

Cat5e Industrial Ethernet Continuous Flexing



| Q5090-1 Cable Specifications | | | | | | |
|--|---|---------------------------|---|--------------------------|---|----------------|
| | Part Number | Wire/Cable Type | Flexibility | Minimum Cut Length (ft)* | Approximate Weight (lb/ft) | Price per foot |
| | Q5090-1 | Cat5e industrial Ethernet | Continuous Flexing | 20 | 0.04 | \$1.42 |
| Physical Properties | | | | | | |
| Conductor Gauge | 24 AWG | | Conductor Stranding | | 7/32-Stranded Tinned Copper | |
| Conductor Material | Tinned Copper | | Conductor Insulation Wall Thickness | | 0.011 in, nominal | |
| Conductor Assembly | 4 twisted pairs | | Bare Conductor Diameter | | 0.024 in, nominal | |
| Color Code | Pair 1 | Blue, White/Blue | Insulated Conductor Diameter | | 0.047 in, nominal | |
| | Pair 2 | Orange, White/Orange | Twisted Conductor Diameter | | 0.092 in, nominal | |
| | Pair 3 | Green, White/Green | Overall Cable Diameter | | 0.290 in, nominal | |
| | Pair 4 | Brown, White/Brown | Jacket Color | | Teal | |
| Voltage Rating | 600V | | Jacket Thickness | | 0.036 in, nominal | |
| Temperature Rating | -40 to 80 °C (-40 to 176 °F) | | Jacket Material | | flame retardant thermoplastic elastomer (FR-TPE) pressure extruded | |
| Plenum | No | | Sunlight Resistant | | Yes | |
| Shield | Shielded | | Oil Resistance | | Yes | |
| Drain | No | | Flame Retardant | | Yes | |
| Conductor Insulation Material | High-density Polyethylene (HDPE) | | Sample Print Legend | | QUABBIN DATAMAX EXTREME HIGH FLEX INDUSTRIAL ETHERNET/IP PATCH CORD CAT5e SF/UTP P/N P/N xxxx -- C(UL)US TYPE CMX OUTDOOR - CM 4PR 24 AWG 75C SUN RES OR AWM 2463 80C 600V -- RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE) | |
| Minimum Bend Radius | 2.90in | | | | | |
| Cabled Core Diameter | 0.197 in | | | | | |
| Electrical Characteristics (for 100 meters of cable) | | | | | | |
| Impedance | 100Ω ±15Ω | | UL Classification | | Type CMX Outdoor - CM or AWM Style 2463 | |
| Capacitance | 13.5 pF/ft @ 1MHz; Nominal | | Approvals** | | UL E118830 for CMX, CM; UL E69976 for AWM, RoHS | |
| Resistance, Max. | 14.0 Ω DC per 1000ft | | Attenuation Crosstalk Ratio, Far End (ACRF) | | 1 ≤ f ≤ 100 MHz: 23.8 - 20 LOG(f/100) dB MIN | |
| Dielectric Withstanding, Min. | 2000V RMS | | Insertion Loss | | 1 ≤ f ≤ 100 MHz: 1.2[1.967 √f + 0.023(f) + 0.050/√f] dB MAX | |
| Return Loss | 1 ≤ f < 10 MHz: 20 + 6 LOG (f) dB MIN* 10 ≤ f < 20 MHz: 26 dB MIN* 20 ≤ f ≤ 100 MHz: 26 - 5 LOG(f/20) dB MIN* | | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) | | 1 ≤ f ≤ 100 MHz: 20.8 - 20 LOG(f/100) dB MIN | |
| Near End Crosstalk (NEXT) | 1 ≤ f ≤ 100 MHz: 35.3 - 15 LOG(f/100) dB MIN | | Cross Section | | | |
| Power Sum Near End Crosstalk (PSNEXT) | 1 ≤ f ≤ 100 MHz: 32.3 - 15 LOG(f/100) dB MIN | | | | | |
| TCL | N/A | | | | | |
| ELTCTL | N/A | | | | | |
| Velocity of Propagation | 0.68 | | | | | |
| Delay | 1 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max | | | | | |
| Delay Skew | 1 ≤ f ≤ 100 MHz: <25ns | | | | | |

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

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



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

