

# 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](http://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](http://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

