:

* 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.

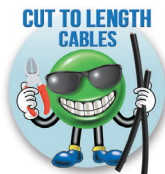


4mm² (12AWG) Unshielded Continuous Flexing Control Cable

4mm ² (12AWG) Continuous Flexing Control Cable Specifications (Unshielded)			
Conductors Gauge & Stranding	4mm ² (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		

4mm ² (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	\$5_4k:
<u>A1481207-1</u>	7	4mm ² (12AWG)	224	0.591	20	0.328	\$-5_4l:

* 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.

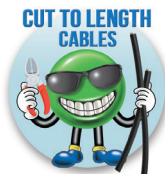


0.5mm² (20AWG) Shielded Continuous Flexing Control Cable

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	\$;5ld?;
<u>A1492004-1</u>	4	20	28	0.280	20	0.060	\$;5ld.;
<u>A1492005-1</u>	5	20	28	0.307	20	0.074	\$;5le0;
<u>A1492007-1</u>	7	20	28	0.354	20	0.098	\$;5le1;

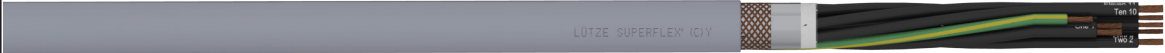
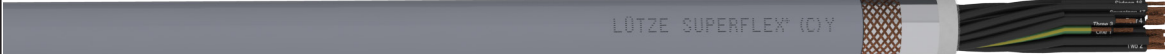
* See web store for maximum cut lengths



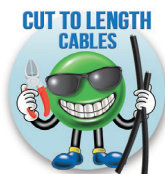
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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	\$,5!e2:
							
<u>A1492018-1</u>	18	20	28	0.492	20	0.194	\$,5!e3:

* 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

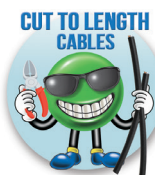
1.0 mm² (18AWG) Continuous Flexing Control Cable Specifications (Shielded)

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
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
		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	\$;5le9:
A1491804-1	4	18	56	0.331	20	0.089	\$;5lef:
A1491805-1	5	18	56	0.354	20	0.105	\$;5leg:
A1491807-1	7	18	56	0.429	20	0.151	\$;5len:

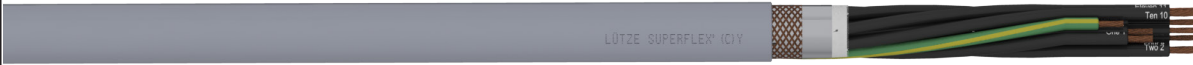

* See web store for maximum cut lengths



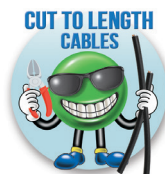
Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



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	\$,51e4:
							
<u>A1491818-1</u>	18	18	56	0.579	20	0.293	\$,51e5:

* 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.

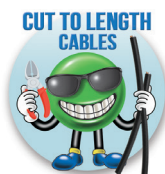


1.5 mm² (16AWG) Shielded Continuous Flexing Control Cable

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	\$;5!e6:
A1491604-1	4	16	82	0.378	20	0.118	\$;5!e7:
A1491605-1	5	16	82	0.421	20	0.147	\$;5!e8:
A1491607-1	7	16	82	0.488	20	0.201	\$;5!ea:
A1491612-1	12	16	82	0.579	20	0.285	\$;5!eb:

* 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

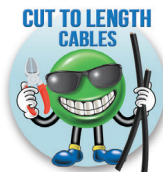
2.5 mm² (14AWG) Continuous Flexing Control Cable Specifications (Shielded)

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!ec:
A1491405-1	5	14	134	0.472	20	0.200	\$;5!ed:
A1491407-1	7	14	134	0.551	20	0.271	\$;5!ee:

* See web store for maximum cut lengths

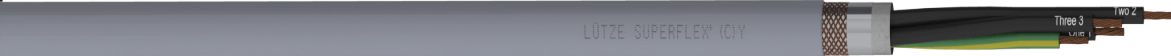


Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

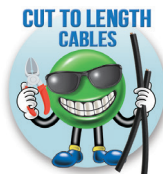


4mm² (12AWG) Shielded Continuous Flexing Control Cable

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	\$,-5!el:

* 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	\$-417n:
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

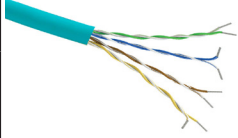
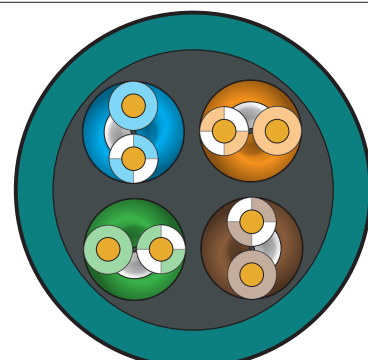
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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

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	\$-4l7o:
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

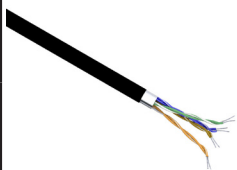
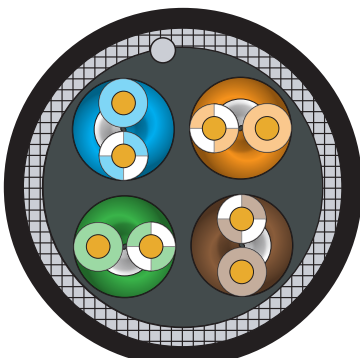


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Cat5e Industrial Ethernet



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	\$,51eh:
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

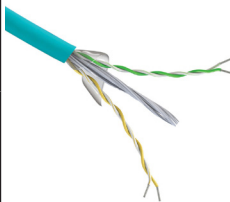
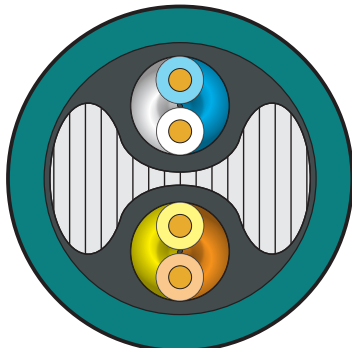


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Cat5e Industrial Ethernet Continuous Flexing



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	\$2dd_:
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

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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	\$.2dd[
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

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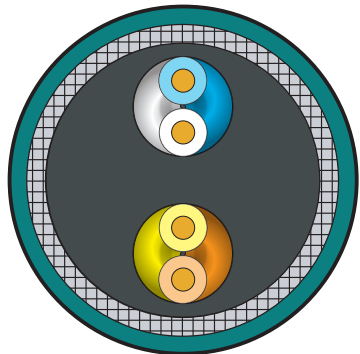


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Cat5e Industrial Ethernet Continuous Flexing



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	\$2ddv:
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

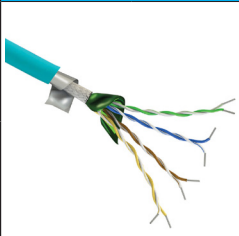
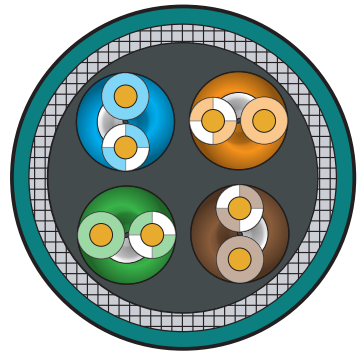


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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	\$2ddx:
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

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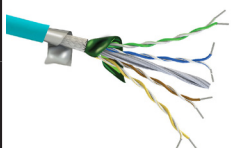
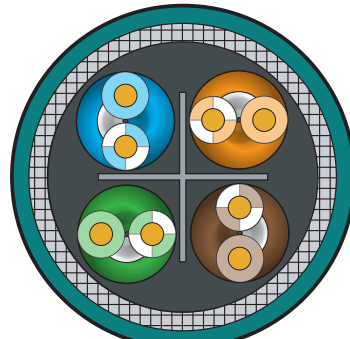


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Cat6/6A Industrial Ethernet Continuous Flexing



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	\$-417p:
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

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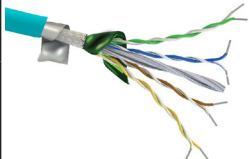
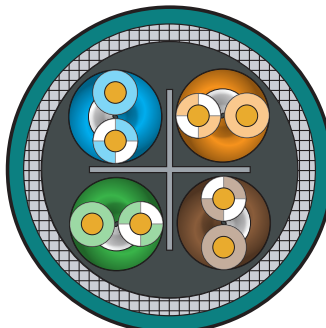


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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	\$-417q:
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

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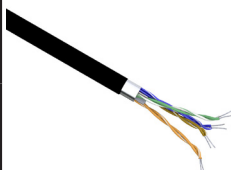
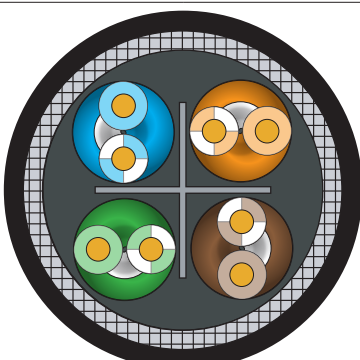


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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	\$,-5!ei:
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

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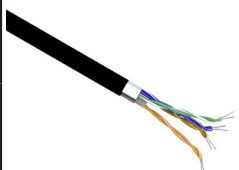
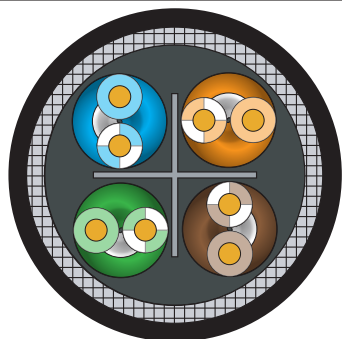


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Cat6/6A Industrial Ethernet Continuous Flexing



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	\$,-5!ej:
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

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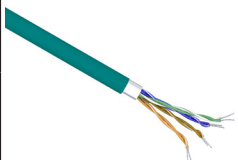
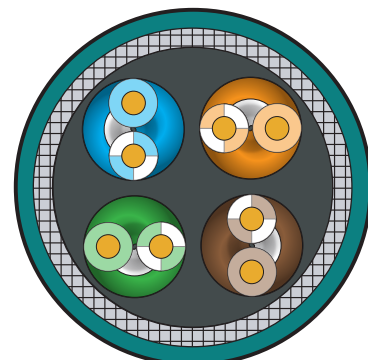


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Industrial Ethernet Continuous Flexing



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	\$.5v/le:
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

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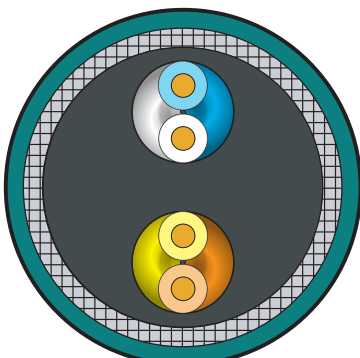


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Cat5e Industrial Ethernet Continuous Flexing



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	\$,;5v!f.
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

** 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



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	\$.5v/ft
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

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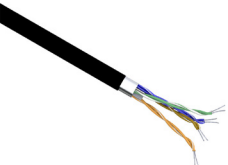
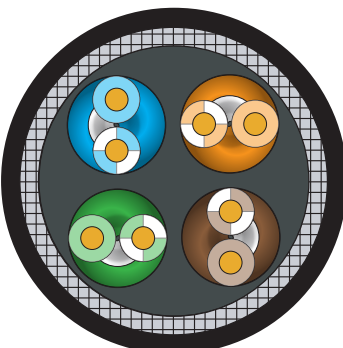


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Cat6a Industrial Ethernet Continuous Flexing



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	\$.5v/lh:
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

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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



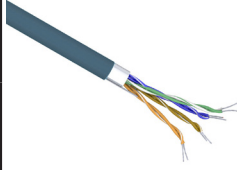
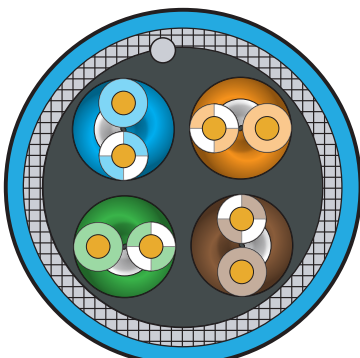
Click on the thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
for a short introduction on our cut to length cable



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	\$5gu8:
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

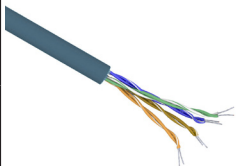
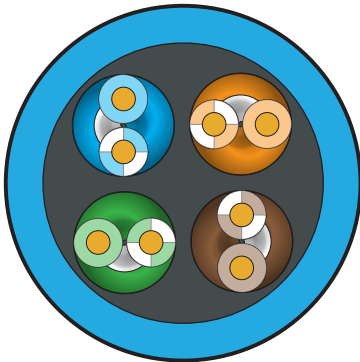
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Cat5e Ethernet



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	\$.5guf:
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

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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	\$5gug:
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

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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	\$;5vld:
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

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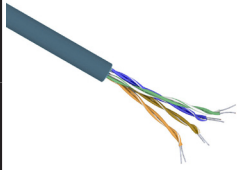
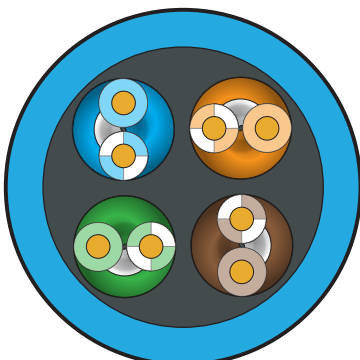


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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	\$5gu7:
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

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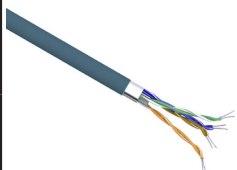
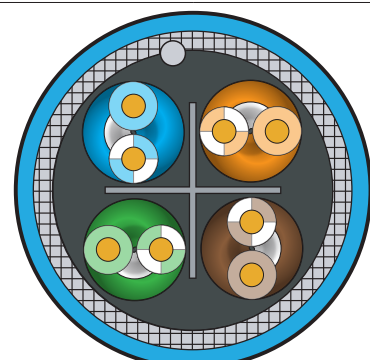


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Cat6 Ethernet



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	\$5gu9:
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					

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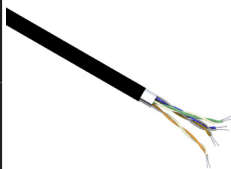
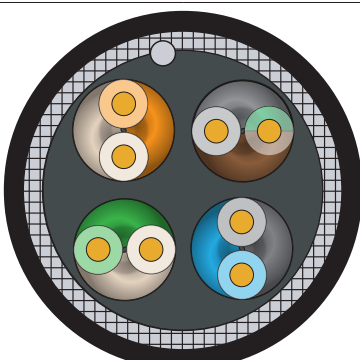
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Cat6 Ethernet

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	\$,51ep:
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

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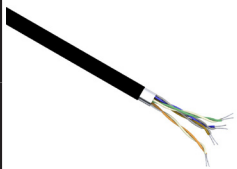
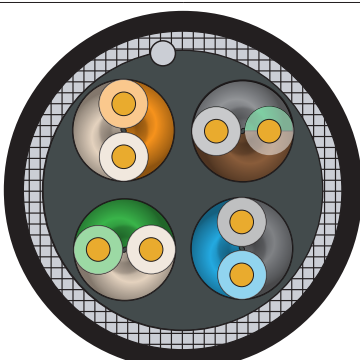


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Cat6 Ethernet



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	\$,5!eq:
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					

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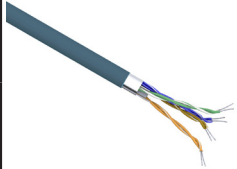
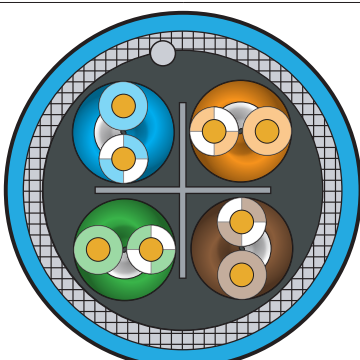


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Cat6a Ethernet



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	\$5gua:
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

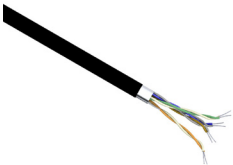
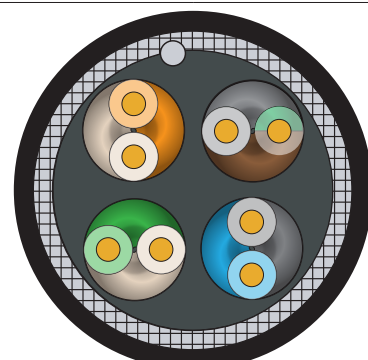
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Cat6a Ethernet

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	\$;5!ek:
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					

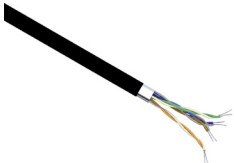
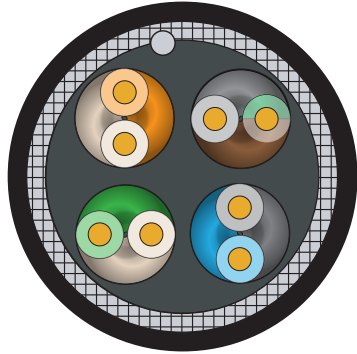
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat6a Ethernet



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	\$;5!eo:
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

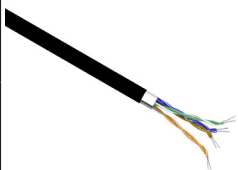
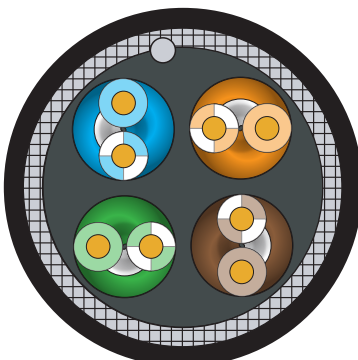


Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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	\$;5lev:
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	\$;5!eu:
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

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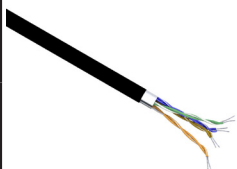
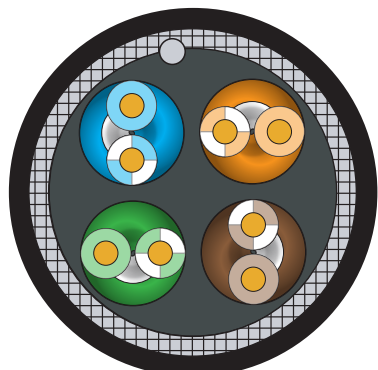


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Cat6a Ethernet



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	\$.51es:
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

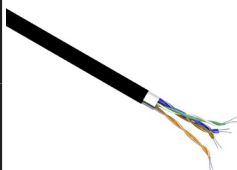
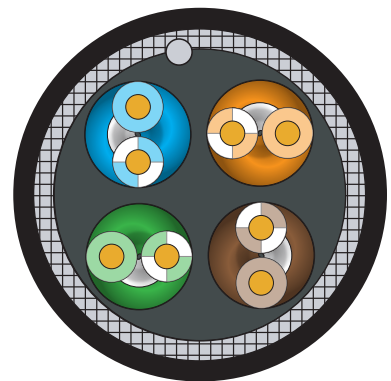
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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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	\$,;5!et:
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

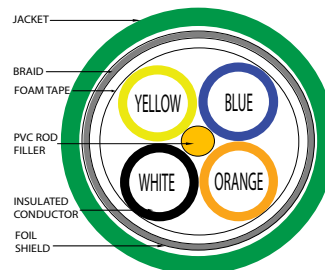


Continuous Flexing PROFINET Cable

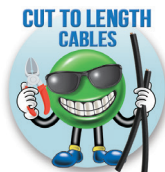
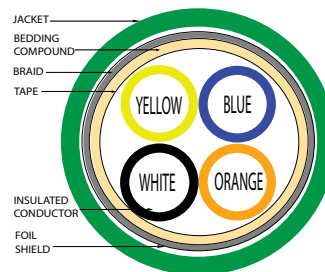
Continuous Flexing PROFINET Cable Selection								
Part Number	Wiring Standard	Minimum Cut Length (ft)*	Shield	No. of Pairs	Pair Colors	Description	Approximate Weight (lb/ft)	Price per foot
<u>Q5094-1</u>	Cat5e	20ft (6m)	Foil	2	Pair 1 - White / Blue Pair 2 - Yellow / Orange	Quabbin continuous flexing 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	\$4c1e:
<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	\$;4c1f:

* 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

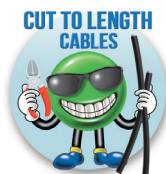
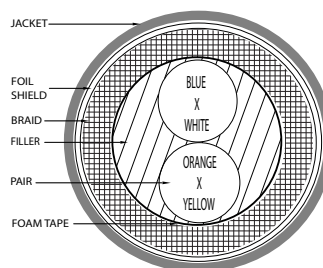
NOTE: All testing conducted off the reel.

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	\$;-5vlti:

* 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.

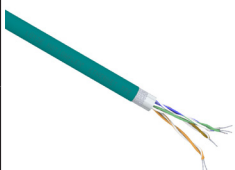
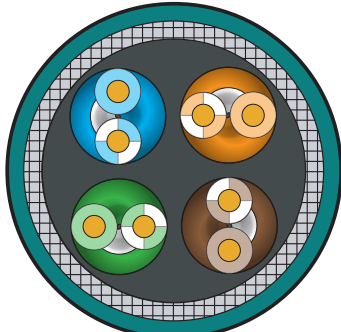
Click on the thumbnail to the right or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable



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	\$;5.xy:
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



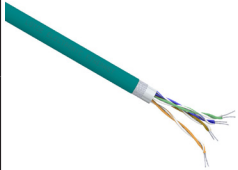
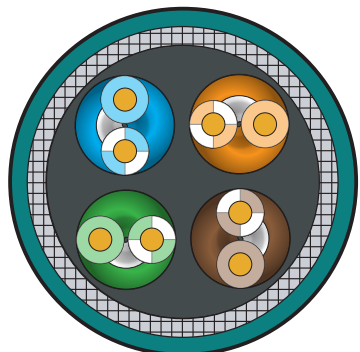
Please Note: Our prices on Continuous Flexing IE Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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	\$;5,xz:
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

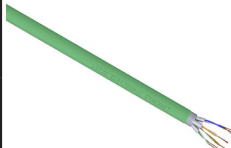
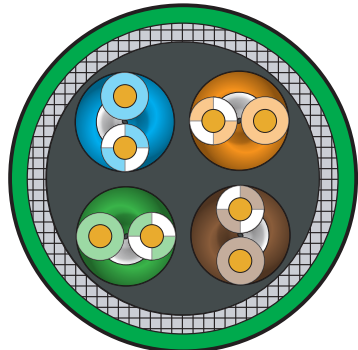
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Cat6a Industrial Ethernet Cable



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	\$,;5,x]:
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

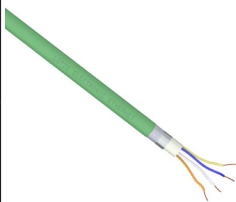
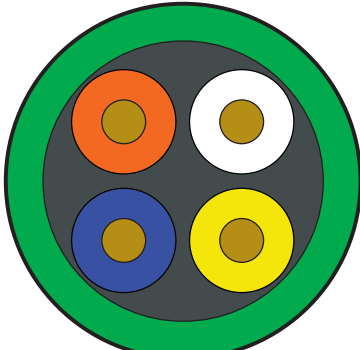
Please Note: Our prices on Continuous Flexing IE Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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	\$,;5,x[
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 YYYYWW> 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

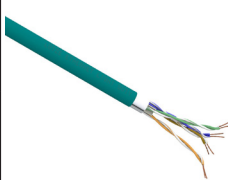
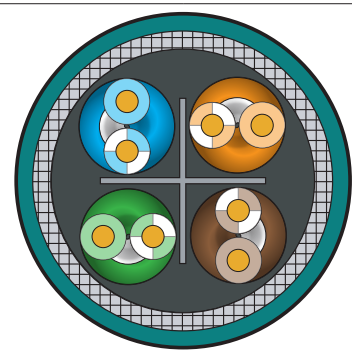
Please Note: Our prices on Continuous Flexing IE Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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	\$;5,x_:
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

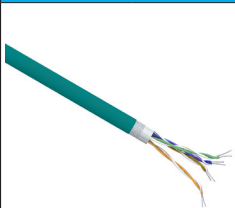
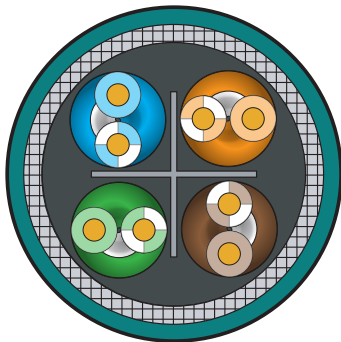
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Cat5e Industrial Ethernet Cable

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	\$;5,xs:
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


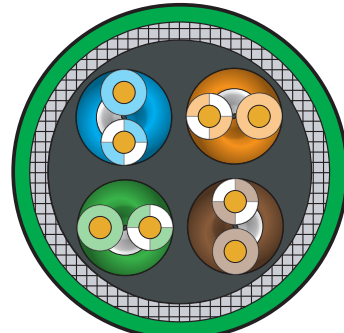
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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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	\$,;5,xt.
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					

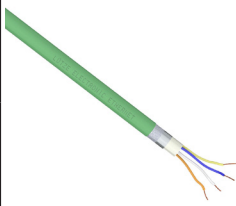
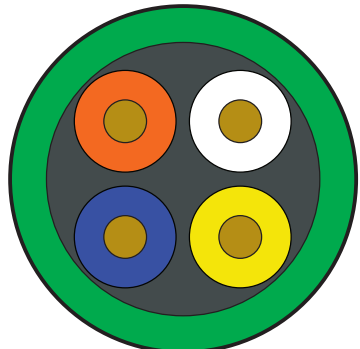
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Profinet Type A Cable



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	\$;5,xu:
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				

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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

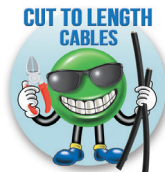


Continuous Flexing Profibus Cable

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
							
<u>A104265-1</u>	1	24	19	0.315	20	0.04	\$;5,xv:

* See web store for maximum cut lengths



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SYSTEMATIC TECHNOLOGY

Profibus Cable

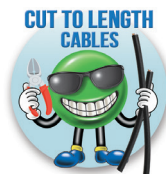
A104293-1 Profibus Cable Specifications (Shielded)

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	\$;5,xx:

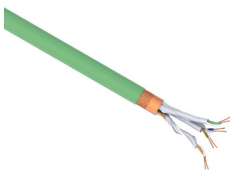
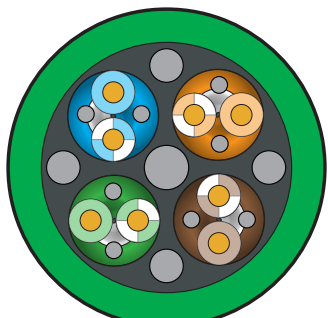
* See web store for maximum cut lengths



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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	\$-6glg:
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

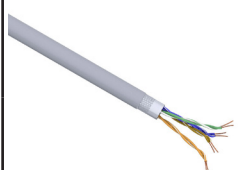
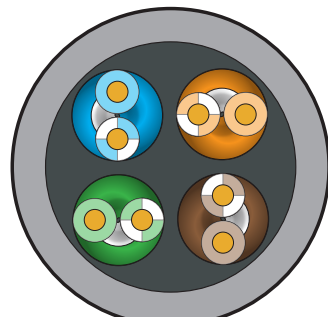
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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Cat5e Industrial Ethernet



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	\$-6glb:
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

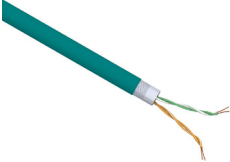
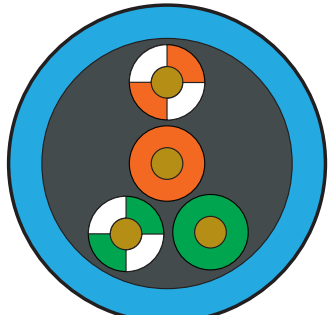
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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Cat5e Industrial Ethernet



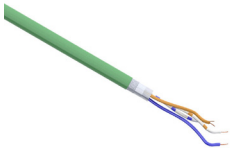
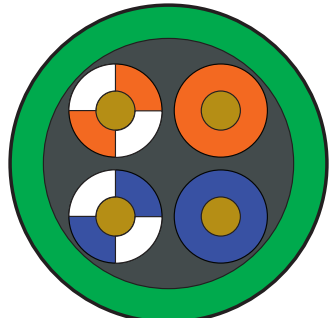
H805702-1 Cable Specifications							
		Part Number	Wire/Cable Type	Flexibility	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price Per Foot
		H805702-1	Cat5e industrial Ethernet	Flexible	20	0.01	\$-6glc:
Physical Properties							
Conductor Gauge		26 AWG		Conductor Stranding		7-stranded bare copper	
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 I/ 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					

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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	\$-6glh:
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

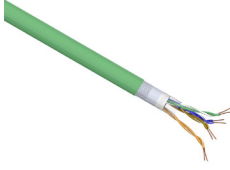
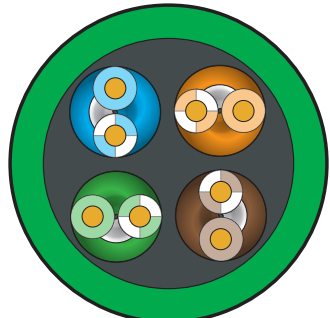
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Cat5e Industrial Ethernet Continuous Flexing



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	\$,-6g/ft
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				

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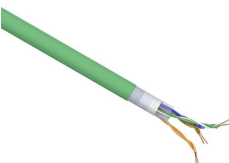
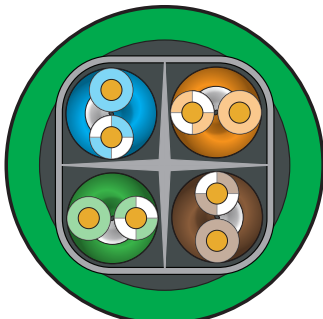
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Cat6 Industrial Ethernet



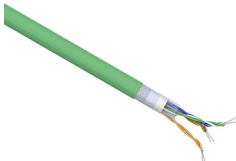
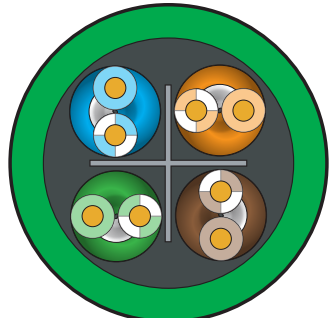
H805655-1 Cable Specifications						
	Part Number	Wire/Cable Type	Flexibility	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price Per Foot
	H805655-1	Cat6 industrial Ethernet	Semi-flexible	20	0.03	\$-6glu:
Physical Properties						
Conductor Gauge		24 AWG	Conductor Stranding		Solid bare copper	
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				

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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	\$--6gli:
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


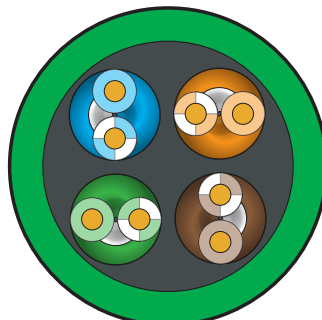
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Cat6a Industrial Ethernet



HELUKABEL®

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	\$-6gld:
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					


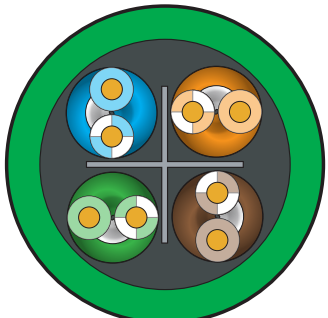
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat6a Industrial Ethernet



H805548-1 Cable Specifications


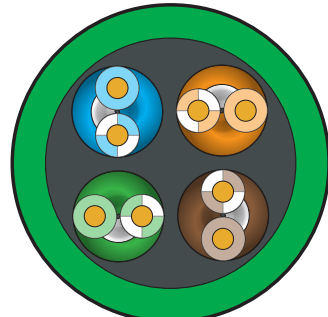
H805548-1 Cable Specifications							
		Part Number	Wire/Cable Type	Flexibility	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price Per Foot
		H805548-1	Cat6a industrial Ethernet	Flexible	20	0.02	\$--6gll:
Physical Properties							
Conductor Gauge		26 AWG		Conductor Stranding		7-stranded tinned 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					

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Cat6a Industrial Ethernet




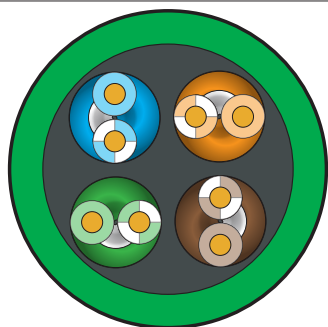
H805703-1 Cable Specifications							
		Part Number	Wire/Cable Type	Flexibility	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price Per Foot
		H805703-1	Cat6a industrial Ethernet	Flexible	20	0.03	\$-6glk:
Physical Properties							
Conductor Gauge		24 AWG		Conductor Stranding		7-stranded tinned 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					

* 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




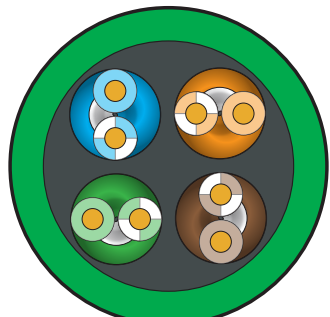
H805704-1 Cable Specifications							
		Part Number	Wire/Cable Type	Flexibility	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price Per Foot
		H805704-1	Cat6a industrial Ethernet	Flexible	20	0.03	\$-6gle:
Physical Properties							
Conductor Gauge		24 AWG		Conductor Stranding		7-stranded tinned 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					

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Cat7 Industrial Ethernet




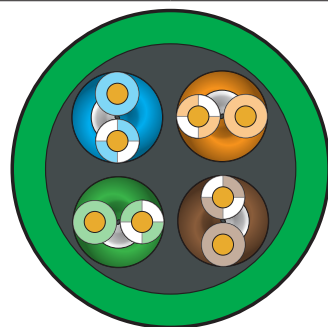
H805614-1 Cable Specifications						
	Part Number	Wire/Cable Type	Flexibility	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price Per Foot
	H805614-1	Cat7 industrial Ethernet	Flexible	20	0.03	\$-6glo:
Physical Properties						
Conductor Gauge		24 AWG	Conductor Stranding		7-stranded tinned copper	
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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Cat7 Industrial Ethernet



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	\$-6gln:
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					


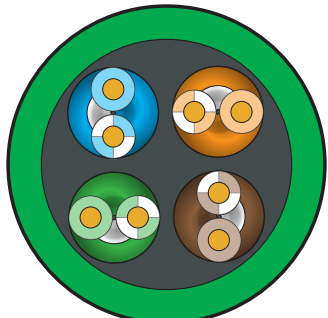
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Cat7a Industrial Ethernet



H805680-1 Cable Specifications

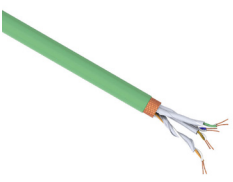
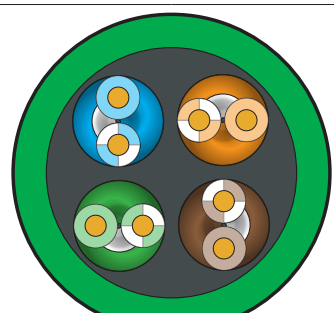
		Part Number	Wire/Cable Type	Flexibility	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price Per Foot
		H805680-1	Cat7a industrial Ethernet	Semi-flexible	20	0.03	\$-6glv:
Physical Properties							
Conductor Gauge		23 AWG		Conductor Stranding		Solid bare copper	
Conductor Material		Bare copper		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					

* 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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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	\$-6glx:
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_ _ _ _ _CE_ _ _ _ _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

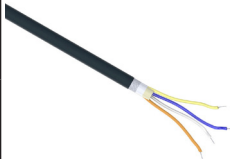
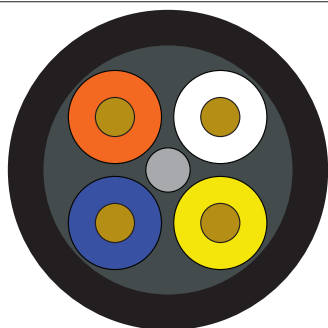
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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	\$-6gls:
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					


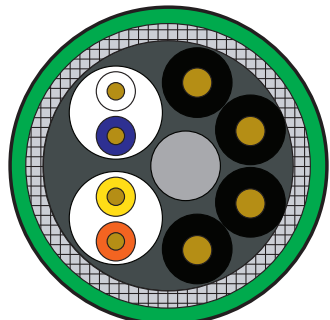
* See web store www.AutomationDirect.com for maximum cut lengths** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com

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Profinet Type B

(Includes Power Conductors)



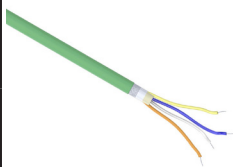
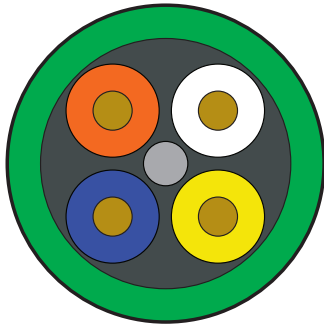
H801651-1 Cable Specifications							
		Part Number	Wire/Cable Type	Flexibility	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price Per Foot
		H801651-1	Profinet Type B	Flexible	20	0.06	\$-6glp:
Physical Properties							
Conductor Gauge		22 AWG Profinet conductors 16 AWG Power conductors		Conductor 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-Retardent-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	\$;-6glt:
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

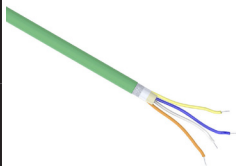
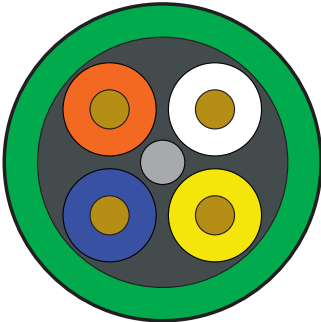
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at www.AutomationDirect.com



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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	\$-6glq:
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

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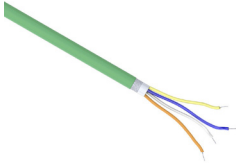
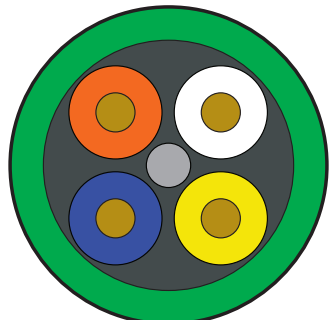


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Profinet Type C

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	\$--6glj:
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					

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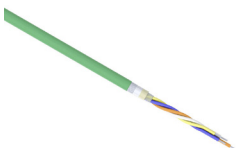
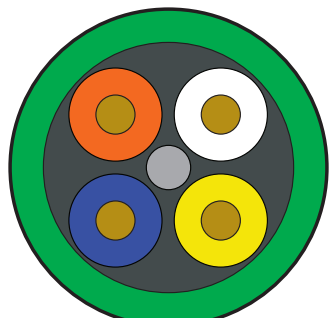
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Profinet Type R

Continuous Flexing



H11007800-1 Cable Specifications

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	\$-6gla:
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

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Sensor / Actuator Cable (Unshielded)

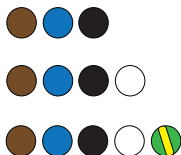


Conductor Colors:

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



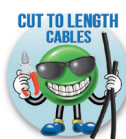
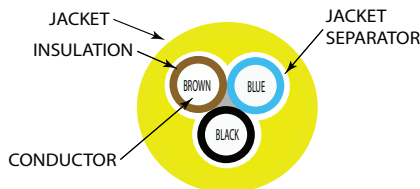
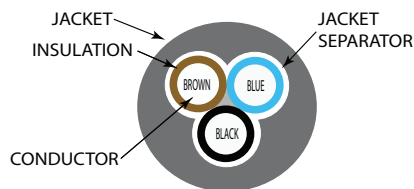
See www.AutomationDirect.com for our full offering of Field Wireable Connectors.

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	\$4158:
							
SAC-24-3U-1YL-1	Yellow	3	24	19/36	30	0.0150	\$415d:

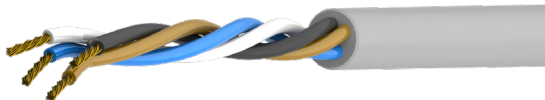

* See web store for maximum cut lengths



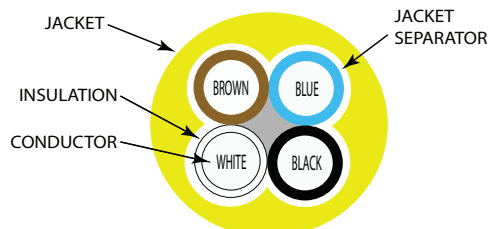
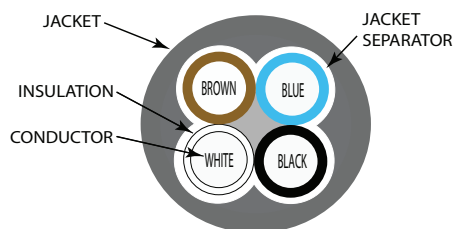
Please Note: Our prices on Bulk Sensor / Actuator Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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	\$4159:
							
SAC-24-4U-1YL-1	Yellow	4	24	19/36	30	0.0178	\$415e:

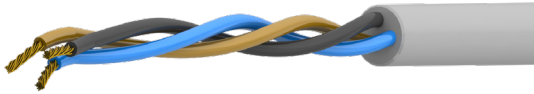

* See web store for maximum cut lengths



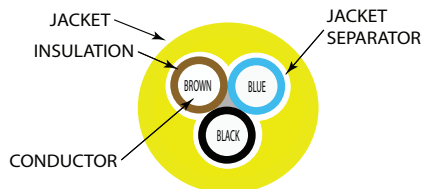
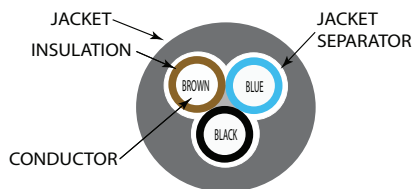
Please Note: Our prices on Bulk Sensor / Actuator Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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
							
<u>SAC-22-3U-1GY-1</u>	Gray	3	22	19/34	30	0.0185	\$415a:
							
<u>SAC-22-3U-1YL-1</u>	Yellow	3	22	19/34	30	0.0185	\$.415f:


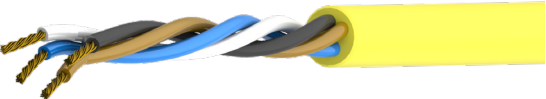
* See web store for maximum cut lengths



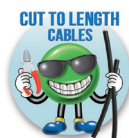
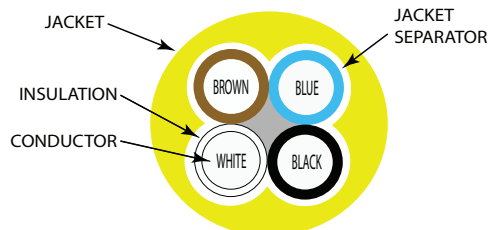
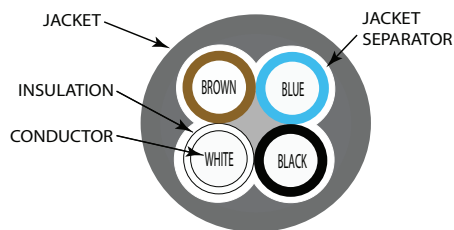
Please Note: Our prices on Bulk Sensor / Actuator Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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
							
<u>SAC-22-4U-1GY-1</u>	Gray	4	22	19/34	30	0.0224	\$415b:
							
<u>SAC-22-4U-1YL-1</u>	Yellow	4	22	19/34	30	0.0224	\$415g:

* See web store for maximum cut lengths



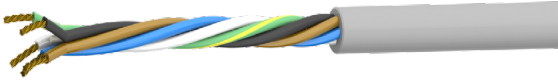
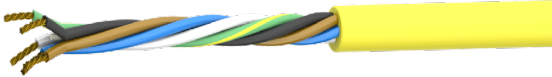
Please Note: Our prices on Bulk Sensor / Actuator Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

22AWG 5-Conductor Sensor / Actuator Cable (Unshielded)

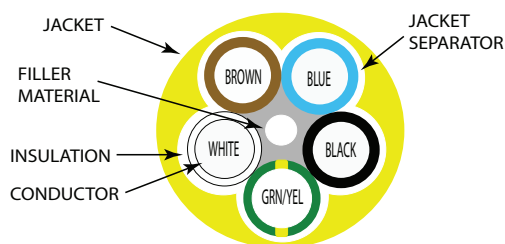
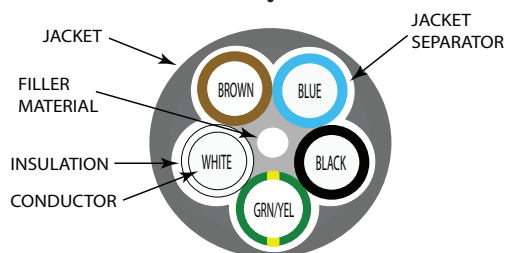
22AWG 5-Conductor Bulk Sensor / Actuator Cable Specifications (Unshielded)

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
							
SAC-22-5U-1GY-1	Gray	5	22	19/34	30	0.0265	\$415c:
							
SAC-22-5U-1YL-1	Yellow	5	22	19/34	30	0.0265	\$415h:

* 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

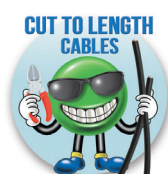
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com



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
A1022203-1	Yellow	3	22	7/30	20	0.260	1.04	0.034	\$;5]7,:
A1022204-1	Yellow	4	22	7/30	20	0.276	1.10	0.040	\$;5]80:
A1022205-1	Yellow	5	22	7/30	20	0.300	1.20	0.048	\$;5]81:

* 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
									
A1022003-1	Yellow	3	20	10/30	20	0.271	1.08	0.039	\$;5]82:
									
A1022004-1	Yellow	4	20	10/30	20	0.292	1.17	0.047	\$;5]83:
									
A1022005-1	Yellow	5	20	10/30	20	0.315	1.26	0.055	\$;5]84:

* See web store for maximum cut lengths

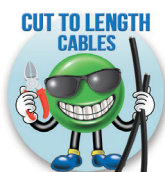


Please Note: Our prices on IO-Link cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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
									
A1021803-1	Yellow	3	18	19/30	20	0.295	1.18	0.051	\$;5]85:
									
A1021804-1	Yellow	4	18	19/30	20	0.317	1.27	0.062	\$;5]86:
									
A1021805-1	Yellow	5	18	19/30	20	0.345	1.38	0.076	\$;5]87:

* See web store for maximum cut lengths

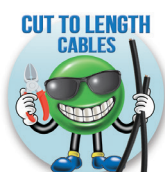


Please Note: Our prices on IO-Link cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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
									
A1021603-1	Yellow	3	16	26/30	20	0.321	1.28	0.062	\$;.5]88:
									
A1021604-1	Yellow	4	16	26/30	20	0.350	1.40	0.077	\$;.5]89:
									
A1021605-1	Yellow	5	16	26/30	20	0.375	1.50	0.092	\$;.5]8a:

* 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



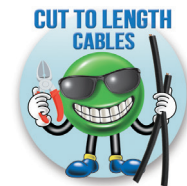
Control and signal cable from Quabbin is available in sizes from 24 AWG to 16 AWG with up to 25 conductors. These are available either in unshielded or shielded constructions. Individual conductors are stranded tinned copper with color coded insulation for easy identification, with an industry standard 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
<u>Q8508-1</u>	Low capacitance, RS-232 computer interconnect, extended distance cable, RoHS compliant materials
<u>Q8215-1</u>	
<u>Q8205-1</u>	RS-232 computer interconnect, instrumentation, audio, broadcast, Class 2 circuits, RoHS compliant materials
<u>Q8200-1</u>	
<u>Q8195-1</u>	
<u>Q8190-1</u>	Computer interconnect, instrumentation, audio, broadcast, RoHS compliant materials
<u>Q8185-1</u>	
<u>Q8180-1</u>	
<u>Q8175-1</u>	RS-232 computer interconnect, instrumentation, audio, broadcast, Class 2 circuits, RoHS compliant materials
<u>Q8170-1</u>	
<u>Q8165-1</u>	
<u>Q8138-1</u>	Instrumentation, audio, control cable
<u>Q8110-1</u>	
<u>Q7565-1</u>	RS-232 computer interconnect, audio, and instrumentation cable, RoHS compliant materials
<u>Q7560-1</u>	
<u>Q7555-1</u>	
<u>Q7545-1</u>	
<u>Q7535-1</u>	
<u>Q7525-1</u>	
<u>Q7465-1</u>	
<u>Q7395-1</u>	
<u>Q7325-1</u>	
<u>Q7320-1</u>	
<u>Q7315-1</u>	Instrumentation, audio, control cable
<u>Q7175-1</u>	
<u>Q7170-1</u>	Instrumentation, audio, and broadcast cable, RoHS compliant materials
<u>Q7165-1</u>	
<u>Q7160-1</u>	
<u>Q7155-1</u>	
<u>Q7150-1</u>	
<u>Q7145-1</u>	Instrumentation, audio, control cable
<u>Q7140-1</u>	
<u>Q7135-1</u>	
<u>Q7131-1</u>	
<u>Q7125-1</u>	RS-232 computer interconnect, control and audio cable, RoHS compliant materials
	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>	
<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

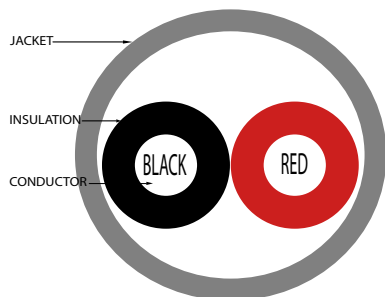
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.100 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.164 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$;43kt:

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

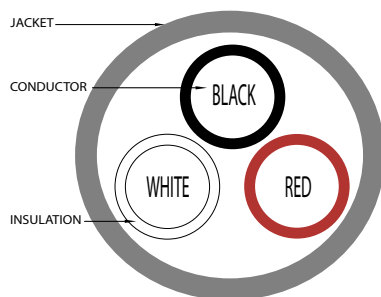
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.062 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.133 inch; nominal
Temperature Rating, Max.	80°C, 90°C & 105°C (176°F, 194°F & 221°F)	Overall Diameter	0.224 inch; nominal
Temperature Rating, 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	\$5uk5:

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

Q7121-1 Unshielded 3-Conductor 22AWG Cable Specifications

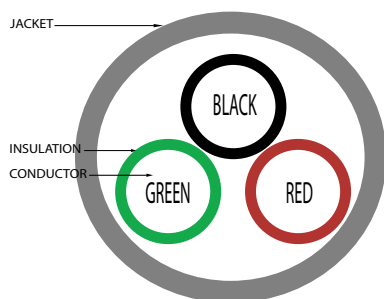
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.108 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.172 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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

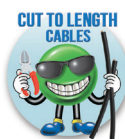
Q7121-1 Unshielded 3-Conductor 22AWG Cable Specifications

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	\$43ku:

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

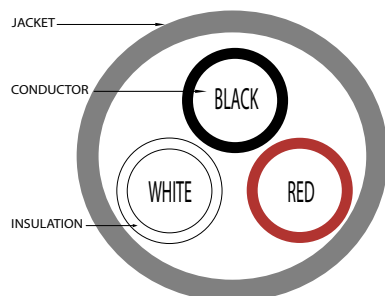
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.108 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.172 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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 ±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	\$4c10:

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

Q7125-1 Unshielded 4-Conductor 22AWG Cable Specifications

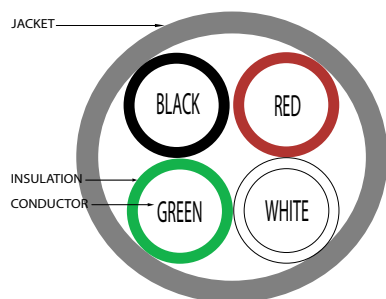
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.121 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.185 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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

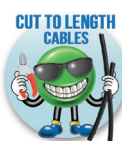
Q7125-1 Unshielded 4-Conductor 22AWG Cable Specifications

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	\$43kv:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7131-1 Unshielded 5-Conductor 22AWG Cable Specifications

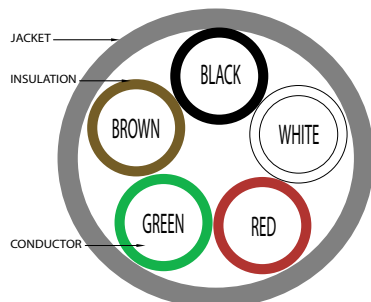
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.135 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.199 inch; nominal
Temperature Rating, Min.	-30°C (-22°F)	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	\$5uk6:

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

Q7135-1 Unshielded 6-Conductor 22AWG Cable Specifications

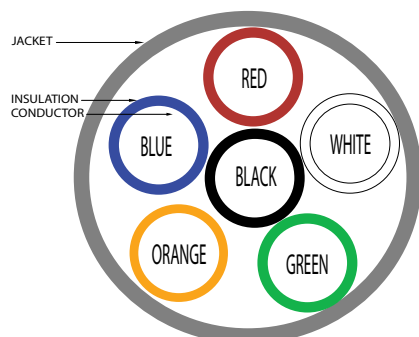
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.145 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.209 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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 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

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	\$4c1s:

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

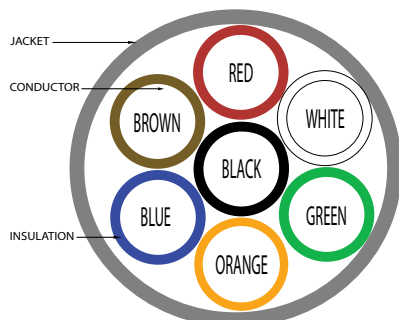
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Overall Diameter	0.214 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Jacket Color	Chrome Gray
Temperature Rating, Min.	-20°C (-4°F)	Jacket Thickness	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	\$5uk7:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7145-1 Unshielded 8-Conductor 22AWG Cable Specifications

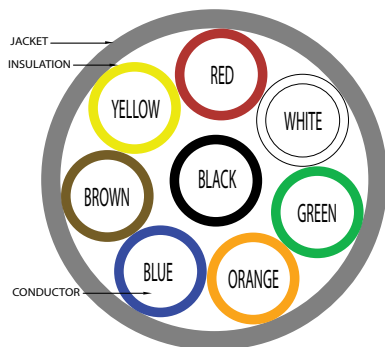
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.168 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.232 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$4c1u:

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

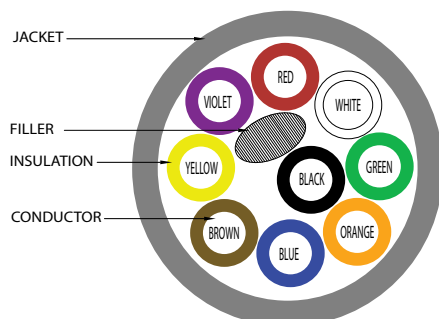
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.182 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.246 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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

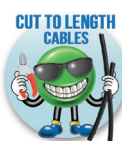
Q7150-1 Unshielded 9-Conductor 22AWG Cable Specifications

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	\$5uk8:

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7155-1 Unshielded 10-Conductor 22AWG Cable Specifications

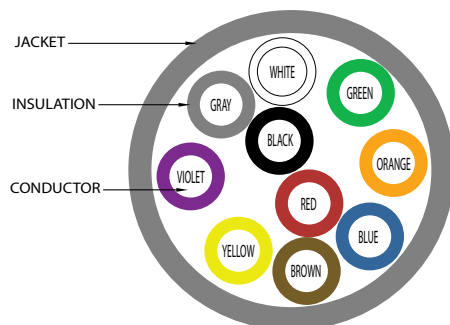
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.185 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.249 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$5uk9:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7160-1 Unshielded 12-Conductor 22AWG Cable Specifications

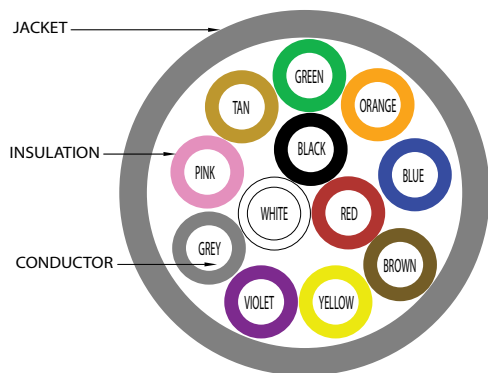
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.202 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.266 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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 ±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	\$-4c1l:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7165-1 Unshielded 15-Conductor 22AWG Cable Specifications

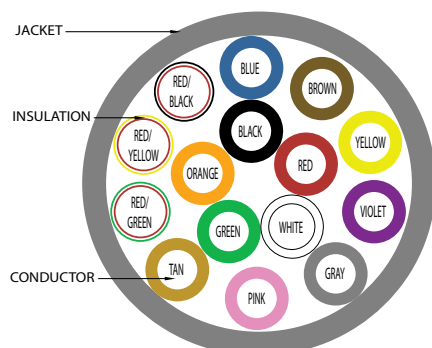
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.234 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.298 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$5uk0:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7170-1 Unshielded 20-Conductor 22AWG Cable Specifications

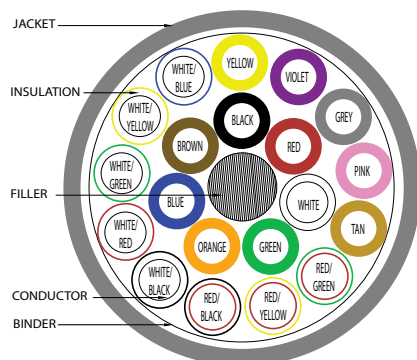
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.276 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.340 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$5uk1:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7175-1 Unshielded 25-Conductor 22AWG Cable Specifications

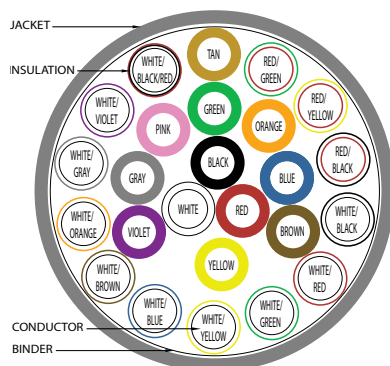
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.290 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.354 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$5uk2:

1. Installed bend radius ≥ 10x diameter



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** See web store www.AutomationDirect.com for maximum cut lengths


Control and Signal Cable

Q6130-1 Unshielded 1 Twisted Pair 20AWG Cable Specifications

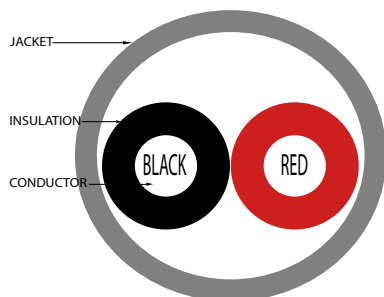
Conductors Gauge & Stranding	20AWG 7/28 Stranded Tinned Copper	Insulated Conductor Diameter	0.064 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.128 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.192 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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 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

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	\$4c1v:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q0195-1 Unshielded 3-Conductor 20AWG Cable Specifications

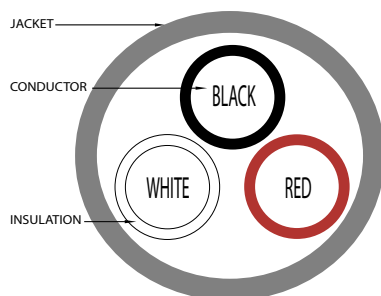
Conductors Gauge & Stranding	20AWG 10/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.077 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.148 inch; nominal
Temperature Rating, Max.	80°C, 90°C & 105°C (176°F, 194°F & 221°F)	Overall Diameter	0.224 inch; nominal
Temperature Rating, 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	\$5uk3:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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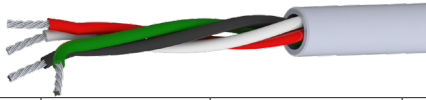
Control and Signal Cable

Q6100-1 Unshielded 4-Conductor 20AWG Cable Specifications

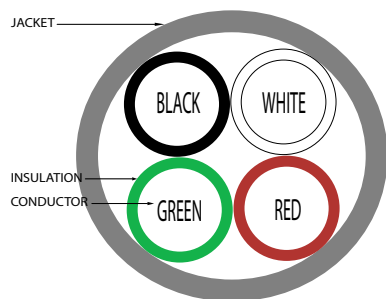
Conductors Gauge & Stranding	20AWG 7/28 Stranded Tinned Copper	Insulated Conductor Diameter	0.064 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.128 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.219 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$43kq:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths




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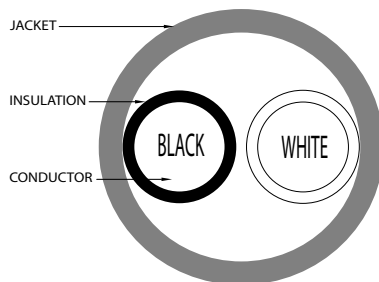
Control and Signal Cable

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	\$5uk4:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths




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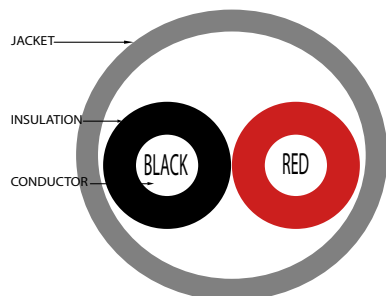
Control and Signal Cable

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 $\pm 10\%$)	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	\$43kp:

† 1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q0140-1 Unshielded 2-Conductor 18AWG Cable Specifications

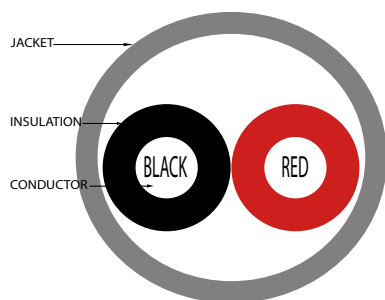
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.077 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.154 inch; nominal
Temperature Rating, Max.	80°C, 90°C & 105°C (176°F, 194°F & 221°F)	Overall Diameter	0.230 inch; nominal
Temperature Rating, 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	\$4c1z:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths




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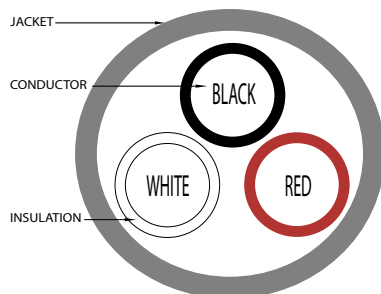
Control and Signal Cable

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	\$5uka:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths




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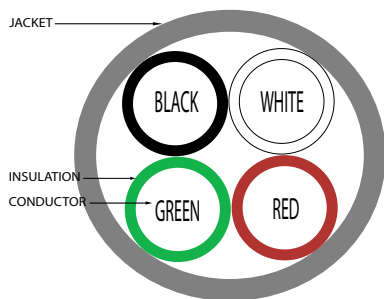
Control and Signal Cable

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) [†]	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	\$-43kl:

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q4105-1 Unshielded 5-Conductor 18AWG Cable Specifications

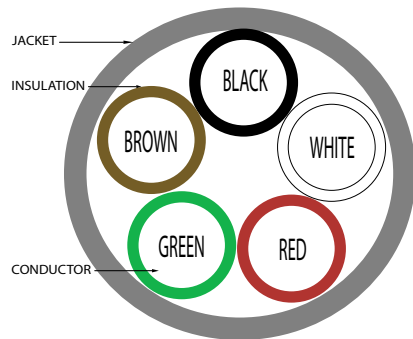
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.077 inch; nominal
Voltage Rating	600V	Twisted Conductor Diameter	0.208 inch; nominal
Temperature Rating, Max.	60°C, 80°C & 105°C (140°F, 176°F & 221°F)	Overall Diameter	0.272 inch; nominal
Temperature Rating, 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

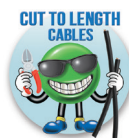
Q4105-1 Unshielded 5-Conductor 18AWG Cable Specifications

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	\$;4c1[:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q4110-1 Unshielded 7-Conductor 18AWG Cable Specifications

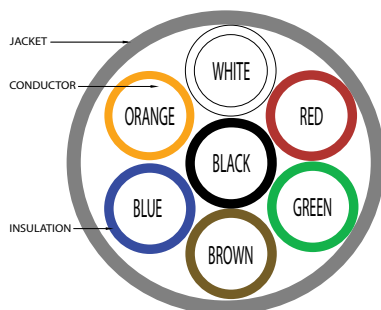
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.077 inch; nominal
Voltage Rating	600V	Twisted Conductor Diameter	0.231 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.295 inch; nominal
Temperature Rating, Min.	-20°C (-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	\$5ukb:

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

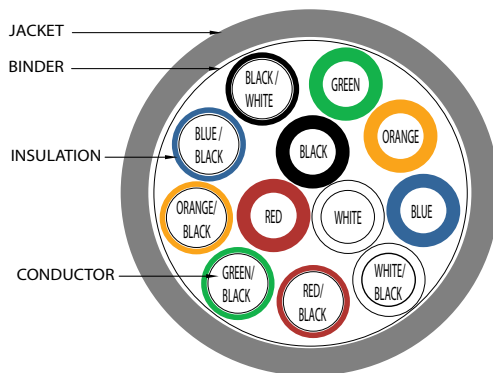
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.077 inch; nominal
Voltage Rating	600V	Twisted Conductor Diameter	0.315 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.385 inch; nominal
Temperature Rating, Min.	-20°C (-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 $\pm 10\%$)	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	\$5ukc:

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

Q4125-1 Unshielded 15-Conductor 18AWG Cable Specifications

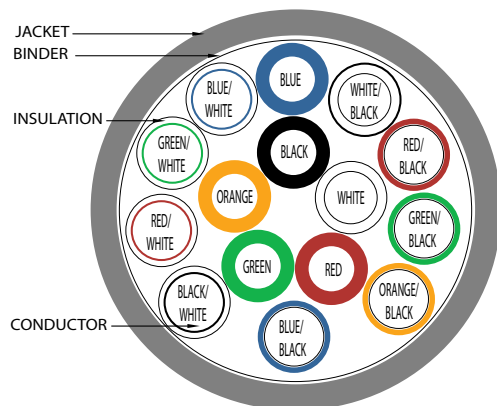
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.077 inch; nominal
Voltage Rating	600V	Twisted Conductor Diameter	0.364 inch; nominal
Temperature Rating, Max.	60°C, 80°C & 105°C (140°F, 176°F & 221°F)	Overall Diameter	0.444 inch; nominal
Temperature Rating, 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	\$5ukd:

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

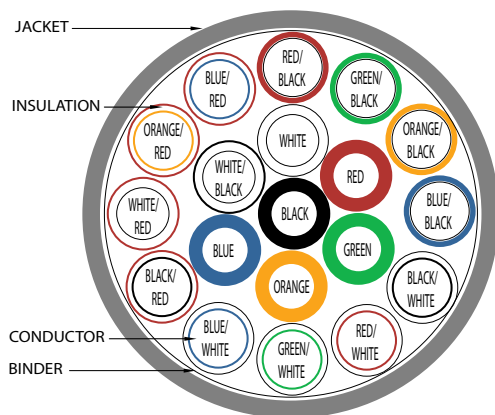
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.077 inch; nominal
Voltage Rating	600V	Twisted Conductor Diameter	0.385 inch; nominal
Temperature Rating, Max.	60°C, 80°C & 105°C (140°F, 176°F & 221°F)	Overall Diameter	0.465 inch; nominal
Temperature Rating, 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	\$5uke:


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

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		

Q4135-1 Unshielded 25-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
								
Q4135-1	25	18	16	0.546 [13.86 mm]	5.46	30	0.2353	\$,5ukf:

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Wires Cords and Cables **tCBL-323**


Control and Signal Cable

Q3130-1 Unshielded 2-Conductor 16AWG Cable Specifications

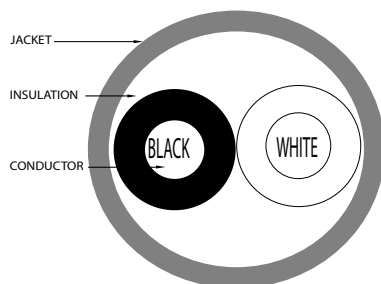
Conductors Gauge & Stranding	16AWG 7/28 Stranded Tinned Copper	Insulated Conductor Diameter	0.130 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.166 inch; nominal
Temperature Rating, Max.	80°C, 90°C & 105°C (176°F, 194°F & 221°F)	Overall Diameter	0.242 inch; nominal
Temperature Rating, 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	\$5ukg:

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.

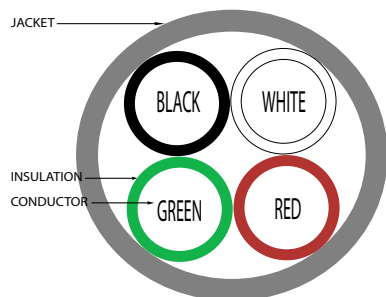
Control and Signal Cable

Q3100-1 Unshielded 4-Conductor 16AWG Cable Specifications			
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	\$43kk:

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

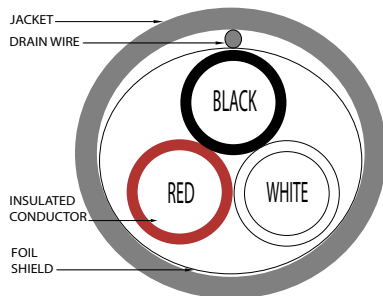
Conductors Gauge & Stranding	24AWG 7/32 Stranded Tinned Copper	Insulated Conductor Diameter	0.044 inch; nominal ± 0.002 Inch
Voltage Rating	300V	Twisted Conductor Diameter	0.094 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.162 inch; nominal
Temperature Rating, 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	\$4c1g:

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

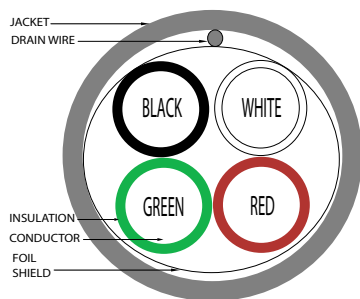
Conductors Gauge & Stranding	24AWG 7/32 Stranded Tinned Copper	Insulated Conductor Diameter	0.044 inch; nominal ± 0.002 Inch
Voltage Rating	300V	Twisted Conductor Diameter	0.106 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.180 inch; nominal
Temperature Rating, 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)		
Conductor Identification	Black, White, Red, Green	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 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	\$4c1h:

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

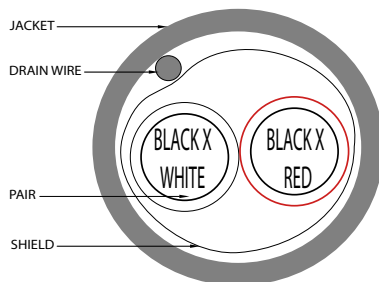
Conductors Gauge & Stranding	24AWG 7/32 Stranded Tinned Copper	Insulated Conductor Diameter	0.044 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.130 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.243 inch; nominal
Temperature Rating, Min.	-40°C (-40°F)	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	\$5uko:

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

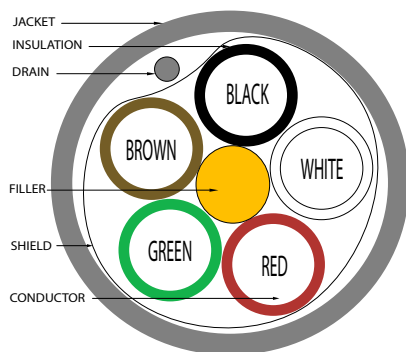
Conductors Gauge & Stranding	24AWG 7/32 Stranded Tinned Copper	Insulated Conductor Diameter	0.044 inch; nominal ± 0.002 Inch
Voltage Rating	300V	Twisted Conductor Diameter	0.119 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.195 inch; nominal
Temperature Rating, 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	\$-4c1j:

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.

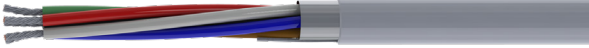
Control and Signal Cable

Q8180-1 Shielded 6-Conductor 24AWG Cable Specifications

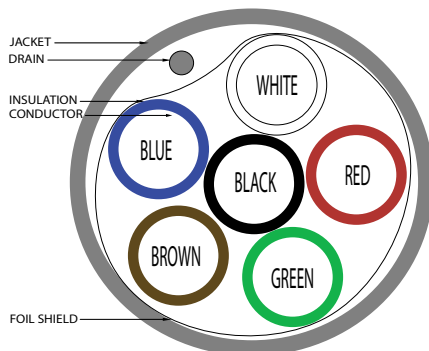
Conductors Gauge & Stranding	24AWG 7/32 Stranded Tinned Copper	Insulated Conductor Diameter	0.044 inch; nominal ± 0.002 Inch
Voltage Rating	300V	Twisted Conductor Diameter	0.130 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.200 inch; nominal
Temperature Rating, 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	\$4c1k:

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q8185-1 Shielded 7-Conductor 24AWG Cable Specifications

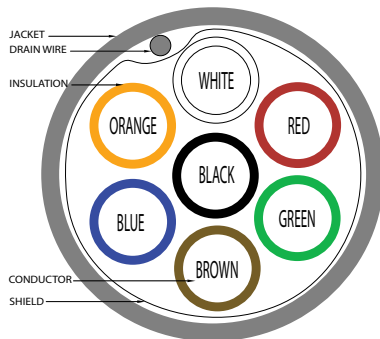
Conductors Gauge & Stranding	24AWG 7/32 Stranded Tinned Copper	Insulated Conductor Diameter	0.044 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.147 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.204 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$5ukp:

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q8190-1 Shielded 8-Conductor 24AWG Cable Specifications

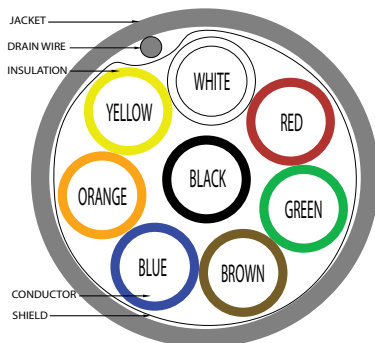
Conductors Gauge & Stranding	24AWG 7/32 Stranded Tinned Copper	Insulated Conductor Diameter	0.044 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.158 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.222 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$-5uki:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q8508-1 Shielded 4 Twisted Pair 24AWG Cable Specifications

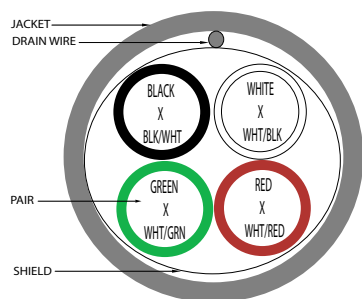
Conductors Gauge & Stranding	24AWG 7/32 Stranded Tinned Copper	Insulated Conductor Diameter	0.054 inch; nominal ± 0.002 Inch
Voltage Rating	300V	Twisted Conductor Diameter	0.210 inch; nominal
Temperature Rating, Max.	60°C & 75°C (140°F & 167°F)	Overall Diameter	0.283 inch; nominal
Temperature Rating, 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	\$-4c1i:

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q8195-1 Shielded 9-Conductor 24AWG Cable Specifications

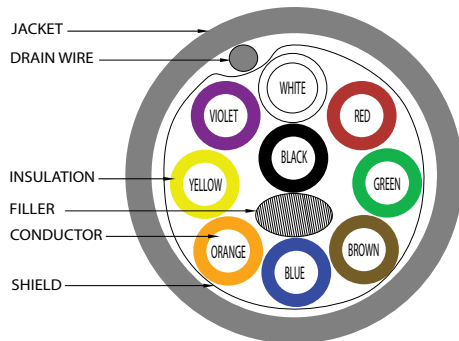
Conductors Gauge & Stranding	24AWG 7/32 Stranded Tinned Copper	Insulated Conductor Diameter	0.044 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.160 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.235 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$-5ukj:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths




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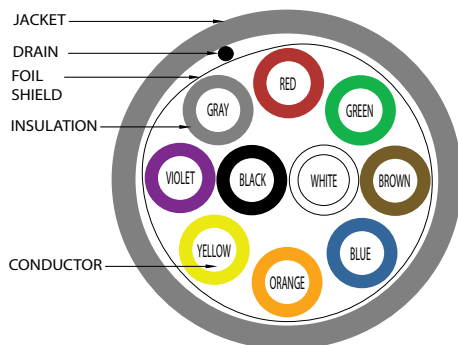
Control and Signal Cable

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	\$5ukk:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q8205-1 Shielded 15-Conductor 24AWG Cable Specifications

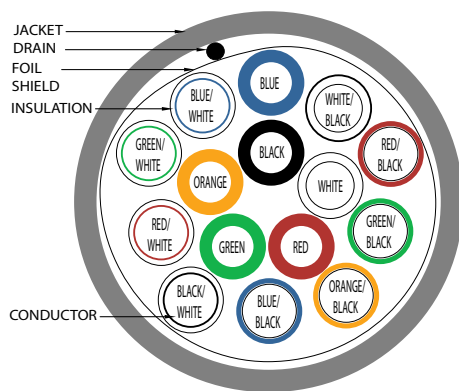
Conductors Gauge & Stranding	24AWG 7/32 Stranded Tinned Copper	Insulated Conductor Diameter	0.044 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.207 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.280 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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

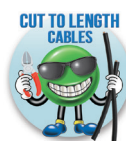
Q8205-1 Shielded 15-Conductor 24AWG Cable Specifications

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	\$-5ukl:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q8138-1 8 Shielded Pairs 24AWG Cable Specifications

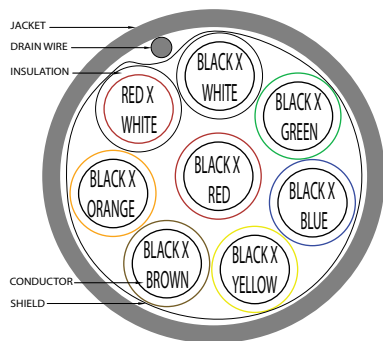
Conductors Gauge & Stranding	24AWG 7/32 Stranded Tinned Copper	Insulated Conductor Diameter	0.044 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.237 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.315 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$5ukp:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Q8215-1 Shielded 25-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	0.257 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.	30 pF/ft	Jacket Thickness	0.040 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, black/red, white/red, orange/red, blue/red, red/green, orange/green, blk/wht/red, red/blk/wht, grn/blk/wht	Sample Print Legend	QUABBIN 8215R (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

1. Installed bend radius $\geq 10 \times$ diameter



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**** See web store www.AutomationDirect.com for maximum cut lengths**


Control and Signal Cable

Q0160-1 Shielded 2-Conductor 22AWG Cable Specifications

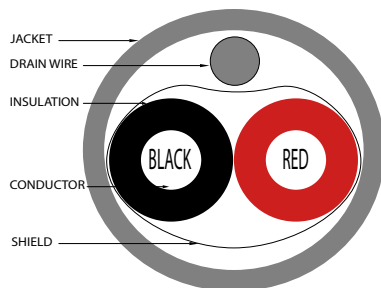
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.062 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.124 inch; nominal
Temperature Rating, Max.	80°C, 90°C & 105°C (176°F, 194°F & 221°F)	Overall Diameter	0.203 inch; nominal
Temperature Rating, 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	\$5ukq:

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.

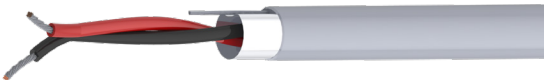
Control and Signal Cable

Q7315-1 Shielded 2-Conductor 22AWG Cable Specifications

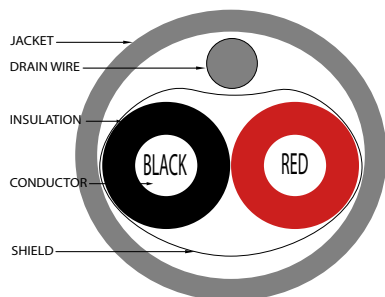
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.048 inch; nominal ± 0.002 Inch
Voltage Rating	300V	Twisted Conductor Diameter	0.096 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.135 inch; nominal ± 0.005 Inch
Temperature 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	\$43kx:

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7320-1 Shielded Pair/ Unshielded 2-Conductor 22AWG Cable Specifications

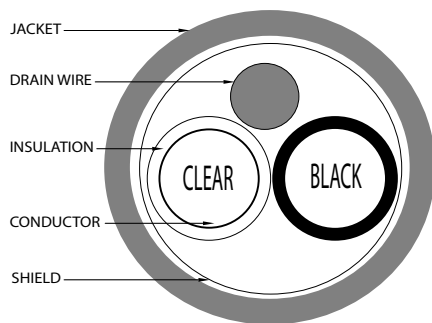
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.062 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.124 inch; nominal
Temperature Rating, Max.	60°C & 75°C (140°F & 167°F)	Overall Diameter	0.177 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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)		
Conductor Identification	Clear, black	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 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	\$5uks:

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7325-1 Shielded 3-Conductor 22AWG Cable Specifications

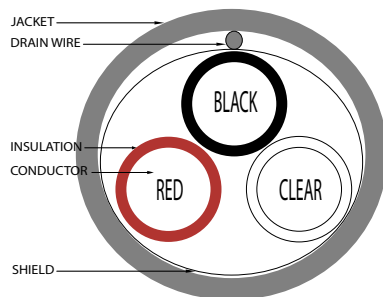
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.062 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.133 inch; nominal
Temperature Rating, Max.	60°C & 75°C (140°F & 167°F)	Overall Diameter	0.186 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$4c1p:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7465-1 Shielded Pair and 2 Unshielded Conductors 22AWG Cable Specifications

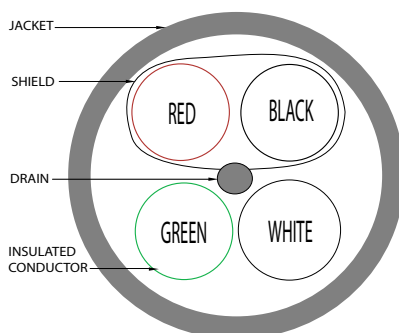
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	150V	Twisted Conductor Diameter	0.120 inch; nominal
Temperature Rating, Max.	60°C (140°F)	Overall Diameter	0.168 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	Jacket Color	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	\$5uky:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7525-1 Shielded 4-Conductor 22AWG Cable Specifications

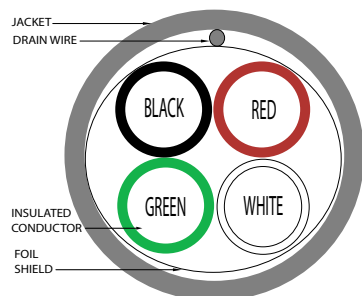
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.121 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.197 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$4c1q:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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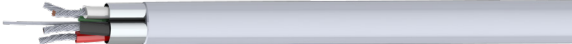
Control and Signal Cable

Q7395-1 Shielded 2 Twisted Pair 22AWG Cable Specifications

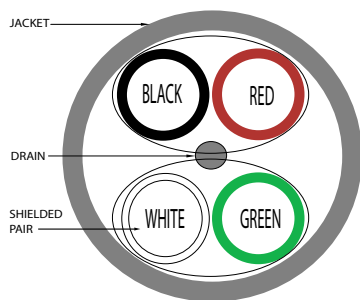
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.046 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.115 inch; nominal
Temperature Rating, Max.	60°C (140°F)	Overall Diameter	0.165 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	Jacket Color	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	\$4c1n:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7535-1 Shielded 6-Conductor 22AWG Cable Specifications

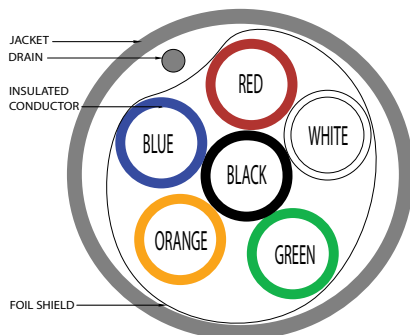
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.143 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.212 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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

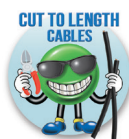
Q7535-1 Shielded 6-Conductor 22AWG Cable Specifications

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	\$;4c1t:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7545-1 Shielded 8 Conductor 22AWG Cable Specifications

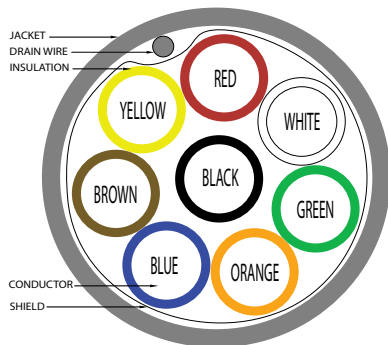
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.120 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.168 inch; nominal
Temperature Rating, Min.	-40°C (-40°F)	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	\$,5ukt:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths

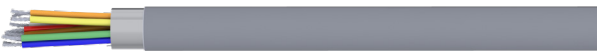


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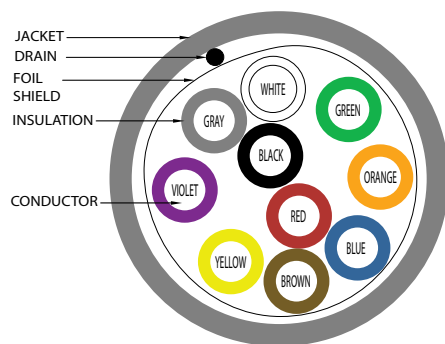
Control and Signal Cable

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	\$5uku:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q7560-1 Shielded 12 Conductor 22AWG Cable Specifications

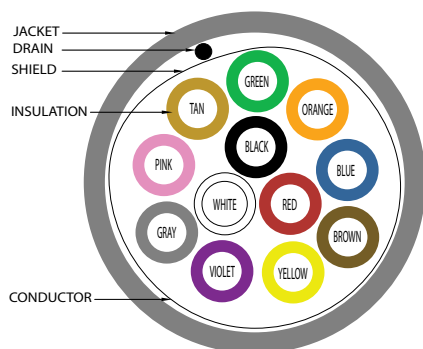
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.203 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.270 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$5ukv:

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

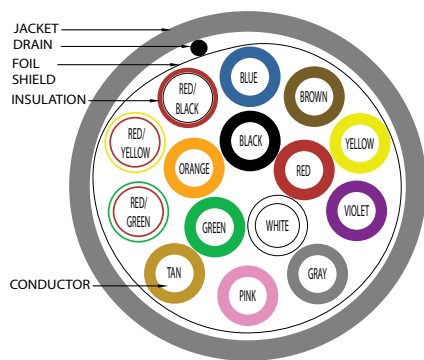
Conductors Gauge & Stranding	22AWG 7/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.050 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.228 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.295 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$5ukx:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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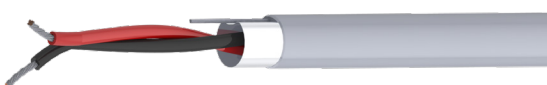
Control and Signal Cable

Q0165-1 Shielded 2-Conductor 20AWG Cable Specifications

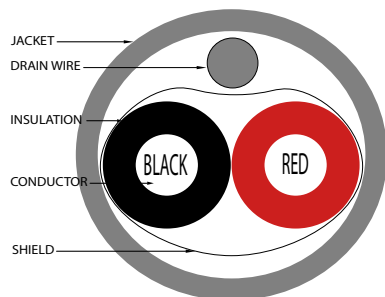
Conductors Gauge & Stranding	20AWG 10/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.069 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.138 inch; nominal
Temperature Rating, Max.	80°C, 90°C & 105°C (176°F, 194°F & 221°F)	Overall Diameter	0.215 inch; nominal
Temperature Rating, 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	\$-43ki:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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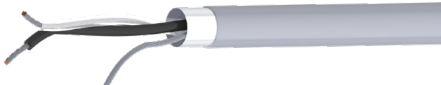
Control and Signal Cable

Q6140-1 Shielded 2-Conductor 20AWG Cable Specifications

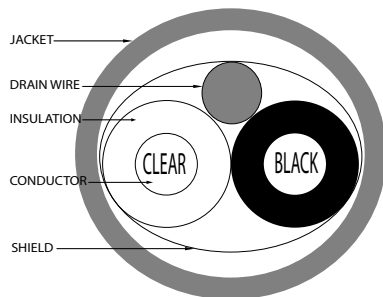
Conductors Gauge & Stranding	20AWG 7/28 Stranded Tinned Copper	Insulated Conductor Diameter	0.070 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.143 inch; nominal
Temperature Rating, Max.	60°C & 75°C (140°F & 167°F)	Overall Diameter	0.199 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$43ks:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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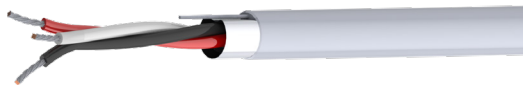
Control and Signal Cable

Q0220-1 Shielded 3-Conductor 20AWG Cable Specifications

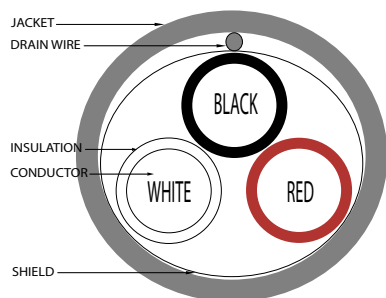
Conductors Gauge & Stranding	20AWG 10/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.069 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.148 inch; nominal
Temperature Rating, Max.	80°C, 90°C & 105°C (176°F, 194°F & 221°F)	Overall Diameter	0.227 inch; nominal
Temperature Rating, 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	\$-43kj:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q6145-1 Shielded 3-Conductor 20AWG Cable Specifications

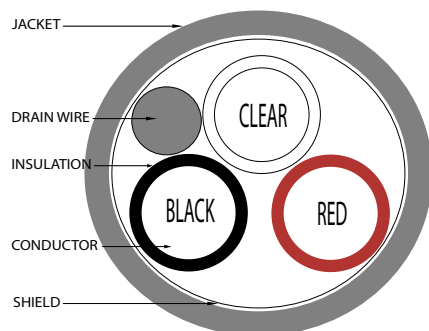
Conductors Gauge & Stranding	20AWG 7/28 Stranded Tinned Copper	Insulated Conductor Diameter	0.070 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.153 inch; nominal
Temperature Rating, Max.	70°C (158°F)	Overall Diameter	0.209 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	Jacket Color	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	\$4c1x:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q6151-1 2 Shielded Pairs 20AWG Cable Specifications

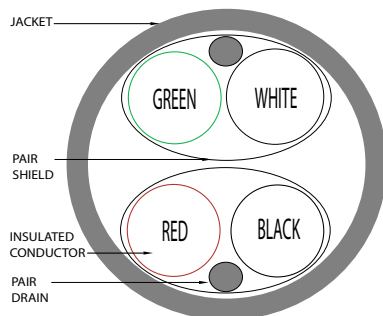
Conductors Gauge & Stranding	20AWG 7/28 Stranded Tinned Copper	Insulated Conductor Diameter	0.058 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.161 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.225 inch; nominal
Temperature Rating, Min.	-20°C (-4°F)	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	\$56x_:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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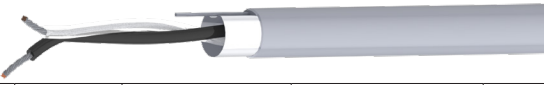
Control and Signal Cable

Q4165-1 Shielded 2-Conductor 18AWG Cable Specifications

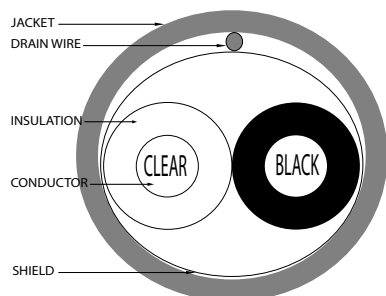
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.088 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.174 inch; nominal
Temperature Rating, Max.	60°C & 75°C (140°F & 167°F)	Overall Diameter	0.233 inch; nominal
Temperature Rating, Min.	-20°C (-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	\$43kn:

1. Installed bend radius $\geq 10 \times$ diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q0170-1 Shielded 2-Conductor 18AWG Cable Specifications

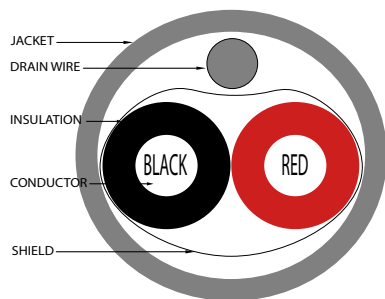
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.077 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.154 inch; nominal
Temperature Rating, Max.	80°C, 90°C & 105°C (176°F, 194°F & 221°F)	Overall Diameter	0.233 inch; nominal
Temperature Rating, 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	\$4c1y:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q4170-1 Shielded 3-Conductor 18AWG Cable Specifications

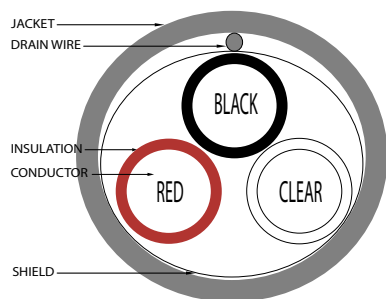
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.081 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.168 inch; nominal
Temperature Rating, Max.	60°C & 75°C (140°F & 167°F)	Overall Diameter	0.235 inch; nominal
Temperature Rating, Min.	-20°C (-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	\$43ko:

1. Installed bend radius ≥ 10x diameter



** See web store www.AutomationDirect.com for maximum cut lengths



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Control and Signal Cable

Q0225-1 Shielded 3-Conductor 18AWG Cable Specifications

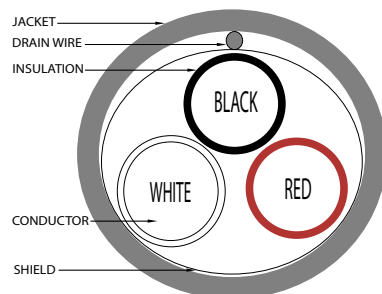
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.077 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.166 inch; nominal
Temperature Rating, Max.	80°C, 90°C & 105°C (176°F, 194°F & 221°F)	Overall Diameter	0.245 inch; nominal
Temperature Rating, 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	\$.5uk/:

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

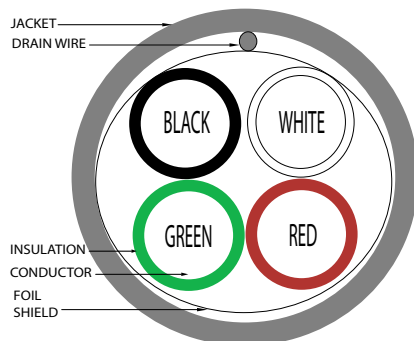
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.065 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.157 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.235 inch; nominal
Temperature Rating, Min.	-20°C (-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 ±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	\$;4c1;

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

Q4177-1 Shielded 6-Conductor 18AWG Cable Specifications

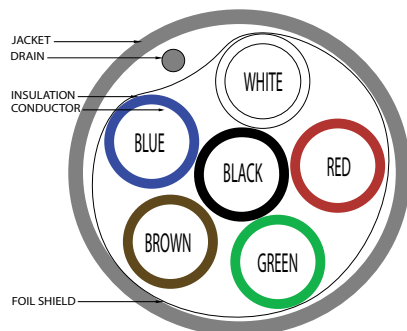
Conductors Gauge & Stranding	18AWG 16/30 Stranded Tinned Copper	Insulated Conductor Diameter	0.065 inch; nominal
Voltage Rating	300V	Twisted Conductor Diameter	0.195 inch; nominal
Temperature Rating, Max.	60°C & 80°C (140°F & 176°F)	Overall Diameter	0.259 inch; nominal
Temperature Rating, Min.	-20°C (-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	\$4c1_:

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

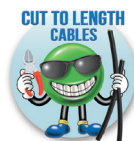
Conductor Number	Primary Color	Conductor Number	Primary Color
1	Black	14	White/Orange
2	Brown	15	White/Yellow
3	Red	16	White/Green
4	Orange	17	White/Blue
5	Yellow	18	White/Violet
6	Green	19	White/Gray
7	Blue	20	White/Black/Brown
8	Violet	21	White/Black/Red
9	Gray	22	White/Black/Orange
10	White	23	White/Black/Yellow
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	\$;67td:
A3032204-1	4					0.194	0.78		0.03	\$;67te:
A3032208-1	8					0.243	0.97		0.04	\$;67tf:
A3032215-1	15				42	0.318	1.27		0.07	\$;67tg:
A3032225-1	25				52	0.407	1.63		0.12	\$;67th:



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)

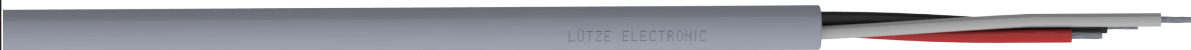
Conductor Gauge & Stranding	16 AWG/20 AWG, 19-stranded, tinned copper	UL Classification	(UL) Type PLTC (UL) Type CM AWM Style 2464 AWM I/II A/B
Conductor Markings**	Color-coded conductors		
Voltage Rating	300V		
Operating Temperature	-40 to 105 deg C (-40 to 221 deg F)	Approvals*	cULus E331083 CSA LL44103 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	\$:-67ti:
A3032004-1	4					0.220	0.88		0.03	\$:67tp:
A3032008-1	8				42	0.282	1.13		0.06	\$:67tx:
A3032015-1	15					0.364	1.46		0.10	\$:67t#::
A3032025-1	25				52	0.461	1.84		0.16	\$67u2:



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Control and Signal Cable (Unshielded)

18AWG Control and Signal Cable Specifications (Unshielded)

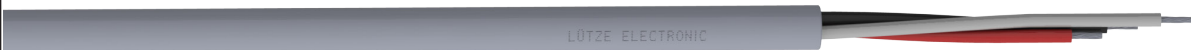
Conductor Gauge & Stranding	18 AWG, 19-stranded, tinned copper	UL Classification	(UL) Type PLTC (UL) Type CM AWM Style 2464 AWM I/II A/B
Conductor Markings**	Color-coded conductors		
Voltage Rating	300V		
Operating Temperature	-40 to 105 deg C (-40 to 221 deg F)	Approvals*	cULus E331083 CSA LL44103 CE 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	\$;-67tj;
A3031804-1	4					0.242	0.97		0.04	\$;67tk;
A3031808-1	8					0.312	1.25		0.08	\$;-67tl;
A3031815-1	15					0.427	1.71		0.14	\$;67tn;
A3031825-1	25					0.515	2.06		0.23	\$;67to;



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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	\$;67tq:
A3031604-1	4				42	0.304	1.22		0.06	\$;67ts:
A3031608-1	8				53	0.407	1.63		0.12	\$;67tt:
A3031615-1	15					0.532	2.13		0.21	\$;67tu:
A3031625-1	25					0.669	2.68		0.34	\$;67tv:



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)

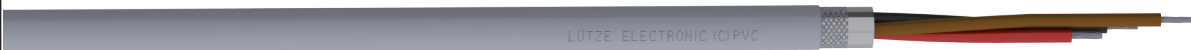
Conductor Gauge & Stranding	22 AWG, 19-stranded, tinned copper	UL Classification	(UL) Type PLTC (UL) Type CM AWM Style 2464 AWM I/II A/B
Conductor Markings**	Color-coded conductors		
Voltage Rating	300V		
Operating Temperature	-40 to 105 deg C (-40 to 221 deg F)	Approvals*	cULus E331083 CSA LL44103 CE 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	\$;67ty:
A3132204-1	4					0.218	0.87		0.04	\$;67tz:
A3132208-1	8					0.263	1.05		0.06	\$;67tj:
A3132215-1	15				40	0.338	1.35		0.09	\$;67ti:
A3132225-1	25				50	0.423	1.69		0.14	\$;67t_:



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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	\$;.67t1:
A3132004-1	4					0.246	0.98		0.05	\$;.67t1?:
A3132008-1	8				42	0.302	1.21		0.08	\$;.67t1:
A3132015-1	15				52	0.404	1.62		0.13	\$67u0:
A3132025-1	25					0.481	1.92		0.19	\$67u1:



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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	\$67u3:
A3131804-1	4					0.262	1.05		0.06	\$67u4:
A3131808-1	8				42	0.332	1.33		0.10	\$67u5:
A3131815-1	15				52	0.447	1.79		0.18	\$67u6:
A3131825-1	25					0.535	2.14		0.26	\$67u7:



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	\$67u8:
A3131604-1	4					0.325	1.3		0.08	\$67u9:
A3131608-1	8				53	0.428	1.71		0.14	\$67ua:
A3131615-1	15					0.553	2.21		0.24	\$67ub:
A3131625-1	25				63	0.690	2.76		0.37	\$67uc:



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	\$-4jo?:
<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	\$;-4jo.:
<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	\$-4jp3:
<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	\$5a56:
<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	\$5a57:
<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	\$5a58:
<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	\$5a53:

* See web store for maximum cut lengths

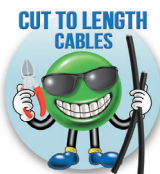
** Per ASTM E230 / E230M-12

*** 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.


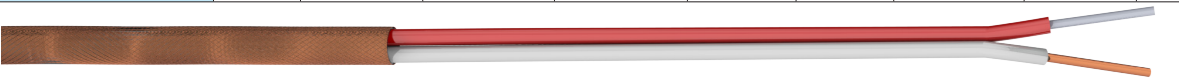





Please Note: Our prices on instrumentation cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

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

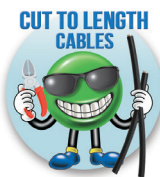
Thermocouple Extension Wire											
Part Number	Gauge, AWG	Conductors	Conductor Insulation	Shield and Drain Wire	Jacket Material	Limits of Error**	Continuous Temperature Range	Nominal Size (inches)	Wt (lb)	Minimum Cut Length (ft) *	Price per foot
											
THMWJ-20-1U-P-1	20	2, solid	PVC Red = Negative White = Positive	None	PVC, Black	Standard	-20°F to 221°F (-29°C to 105°C)	0.095 x 0.158	0.02	20	\$-4jo#:
											
THMWJ-20-1U-G-1	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	\$;-4jo!:
											
THMWJ-20-1S-P-1	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	\$-4jp2:
											
THMWJ-20-1U-F-1	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	\$5a54:
											
THMWJ-16-1U-P-1	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	\$5a55:

* 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	\$-4jp1:	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	\$-4jp6:	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.

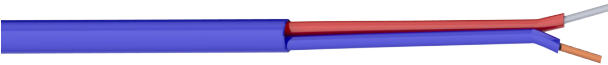




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Type T Thermocouple Extension Wire

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

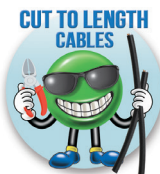
Thermocouple Extension Wire											
Part Number	Gauge, AWG	Conductors	Conductor Insulation	Shield and Drain Wire	Jacket Material	Limits of Error**	Continuous Temperature Range	Nominal Size (inches)	Wt (lb)	Minimum Cut Length (ft) *	Price per foot
											
THMWT-20-1U-P-1	20	2, solid	PVC Red = Negative Blue = Positive	None	PVC, Blue	Standard	-20°F to 221°F (-29°C to 105°C)	0.059 x 0.097	0.02	20	\$-4jp0:
											
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	\$-4jp4:
											
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	\$-4jp5:

* 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

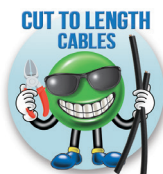
Thermocouple Extension Wire											
Part Number	Gauge, AWG	Conductors	Conductor Insulation	Shield and Drain Wire	Jacket Material	Limits of Error**	Continuous Temperature Range	Nominal Size (inches)	Wt (lb)	Minimum Cut Length (ft)*	Price per foot
											
THMWK-UL-20-1U-P-1	20	2, twisted, solid	Extruded PVC	None	Extruded PVC, Yellow	Standard	-20°F to 105°F (-29°C to 41°C)	0.136/0.198	0.02	20	\$5a5a:
											
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	\$5a5b:
											
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	\$5a5c:
											
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	\$5a50:
											
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	\$5a4,:
											
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	\$5a51:
											
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	\$5a52:

* 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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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.

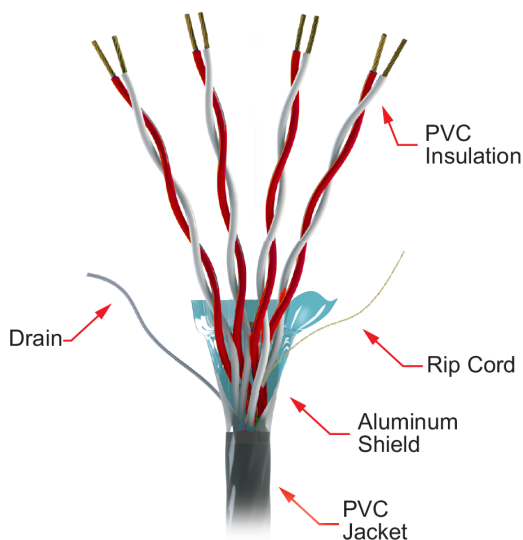
Features

- 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

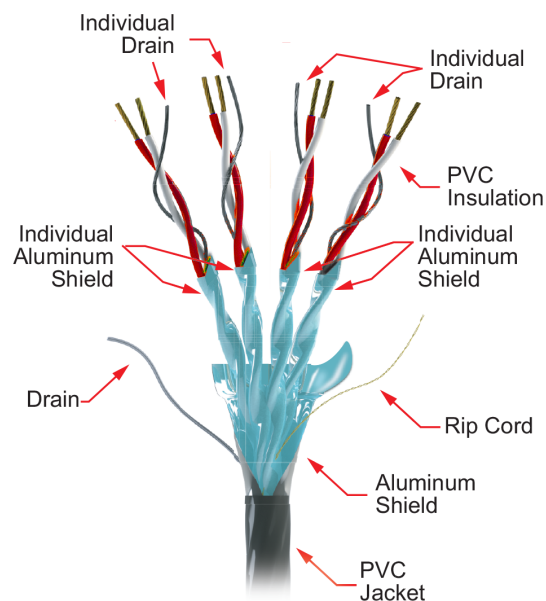


Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable

Overall Cable Shield



Individual and Overall Cable Shields





Thermocouple Extension Cable - Twisted Pair - Overall Shield

Thermocouple Extension Cable Twisted Pair Shielded Specifications

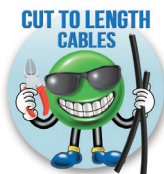
Conductor Gauge & Stranding	20AWG Solid	Print Legend*	TE WIRE & CABLE (UL) TYPE PLTC 105C 20 AWG THCPL EXTN TYPE xx WWW.TEWIRE.COM
Voltage Rating	300V	Flame Rating	Passes VW-1 Flame Test Passes IEEE 383 Flame Test
Jacket Material	Sunlight resistant PVC (polyvinyl chloride)	Applicable Standards	UL Standard 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	\$-4jp8:
<u>THMWK-20-4S-P-1</u>	4	20				0.377	4.5		0.08	\$-4jp9:
<u>THMWK-20-8S-P-1</u>	8	20				0.493	6.0		0.15	\$-4jpa:
										
<u>THMWJ-20-2S-P-1</u>	2	20	0.016	0.070	0.042	0.331	4.0	20	0.07	\$-4jp7:
<u>THMWJ-20-4S-P-1</u>	4	20				0.377	4.5		0.08	\$-4jpb:
<u>THMWJ-20-8S-P-1</u>	8	20				0.492	6.0		0.15	\$-4jpc:

* See web store for maximum cut lengths





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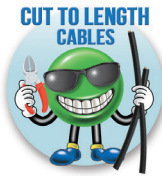
Thermocouple Extension Cable - Twisted Pair - Individual/Overall Shield

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
										
THMWK-20-2SS-P-1	2	20	0.016	0.070	0.042	0.349	4.25	20	0.07	\$-4jpd:
THMWK-20-4SS-P-1	4	20			0.053	0.456	5.5		0.12	\$-4jpe:
THMWK-20-8SS-P-1	8	20				0.579	7.0		0.20	\$-4jpf:
										
THMWJ-20-2SS-P-1	2	20	0.016	0.070	0.042	0.349	4.25	20	0.07	\$-4jpg:
THMWJ-20-4SS-P-1	4	20			0.053	0.455	5.5		0.12	\$-4jph:
THMWJ-20-8SS-P-1	8	20				0.579	7.0		0.20	\$-4jpi:

* 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

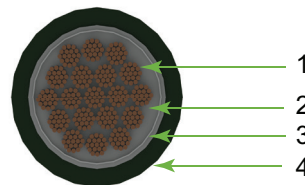
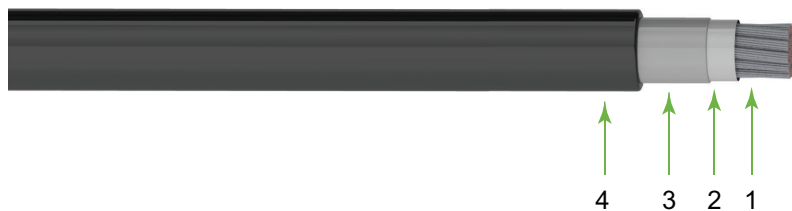


Overview

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	\$48pz:
DLO6BK-1	6	63/24	0.055	0.030	0.370	9.4	0.128	20	\$,48p]:
DLO4BK-1	4	105/24	0.060	0.030	0.440	11.2	0.187	20	\$,48p]:
DLO2BK-1	2	161/24	0.060	0.030	0.495	12.6	0.291	20	\$48p_:
DLO1-0BK-1	1/0	266/24	0.080	0.045	0.645	16.4	0.488	20	\$48p#:
DLO2-0BK-1	2/0	342/24	0.080	0.045	0.690	17.5	0.558	20	\$48pv:
DLO3-0BK-1	3/0	418/24	0.080	0.045	0.760	19.3	0.654	10	\$48px:
DLO4-0BK-1	4/0	532/24	0.080	0.045	0.815	20.7	0.829	10	\$48py:

* 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 xxxxxxxFT

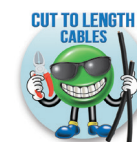
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com

* 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

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



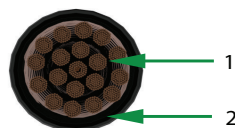
Overview

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	\$;4,5q:
MTW8GYL-1	8	182/30	Green with Yellow stripe	0.060	0.270	6.9	0.077	20	\$;5t0:
MTW8BR-1	8	182/30	Brown	0.060	0.270	6.9	0.077	20	\$;5t4:
MTW8YL-1	8	182/30	Yellow	0.060	0.270	6.9	0.077	20	\$;5t1:
MTW8OR-1	8	182/30	Orange	0.060	0.270	6.9	0.077	20	\$;5t#:
MTW6BK-1	6	273/30	Black	0.060	0.315	8.0	0.111	20	\$;4,5s:
MTW6GYL-1	6	273/30	Green with Yellow stripe	0.060	0.315	8.0	0.111	20	\$;5t7?:
MTW6BR-1	6	273/30	Brown	0.060	0.315	8.0	0.111	20	\$;5t7:
MTW6YL-1	6	273/30	Yellow	0.060	0.315	8.0	0.111	20	\$;5t8:
MTW6OR-1	6	273/30	Orange	0.060	0.315	8.0	0.111	20	\$;5t9:
MTW4BK-1	4	429/30	Black	0.060	0.350	8.9	0.164	20	\$;4,5t:
MTW4GYL-1	4	429/30	Green with Yellow stripe	0.060	0.350	8.9	0.164	20	\$;5tb:
MTW2BK-1	2	676/30	Black	0.060	0.419	10.6	0.246	20	\$;4,5u:
MTW2GYL-1	2	676/30	Green with Yellow stripe	0.060	0.419	10.6	0.246	20	\$;-5tj:
MTW1BK-1	1	845/30	Black	0.080	0.490	12.5	0.320	20	\$;4,5v:
MTW1GYL-1	1	845/30	Green with Yellow stripe	0.080	0.490	12.5	0.320	20	\$;;5tt:
MTW1-OBK-1	1/0	1066/30	Black	0.080	0.531	13.5	0.392	20	\$;4,5k:
MTW1-OGYL-1	1/0	1066/30	Green with Yellow stripe	0.080	0.531	13.5	0.392	20	\$;5tu:
MTW2-OBK-1	2/0	1339/30	Black	0.080	0.579	14.7	0.485	20	\$;-4,5l:
MTW2-OGYL-1	2/0	1339/30	Green with Yellow stripe	0.080	0.579	14.7	0.485	20	\$;5tv:
MTW3-OBK-1	3/0	1677/30	Black	0.080	0.632	16.0	0.596	10	\$;4,5n:
MTW3-OGYL-1	3/0	1677/30	Green with Yellow stripe	0.080	0.632	16.0	0.596	10	\$;5tx:
MTW4-OBK-1	4/0	2109/30	Black	0.080	0.695	17.7	0.741	10	\$;4,5o:
MTW4-OGYL-1	4/0	2109/30	Green with Yellow stripe	0.080	0.695	17.7	0.741	10	\$;5ty:
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									

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
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	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

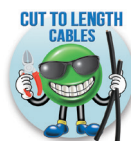
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com



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

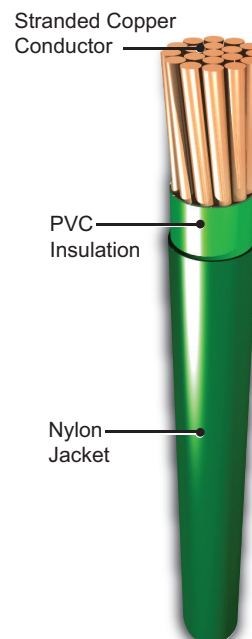
Jacket

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	mm2 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	\$086q:			
THHN14WH	White					\$085x:			
THHN14RD	Red					\$085u:			
THHN14BL	Blue					\$086t:			
THHN14GN	Green					\$085j:			
THHN14YL	Yellow					\$085z:			
THHN14OR	Orange					\$085p:			
THHN14BN	Brown					\$086v:			
THHN14PL	Purple					\$085s:			
THHN14GY	Gray					\$085l:			
THHN14GYL	Green with Yellow spiral stripe					\$0085o:			
THHN14BW	Blue with White spiral stripe					\$0086y:			
THHN12BK	Black					12AWG	Type THHN/THWN-2 wire, bare copper, 19 strands, 600 Volts	12.2 lbs	\$00866:
THHN12WH	White								\$0086i:
THHN12RD	Red	\$0086j:							
THHN12BL	Blue	\$00868:							
THHN12GN	Green	\$0086d:							
THHN12YL	Yellow	\$0086o:							
THHN12OR	Orange	\$0086h:							
THHN12BN	Brown	\$0086a:							
THHN12GY	Gray	\$0086f:							
THHN12GYL	Green with Yellow spiral stripe	\$0086g:							
THHN10BK	Black	10AWG	Type THHN/THWN-2 wire, bare copper, 19 strands, 600 Volts		19.2 lbs				\$0085,:
THHN10WH	White					\$00864:			
THHN10GN	Green					\$00861:			
THHN10YL	Yellow					\$00865:			
THHN10OR	Orange					\$00863:			
THHN10BN	Brown					\$00860:			
THHN10GYL	Green with Yellow spiral stripe					\$00862:			
THHN8BK	Black	8AWG	Type THHN/THWN-2 wire, bare copper, 19 strands, 600 Volts		31.5 lbs	\$0085#:			
THHN8GN	Green					\$0085l:			
THHN8GYL	Green with Yellow spiral stripe					\$0085?:			
THHN6BK	Black	6AWG	Type THHN/THWN-2 wire, bare copper, 19 strands, 600 Volts		47.8 lbs	\$0085.:			
THHN4BK	Black	4AWG	Type THHN/THWN-2 wire, bare copper, 19 strands, 600 Volts		76.7 lbs	\$0085[:			

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 79 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

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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]	\$;5z x:
AWM26BK10	black					\$;5z y:
AWM26RD10	red					\$;5z z:
AWM26WH10	white					\$;5z]:
AWM26BW10	blue with white stripe					\$;5z [:
AWM26BN10	brown					\$;5z _:
AWM26GN10	green					\$;5z #:
AWM26OR10	orange					\$;5z !:
AWM26YL10	yellow					\$;5z ?:
AWM26GY10	gray					\$;5z _:
AWM26WB10	white with blue stripe					\$;5z 0:
AWM26PL10	purple					\$;5z 1:
AWM26GYL10	green with yellow stripe					\$;5z 2:
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]	\$;5z 3:
AWM24BK10	black					\$;5z 4:
AWM24RD10	red					\$;5z 5:
AWM24WH10	white					\$;5z 6:
AWM24BW10	blue with white stripe					\$;5z 7:
AWM24BN10	brown					\$;5z 8:
AWM24GN10	green					\$;5z 9:
AWM24OR10	orange					\$;5z a:
AWM24YL10	yellow					\$;5z b:
AWM24GY10	gray					\$;5z c:
AWM24WB10	white with blue stripe					\$;5z d:
AWM24PL10	purple					\$;5z e:
AWM24GYL10	green with yellow stripe					\$;5z f:
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]	\$;5z g:
AWM22BK10	black					\$;5z h:
AWM22RD10	red					\$;5z i:
AWM22WH10	white					\$;5z j:
AWM22BW10	blue with white stripe					\$;5z k:
AWM22BN10	brown					\$;5z l:
AWM22GN10	green					\$;5z n:
AWM22OR10	orange					\$;5z o:
AWM22YL10	yellow					\$;5z p:
AWM22GY10	gray					\$;5z q:
AWM22WB10	white with blue stripe					\$;5z s:
AWM22PL10	purple					\$;5z t:
AWM22GYL10	green with yellow stripe					\$;5z u:
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]	\$;5z v:
AWM20BK	black					\$;5z x:
AWM20RD	red					\$;5z y:
AWM20WH	white					\$;5z z:
AWM20BW	blue with white stripe					\$;5z]:
AWM20BN	brown					\$;5z [:
AWM20GN	green					\$;5z _:
AWM20OR	orange					\$;5z #:
AWM20YL	yellow					\$;5z !:
AWM20GY	gray					\$;5z ?:
AWM20WB	white with blue stripe					\$;5z _:
AWM20PL	purple					\$5z_0:
AWM20GYL	green with yellow stripe					\$5z_1:

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]	\$5z_2:
AWM18BK	black					\$5z_3:
AWM18RD	red					\$5z_4:
AWM18WH	white					\$5z_5:
AWM18BW	blue with white stripe					\$5z_6:
AWM18BN	brown					\$5z_7:
AWM18GN	green					\$5z_8:
AWM18OR	orange					\$5z_9:
AWM18YL	yellow					\$5z_a:
AWM18GY	gray					\$5z_b:
AWM18WB	white with blue stripe					\$5z_c:
AWM18PL	purple					\$5z_d:
AWM18GYL	green with yellow stripe					\$5z_e:
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]	\$5z_f:
AWM16BK	black					\$5z_g:
AWM16RD	red					\$5z_h:
AWM16WH	white					\$5z_i:
AWM16BW	blue with white stripe					\$5z_j:
AWM16BN	brown					\$5z_k:
AWM16GN	green					\$5z_l:
AWM16OR	orange					\$5z_n:
AWM16YL	yellow					\$5z_o:
AWM16GY	gray					\$5z_p:
AWM16WB	white with blue stripe					\$5z_q:
AWM16PL	purple					\$5z_s:
AWM16GYL	green with yellow stripe					\$5z_t:

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

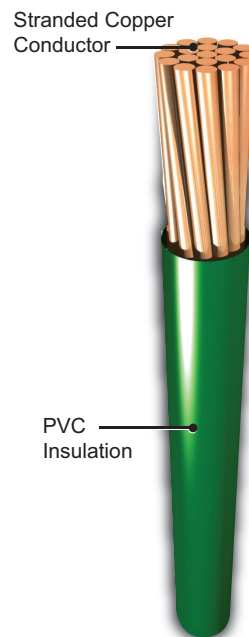
Type MTW conductors are primarily used in control cabinets, in machine tool applications, and in appliance wiring applications. For use in accordance with the National Electrical Code (NEC) and NFPA Standard 79. Voltage rating for all applications is 600 volts.

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]	\$4qh_:	
MTW22WH	White					\$-4qi6:	
MTW22RD	Red					\$-4qi4:	
MTW22BL	Blue					\$4qh#:	
MTW22GN	Green					\$-4qi0:	
MTW22YL	Yellow					\$-4qi8:	
MTW22OR	Orange					\$-4qi2:	
MTW22BN	Brown					\$;4qh!:	
MTW22PL	Purple					\$-4qi3:	
MTW22GY	Gray					\$;4qh,::	
MTW22BW	Blue with White spiral stripe					\$4qh?:	
MTW22WB	White with Blue spiral stripe					\$-4qi5:	
MTW22WO	White with Orange spiral stripe					\$-4qi7:	
MTW22GYL	Green with Yellow spiral stripe					\$-4qi1:	
MTW20BK	Black	20AWG	Type MTW wire, bare copper, 10 strands, 600 Volts		500ft	[4.0 lb] [1.81 kg]	\$11cq:
MTW20WH	White						\$11cs:
MTW20RD	Red						\$;11ct:
MTW20BL	Blue						\$11cu:
MTW20GN	Green						\$11cv:
MTW20YL	Yellow						\$11cx:
MTW20OR	Orange						\$11cy:
MTW20BN	Brown						\$11cz:
MTW20PL	Purple						\$;11c]:
MTW20GY	Gray						\$;11c[:
MTW20BW	Blue with White spiral stripe						\$11c_:
MTW20WB	White with Blue spiral stripe						\$11c#:
MTW20WO	White with Orange spiral stripe						\$;11c!:
MTW20GYL	Green with Yellow spiral stripe						\$11c?:
MTW18BK	Black	18AWG	Type MTW wire, bare copper, 16 strands, 600 Volts	500ft		[4.6 lb] [2.08 kg]	\$08d2:
MTW18WH	White						\$08dk:
MTW18RD	Red						\$-08di:
MTW18BL	Blue						\$08d4:
MTW18GN	Green						\$08da:
MTW18YL	Yellow						\$08dn:
MTW18OR	Orange						\$08de:
MTW18BN	Brown						\$08d6:
MTW18PL	Purple						\$08dg:
MTW18GY	Gray						\$08dc:
MTW18BW	Blue with White spiral stripe						\$08d8:
MTW18WB	White with Blue spiral stripe						\$;0,01:
MTW18WO	White with Orange spiral stripe						\$;0,04:
MTW18GYL	Green with Yellow spiral stripe						\$;0,07:
MTW16BK	Black	16AWG	Type MTW wire,bare copper, 26 strands, 600 Volts		500ft	[6.5 lb] [2.94 kg]	\$08ck:
MTW16WH	White						\$08c?:
MTW16RD	Red						\$08c#:
MTW16BL	Blue						\$08cn:
MTW16GN	Green						\$08cu:
MTW16YL	Yellow						\$08d0:
MTW16OR	Orange						\$08cz:
MTW16BN	Brown						\$08cp:
MTW16PL	Purple						\$;08c]:
MTW16GY	Gray						\$08cx:
MTW16BW	Blue with White spiral stripe						\$08cs:
MTW16WB	White with Blue spiral stripe						\$;0,02:
MTW16GYL	Green with Yellow spiral stripe						\$;0,08:

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]	\$08b?:
MTW14WH	White					\$08cg:
MTW14RD	Red					\$08ce:
MTW14BL	Blue					\$08c0:
MTW14GN	Green					\$08c6:
MTW14YL	Yellow					\$-08ci:
MTW14OR	Orange					\$08ca:
MTW14BN	Brown					\$08c2:
MTW14PL	Purple					\$08cc:
MTW14GY	Gray					\$08c8:
MTW14BW	Blue with White spiral stripe					\$008c4:
MTW14WB	White with Blue spiral stripe					\$,00,03:
MTW14GYL	Green with Yellow spiral stripe					\$,00,09:
MTW12BK	Black	12AWG	Type MTW wire, bare copper, 65 strands, 600 Volts	500ft	[13.9 lb] [6.3 kg]	\$008bs:
MTW12WH	White					\$008b#:
MTW12RD	Red					\$008b_:
MTW12BL	Blue					\$008bu:
MTW12GN	Green					\$008bz:
MTW12YL	Yellow					\$,008b!:
MTW12OR	Orange					\$,008b[:
MTW12BN	Brown					\$008bx:
MTW12GY	Gray					\$,008b]:
MTW10BK	Black	10AWG	Type MTW wire, bare copper, 105 strands, 600 Volts	500ft	[20.5 lb] [9.30 kg]	\$008bk:
MTW10WH	White					\$008bp:
MTW10GN	Green					\$008bn:
MTW10YL	Yellow					\$008bq:
MTW10OR	Orange					\$008bo:
MTW10BN	Brown					\$-008bl:
MTW22BK10	Black	22AWG	Type MTW wire, bare copper, 7 strands, 600 Volts	1000ft	[6.8 lb] [3.08kg]	\$4v#g:
MTW22BL10	Blue					\$4v#h:
MTW22BN10	Brown					\$-4v#i:
MTW22BW10	Blue with White spiral stripe					\$-4v#j:
MTW22GN10	Green					\$4v#k:
MTW22GYL10	Green with Yellow spiral stripe					\$4v#b:
MTW22OR10	Orange					\$4v#c:
MTW22RD10	Red					\$4v#d:
MTW22WB10	White with Blue spiral stripe					\$4v#e:
MTW22WH10	White					\$,4v#f:
MTW22YL10	Yellow					\$-4v#l:

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]	\$4v#n:
MTW20BL10	Blue					\$4v#o:
MTW20BN10	Brown					\$4v#p:
MTW20BW10	Blue with White spiral stripe					\$4v#q:
MTW20GN10	Green					\$4v#s:
MTW20GYL10	Green with Yellow spiral stripe					\$4v#t:
MTW20OR10	Orange					\$4v#u:
MTW20RD10	Red					\$4v#v:
MTW20WB10	White with Blue spiral stripe					\$4v#x:
MTW20WH10	White					\$4v#y:
MTW20YL10	Yellow					\$4v#z:
MTW18BK10	Black					18AWG
MTW18BL10	Blue	\$4v#[:				
MTW18BN10	Brown	\$4v#_:				
MTW18BW10	Blue with White spiral stripe	\$4v##:				
MTW18GN10	Green	\$4v#!:				
MTW18GYL10	Green with Yellow spiral stripe	\$4v#?:				
MTW18GY10	Gray	\$4v#,::				
MTW18OR10	Orange	\$4v!0:				
MTW18PL10	Purple	\$4v!1:				
MTW18RD10	Red	\$4v!2:				
MTW18WB10	White with Blue spiral stripe	\$4v!3:				
MTW18WH10	White	\$4v!4:				
MTW18YL10	Yellow	\$4v!5:				
MTW16BK10	Black	16AWG	Type MTW wire, bare copper, 26 strands, 600 Volts		[14.6lb] [6.62kg]	\$04v!6:
MTW16BL10	Blue					\$04v!7:
MTW16BW10	Blue with White spiral stripe					\$04v!8:
MTW16GN10	Green					\$04v!9:
MTW16GYL10	Green with Yellow spiral stripe					\$04v!a:
MTW16RD10	Red					\$04v!b:
MTW16WB10	White with Blue spiral stripe					\$04v!c:
MTW16WH10	White					\$04v!d:
MTW16YL10	Yellow					\$04v!e:
MTW14BK10	Black	14AWG	Type MTW wire, bare copper, 41 strands, 600 Volts		[19.0lb] [8.62kg]	\$04v!f:
MTW14BL10	Blue					\$04v!g:
MTW14GN10	Green					\$04v!h:
MTW14GYL10	Green with Yellow spiral stripe					\$04v!i:
MTW14RD10	Red					\$04v!j:
MTW14WH10	White					\$04v!k:
MTW18BK25	Black	18AWG	Type MTW wire, bare copper, 16 strands, 600 Volts	2500ft	[26.5lb] [12.02kg]	\$008d3:
MTW18RD25	Red					\$008dj:
MTW18BL25	Blue					\$008d5:
MTW18BW25	Blue with White spiral stripe					\$008d9:

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]	\$-008cl:
MTW16WH25	White					\$;008c,:
MTW16RD25	Red					\$;008cl:
MTW16BL25	Blue					\$008co:
MTW16BW25	Blue with White spiral stripe					\$;008ct:
MTW14BK25	Black	14AWG	Type MTW wire, bare copper, 41 strands, 600 Volts		[47.5lb] [21.55kg]	\$;008b,:
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

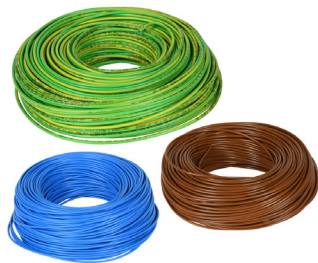
*Note: Allowable ampacity shown above is per NFPA79 Electrical Standard for Industrial Machinery 2018 Table 12.5.1 Conductor Ampacity Based on Copper Conductors with 60°C [140°F], 75°C [167°F], and 90°C [194°F] Insulation in an Ambient Temperature of 30°C [86°F]

**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.

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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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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	\$,-5v!j:
A61901	black					\$,5v!k:
A61902	blue					\$,-5v!l:
A61903	brown					\$,5v!n:
A61904	red					\$,5v!o:
A61914	dark blue					\$,5v!p:
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	\$,5v!q:
A61801	black					\$,5v!s:
A61802	blue					\$,-5v!t:
A61803	brown					\$,5v!u:
A61804	red					\$,5v!v:
A61814	dark blue					\$,5v!x:
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	\$,5v!y:
A61600	green/yellow					\$,05v!z:
A61601	black					\$,-;05v!]:
A61602	blue					\$,-;05v![:
A61603	brown					\$,05v!_:
A61604	red					\$,05v!#:
A61605	white					\$,-;05v!l:
A61609	orange					\$,05v!?:
A61614	dark blue					\$,-;05v!,:
A61615	blue/white					\$05v?0:
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	\$05v?1:
A61400	green/yellow					\$05v?2:
A61401	black					\$05v?3:
A61402	blue					\$05v?4:
A61403	brown					\$05v?5:
A61404	red					\$05v?6:
A61405	white					\$05v?7:
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	\$05v?8:
A61200	green/yellow					\$05v?9:
A61201	black					\$05v?a:

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

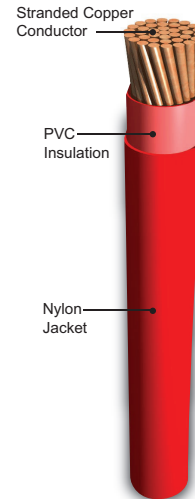
Jacket

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	\$085h:
TFFN18WH	White					\$08bg:
TFFN18RD	Red					\$08be:
TFFN18BL	Blue					\$08b0:
TFFN18GN	Green					\$08b6:
TFFN18YL	Yellow					\$-08bi:
TFFN18OR	Orange					\$08ba:
TFFN18BN	Brown					\$08b2:
TFFN18PL	Purple					\$08bc:
TFFN18GY	Gray					\$08b8:
TFFN18BW	Blue with White spiral stripe					\$08b4:
TFFN16BK	Black	16AWG	Type TFFN wire, bare copper, 26 strands, 600 Volts		5.5 lbs	\$:084[:
TFFN16WH	White					\$085d:
TFFN16RD	Red					\$085a:
TFFN16BL	Blue					\$084#:
TFFN16GN	Green					\$0852:
TFFN16YL	Yellow					\$:085f:
TFFN16OR	Orange					\$0856:
TFFN16BN	Brown					\$084?:
TFFN16GY	Gray					\$0854:
TFFN16BW	Blue with White spiral stripe					\$0850:

Wire - Type TFFN

Type TFFN Wire						
Part Number	Color	Gauge	Description	Spool/Reel Length	Approx. Weight	Price
<u>TFFN18BK25</u>	Black	18AWG	Type TFFN wire, bare copper, 16 strands, 600 Volts	2500'	20 lbs	\$-0085i:
<u>TFFN18RD25</u>	Red					\$,008bf:
<u>TFFN18BL25</u>	Blue					\$008b1:
<u>TFFN18BW25</u>	Blue with White spiral stripe					\$008b5:
<u>TFFN16RD25</u>	Red	16AWG	Type TFFN wire, bare copper, 26 strands, 600 Volts		27.5 lbs	\$0085b:
<u>TFFN16BL25</u>	Blue					\$,0084!:

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.