

# Continuous Flexing IE Cable

| Continuous Flexing Industrial Ethernet Cable Selection |                 |              |                |              |                                                                                                                              |                                                                                                                                                                                 |                            |                          |                |
|--------------------------------------------------------|-----------------|--------------|----------------|--------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|----------------|
| Part Number                                            | Wiring Standard | Jacket Color | Shield         | No. of Pairs | Pair Colors                                                                                                                  | Description                                                                                                                                                                     | Approximate Weight (lb/ft) | Minimum Cut Length (ft)* | Price per foot |
| <a href="#"><u>Q5772-1</u></a>                         | Cat5e           | Teal         | Unshielded     | 2            | Pair 1 - White/Orange & Orange<br>Pair 2 - White/Green & Green                                                               | industrial Ethernet cable, unshielded, 2 twisted pairs, 24 AWG, 7/32-stranded, tinned copper, HDPE conductor insulation material, FR-TPE jacket, teal, cut to length.           | 0.02                       | 20                       | \$0.70         |
| <a href="#"><u>Q5752-1</u></a>                         |                 |              |                | 4            | Pair 1 - White/Blue & Blue<br>Pair 2 - White/Orange & Orange<br>Pair 3 - White/Green & Green<br>Pair 4 - White/Brown & Brown | industrial Ethernet cable, unshielded, 4 twisted pairs, 24 AWG, 7/32-stranded, tinned copper, HDPE conductor insulation material, FR-TPE jacket, teal, cut to length.           | 0.03                       |                          | \$0.81         |
| <a href="#"><u>Q5025-1</u></a>                         |                 |              | Foil and Braid | 2            | Pair 1 - Orange & White/Orange<br>Pair 2 - Green & White/Green                                                               | industrial Ethernet cable, shielded, 2 twisted pairs, 24 AWG, 7/32-stranded, tinned copper, HDPE conductor insulation material, FR-TPE jacket, teal, cut to length.             | 0.04                       |                          | \$1.34         |
| <a href="#"><u>Q5090-1</u></a>                         |                 |              |                | 4            | Pair 1 - Blue & White/Blue<br>Pair 2 - Orange & White/Orange<br>Pair 3 - Green & White/Green<br>Pair 4 - Brown & White/Brown | industrial Ethernet cable, shielded, 4 twisted pairs, 24 AWG, 7/32-stranded, tinned copper, HDPE conductor insulation material, FR-TPE jacket, teal, cut to length.             | 0.05                       |                          | \$1.46         |
| <a href="#"><u>Q5026-1</u></a>                         | 6/6a            | Black        | Foil and Braid | 4            | Pair 1 - Blue & White/Blue<br>Pair 2 - Orange & White/Orange<br>Pair 3 - Green & White/Green<br>Pair 4 - Brown & White/Brown | industrial Ethernet cable, shielded, 4 twisted pairs, 26 AWG, 7-stranded, tinned copper, polyethylene conductor insulation material, TPE jacket, teal, cut to length.           | 0.04                       |                          | \$1.66         |
| <a href="#"><u>Q5919-1</u></a>                         |                 |              |                |              |                                                                                                                              | Cat6/6a industrial Ethernet cable, shielded, 4 twisted pairs, 26 AWG, 7-stranded, tinned copper, HDPE conductor insulation material, polyurethane jacket, black, cut to length. | 0.03                       |                          | \$1.72         |
| <a href="#"><u>Q5922-1</u></a>                         |                 | Teal         |                |              |                                                                                                                              | industrial Ethernet cable, shielded, 4 twisted pairs, 24 AWG, 7-stranded, tinned copper, polyethylene conductor insulation material, TPE jacket, teal, cut to length.           | 0.05                       |                          | \$1.77         |
| <a href="#"><u>Q5936-1</u></a>                         | 6/6a            | Black        |                |              |                                                                                                                              | Cat6/6a industrial Ethernet cable, shielded, 4 twisted pairs, 24 AWG, 7-stranded, tinned copper, HDPE conductor insulation material, polyurethane jacket, black, cut to length. | 0.05                       |                          | \$1.92         |

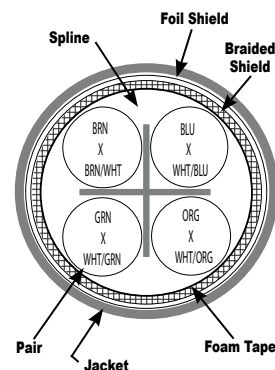
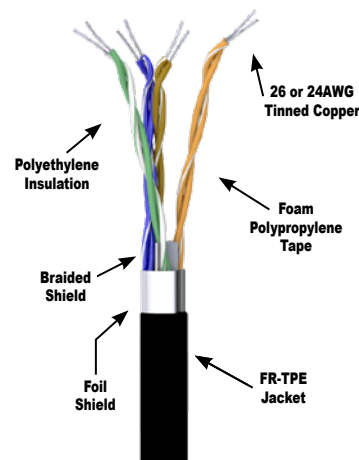
\* See web store for maximum cut lengths



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 IE Cable - Cat6/6a - Shielded

| Continuous Flexing Shielded Cat6/6a Industrial Ethernet Cable Specifications |                                                                                                                                                                                            |                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                              | Physical Properties                                                                                                                                                                        |                                                                                                                                                                                                                   |
|                                                                              | <u>Q5919-1</u>                                                                                                                                                                             | <u>Q5936-1</u>                                                                                                                                                                                                    |
| <b>Conductor Gauge and Stranding</b>                                         | 26 AWG 7/34 stranded tinned copper, 4 twisted pairs                                                                                                                                        | 24 AWG 7/32 stranded tinned copper; 4 twisted pairs                                                                                                                                                               |
| <b>Assembly</b>                                                              | Individual conductors twisted into pairs, cabled; overall foil and tinned copper braid shield, polyurethane jacket                                                                         |                                                                                                                                                                                                                   |
| <b>Jacket</b>                                                                | Black, polyurethane                                                                                                                                                                        |                                                                                                                                                                                                                   |
| <b>Jacket Insulation Thickness</b>                                           | 0.022 inch; Nominal                                                                                                                                                                        |                                                                                                                                                                                                                   |
| <b>Shield</b>                                                                | Overall shield of 38 AWG tinned copper braid (80% coverage) and aluminized polyester foil shield (100% coverage)                                                                           |                                                                                                                                                                                                                   |
| <b>Cable Overall Diameter</b>                                                | 0.239 inch; Nominal                                                                                                                                                                        | 0.291 inch; Nominal                                                                                                                                                                                               |
| <b>Temp/Voltage</b>                                                          | 75°C (167°F)/300V                                                                                                                                                                          |                                                                                                                                                                                                                   |
| <b>Minimum Temperature Rating</b>                                            | -40°C (-40°F)                                                                                                                                                                              |                                                                                                                                                                                                                   |
| <b>Plenum</b>                                                                | No                                                                                                                                                                                         |                                                                                                                                                                                                                   |
| <b>Sunlight Resistant</b>                                                    | Yes                                                                                                                                                                                        |                                                                                                                                                                                                                   |
| <b>Conductor Insulation</b>                                                  | High Density Polyethylene (HDPE)                                                                                                                                                           |                                                                                                                                                                                                                   |
| <b>Color Code</b>                                                            | <b>Pair 1</b>                                                                                                                                                                              | Blue/White & Blue                                                                                                                                                                                                 |
|                                                                              | <b>Pair 2</b>                                                                                                                                                                              | Orange/White & Orange                                                                                                                                                                                             |
|                                                                              | <b>Pair 3</b>                                                                                                                                                                              | Green/White & Green                                                                                                                                                                                               |
|                                                                              | <b>Pair 4</b>                                                                                                                                                                              | Brown/White & Brown                                                                                                                                                                                               |
| <b>Bare Conductor Diameter</b>                                               | 0.019 inch; Nominal                                                                                                                                                                        | 0.0236 inch; Nominal                                                                                                                                                                                              |
| <b>Conductor Insulation Thickness</b>                                        | 0.009 inch; Nominal                                                                                                                                                                        | 0.011 inch; Nominal                                                                                                                                                                                               |
| <b>Insulated Conductor Diameter</b>                                          | 0.036 inch; Nominal                                                                                                                                                                        | 0.046 inch; Nominal                                                                                                                                                                                               |
| <b>Pair Diameter</b>                                                         | 0.072 inch; Nominal                                                                                                                                                                        | 0.092 inch; Nominal                                                                                                                                                                                               |
| <b>Cabled Core Diameter</b>                                                  | 0.176 inch; Nominal                                                                                                                                                                        | 0.228 inch; Nominal                                                                                                                                                                                               |
| <b>Shield + Cabled Core Diameter</b>                                         | 0.195 inch; Nominal                                                                                                                                                                        | 0.247 inch; Nominal                                                                                                                                                                                               |
| <b>Print Legend</b>                                                          | 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) | 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) |



**Four Pair Shielded**

# Continuous Flexing IE Cable - Cat6/6a - Shielded

| Continuous Flexing Shielded Cat6/6a Industrial Ethernet Cable Specifications |                                                                                                                                                                                                                           |                                                                                                    |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|                                                                              | Electrical Characteristics (for 100 meters of cable)                                                                                                                                                                      |                                                                                                    |
|                                                                              | Q5919-1                                                                                                                                                                                                                   | Q5936-1                                                                                            |
| Impedance (1-100 MHz)                                                        | 100Ω ±15Ω (1-100 MHz), 100 ± 20 Ω 100 - 500 MHz                                                                                                                                                                           |                                                                                                    |
| Capacitance                                                                  | 13.5 pF/ft @ 1MHz; Nominal                                                                                                                                                                                                |                                                                                                    |
| Resistance (max)                                                             | 42.6 Ω DC per 1000ft                                                                                                                                                                                                      | 26.2 Ω DC per 1000ft                                                                               |
| Voltage Rating (max)                                                         | 300V                                                                                                                                                                                                                      |                                                                                                    |
| Dielectric Withstand, Min.                                                   | 1500V RMS                                                                                                                                                                                                                 |                                                                                                    |
| Return Loss                                                                  | $1 \leq f < 10 \text{ MHz}$ 20 + 6 LOG (f) dB MIN*<br>$10 \leq f < 20 \text{ MHz}$ 26 dB MIN*<br>$20 \leq f \leq 100 \text{ MHz}$ 26 - 5 LOG(f/20) dB MIN*<br>$100 \leq f \leq 500 \text{ MHz}$ 25 - 8.6 LOG(f/20) dB MIN |                                                                                                    |
| Near End Crosstalk (NEXT)                                                    | $1 \leq f \leq 500 \text{ MHz}$ 44.3 - 15 LOG(f/100) dB MIN                                                                                                                                                               |                                                                                                    |
| Power Sum Near End Crosstalk (PSNEXT)                                        | $1 \leq f \leq 500 \text{ MHz}$ 42.3 - 15 LOG(f/100) dB MIN                                                                                                                                                               |                                                                                                    |
| Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF)                   | $1 \leq f \leq 500 \text{ MHz}$ 24.8 - 20 LOG(f/100) dB MIN                                                                                                                                                               |                                                                                                    |
| Attenuation Crosstalk Ratio, Far End (ACRF)                                  | $1 \leq f \leq 500 \text{ MHz}$ 27.8 - 20 LOG(f/100) dB MIN                                                                                                                                                               |                                                                                                    |
| Insertion Loss                                                               | $1 \leq f \leq 500 \text{ MHz}$<br>$1.5[1.82 \sqrt{f} + 0.0091(f) + 0.25/\sqrt{f}] \text{ dB MAX}$                                                                                                                        | $1 \leq f \leq 500 \text{ MHz}$<br>$1.2[1.82 \sqrt{f} + 0.0091(f) + 0.25/\sqrt{f}] \text{ dB MAX}$ |
| Delay                                                                        | $1 \leq f \leq 500 \text{ MHz}$ 534 + 36/√f ns Max                                                                                                                                                                        |                                                                                                    |
| Delay Skew                                                                   | $1 \leq f \leq 500 \text{ MHz}$ <45ns                                                                                                                                                                                     |                                                                                                    |
| PS ANEXT LOSS (6 AROUND 1)                                                   | $1 \leq f \leq 500 \text{ MHz}$ 62.5 - 15 LOG(f/100) dB 50-500 MHz,<br>67 dB 1-50MHz                                                                                                                                      |                                                                                                    |
| PS AFEXT (6 AROUND 1)                                                        | $1 \leq f \leq 500 \text{ MHz}$ 38.2 - 20 LOG(f/100) dB                                                                                                                                                                   |                                                                                                    |
| Coupling Attenuation Per IEC 62153-4-9                                       | $30 \leq f \leq 250 \text{ MHz}$ 100 - 20 LOG(f) MAX 60dB E3*<br>Segregation class d acc. EN 50174-2                                                                                                                      |                                                                                                    |
| Velocity Of Propagation                                                      | 68%                                                                                                                                                                                                                       |                                                                                                    |
| Tested Length                                                                | 100 meters off the reel                                                                                                                                                                                                   |                                                                                                    |
| Agency Approvals                                                             | CE, RoHS compliant                                                                                                                                                                                                        |                                                                                                    |

\* Per ODVA Volume 2 EtherNet/IP

NOTE: All testing conducted off the reel.



# 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

