Cat5e Industrial Ethernet Cable Continuous Flexing



Conductor Material Tinned Copper Conductor Insulation Wall Tinckness D. 0.011 in; nominal D. 0.012 in; nominal D. 0.013 in; nominal D. 0.012 in; nominal D. 0.013 in				A1040020-1 C	able Specif	ications		
Physical Properties Physical Properties Physical Properties Physical Properties Physical Properties T-stranded timed copper Conductor Material Tinned Copper Conductor Insulation Wall D.011 in; nominal D.012 in; nominal D.			Part Number	Wire/Cable Type	Flexibility			Price per foot
Conductor Gauge			A1040020-1	Cat5e industrial Ethernet		20	0.05	\$;5,xs:
Conductor Material Tinned Copper Conductor Insulation Wall Tinckness Bare Conductor Diameter 0.024 in; nominal 0.071 in; nominal 0.071 in; nominal 0.071 in; nominal 0.072 in; nominal				Physi	cal Properties			
Thickness Unit in, nominal	Conductor Gauge		24 AWG		Conductor Stranding		7-stranded t	nned copper
Pair 1 Blue, White/Blue Insulated Conductor Diameter 0.046 in; nominal 0.092 in; nominal 0.093 in; nominal 0.09	Conductor Material		Tinned Copper				0.011 in	nominal
Pair 2	Conductor A	ssembly	4 twisted pairs		Bare Conducto			nominal
Pair 3 Green, White/Green Overall Cable Diameter 0.299 in; nominal			·				0.046 in	nominal
Pair 3	Calar Cada	Pair 2	Orange, White/Orange		Twisted Conductor Diameter		0.092 in; nominal	
Voltage Rating	Color Code	Pair 3	Ů.		Overall Cable Diameter		'	
Temperature Rating		Pair 4	Brown, White/Brown		Jacket Color		Teal	
Plenum No Sunlight Resistant Yes Shield Shield Shielded Oil Resistance Yes Drain No Flame Retardant Yes Conductor Insulation High-density Polyethylene (HDPE) Material High-density Polyethylene (HDPE) Minimum Bend Radius Moving: 2.99in Fixed: 2.24in Sample Print Legend Minimum Bend Radius Cabled Core Diameter 0.234 in Selectrical Characteristics (for 100 meters of cable) Cef. 97 Selectrical Characteristics (for 100 meters of cable	Voltage Ratii	ng	60	00V	Jacket Thickness		0.033 in; nominal	
Shield Shielde Shielded Oil Resistance Yes Conductor Insulation High-density Polyethylene (HDPE) Minimum Bend Radius Cabled Core Diameter Cabled Core Diameter Capacitance 15.2 pf/ft @ 1MHz; Nominal Capacitance 15.2 pf/ft @ 1MHz; Nominal Capacitance 15.4 5 100 MHz: 25.45 LOG(f) dB MIN 10.5 f \leq 100 MHz: 25.45 LOG(f/100) dB MIN 20.5 f \leq 100 MHz: 25.45 LOG(f/100) dB MIN 20.5 f \leq 100 MHz: 35.40 LOG(f/100) dB MIN 10.5 f \leq 100 MHz: 35.40 LOG(f/10	Temperature Rating		-40 to 80 °C	(-40 to 176 °F)	Jacket Material		TPE	
Drain No Flame Retardant Yes Conductor Insulation Material High-density Polyethylene (HDPE) www.lutze.com Part# A1040020 LUTZE MOTIONFLEX ETHERNET CATS of SFUTTP TPE (4-PAIR AWG24) E319350 (QLI) CMX OUTDOM CMR 75C SUN RES 0R AWM STYLE 2483 80C 600 V OIL RES II ROHS Cabled Core Diameter 0.234 in Sample Print Legend Sample Print Legend (4-PAIR AWG24) E319350 (QLI) CMX OUTDOM CMR 75C SUN RES 0R AWM STYLE 2483 80C 600 V OIL RES II ROHS Question of CE-59 < SEQ. FT MARK> Electrical Characteristics (for 100 meters of cable) Impedance (1-100 MHz) U1 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 DAMA Dielectric Withstanding, Min. 1 ≤ f < 100 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 10 ≤ f < 20 MHz: 25.7 - 0 LOG(f/20) dB MIN 10 ≤ f < 100 MHz: 32.3 - 15 LOG(f/100) dB MIN 10 ≤ f < 100 MHz: 32.3 - 15 LOG(f/100) dB MIN 10 ≤ f < 100 MHz: 32.3 - 15 LOG(f/100) dB MIN 10 ≤ f < 100 MHz: 32.3 - 15 LOG(f/100) dB MIN 10 ≤ f < 100 MHz: 32.3 - 15 LOG(f/100) dB MIN 10 ≤ f < 100 MHz: 32.3 - 15 LOG(f/100) dB MIN 10 ≤ f < 100 MHz: 32.5 - 20 LOG(f/100) dB MIN 10 ≤ f < 100 MHz: 32.5 - 20 LOG(f/100) dB MIN 10 ≤ f < 100 MHz: 32.5	Plenum		1	No	Sunlight Resis	tant	Yes	
Conductor Insulation Material High-density Polyethylene (HDPE) Minimum Bend Radius 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 CMR/CMX Outd	Shield		Shi	elded	Oil Resistance		Yes	
Material High-density Polyemylene (HUPE) Minimum Bend Radius Fixed: 2.24in Cabled Core Diameter 0.234 in Cabled Core Diameter 0.234 in Electrical Characteristics (for 100 meters of cable) UL Classification Capacitance 15.2 pF/ft @ 1MHz; Nominal Approvals** Capacitance 15.2 pF/ft @ 1MHz; Nominal Approvals** Capacitance, Max. 24.5 Ω DC per 1000ft Attenuation Crosstalk Ratio, Far End (ACRF) Dielectric Withstanding, 10.5 $f \le 100$ MHz: 20.5 + 5 LOG(f) dB MIN 20.5 $f \le 100$ MHz: 25.5 + 5 LOG(f)/100) dB MIN 10.5 $f \le 100$ MHz: 35.3 - 15 LOG(f/100) dB MIN 1.5 $f \le 100$ MHz: 35.3 - 15 LOG(f/100) dB MIN 1.5 $f \le 100$ MHz: 30.5 - 20 LOG(f/100) dB MIN 1.5 $f \le 100$ MHz: 35.5 - 20 LOG(f/100) dB MIN 1.5 $f \le 100$ MHz:	Drain		1	No	Flame Retarda	nt	Y	es
Cabled Core Diameter 0.234 in $Cabled Core Diameter$ 0.234 in $Cabled Core Diameter$ 0.234 in $Cabled Core Diameter$ 0.234 in $Cabled Code YYWW'> CE-59 < SEQ. FT MARK>$ $CE-59 < SEQ. FT MARK CE-59 CE-59 < SEQ. FT MARK> CE-59 < SEQ. FT MARK$	Conductor Insulation Material Minimum Bend Radius		Moving	g: 2.99in	Sample Print L	egend	MOTIONFLEX ETHERNET CAT5e SF/UTP TPE (4-PAIR AWG24) E319350 c(UL) CMX OUTDOOR	
The property of the propert	Cabled Core Diameter				, -		RoHS <date code="" yyww=""></date>	
The pedance (1-100 MHz) $100 \Omega = 100 \text{MHz}$ $100 \Omega = 100 \Omega = $				Electrical Characteris	stics (for 100 meter	rs of cable)		
Resistance, Max. $24.5 \Omega\text{DC per }1000\text{ft} \qquad \qquad$	Impedance (1-100 MHz)		100 Ω 1 – 100 MHz		UL Classification		(cULus) TYPE CMR/CMX Outdoor or AWM Style 2463; (cURus) TYPE CMG	
Resistance, Max. 24.5 Ω DC per 1000π 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/√ dB MIN Return Loss 1 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN	Capacitance		15.2 pF/ft @	1MHz; Nominal	Approvals**		cULus, cURus,CE, RoHs	
Min. $1 \le f < 10 \text{ MHz: } 20 + 5 \text{ LOG}(f) \text{ dB MIN} $ $10 \le f < 20 \text{ MHz: } 25 \text{ dB MIN} $ $20 \le f \le 100 \text{ MHz: } 25 - 7.0 \text{ LOG}(f/20) \text{ dB MIN} $ $20 \le f \le 100 \text{ MHz: } 35.3 - 15 \text{ LOG}(f/100) \text{ dB MIN} $ $(NEXT)$ $1 \le f \le 100 \text{ MHz: } 35.3 - 15 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 32.3 - 15 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 30 - 10 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $ $1 \le f \le 100 \text{ MHz: } 35 - 20 \text{ LOG}(f/100) \text{ dB MIN} $	Resistance, Max.		24.5 Ω DC per 1000ft				1 ≤ f ≤ 100 MHz: 23.8 - 20 LOG(f /100) dB MIN	
Return Loss 10 $\leq f < 20 \text{ MHz}$: 25 dB MIN Crosstalk Ratio, Far End (PSACRF) Near End Crosstalk (NEXT) $1 \leq f \leq 100 \text{ MHz}$: 35.3 - 15 LOG($f/100$) dB MIN $1 \leq f \leq 100 \text{ MHz}$: 35.3 - 15 LOG($f/100$) dB MIN Power Sum Near End Crosstalk (PSNEXT) $1 \leq f \leq 100 \text{ MHz}$: 32.3 - 15 LOG($f/100$) dB MIN TCL $1 \leq f \leq 100 \text{ MHz}$: 30 - 10 LOG($f/100$) dB MIN ELTCTL $1 \leq f \leq 30 \text{ MHz}$: 35 - 20 LOG($f/100$) dB MIN Velocity Of Propagation 0.66	Dielectric Withstanding, Min.		2000V RMS		Insertion Loss		$1 \le f \le 100 \text{ MHz: } 1.967 \sqrt{f} + 0.023(f) + 0.050/\sqrt{f}$ dB MAX	
Power Sum Near End Crosstalk (PSNEXT) $1 \le f \le 100 \text{ MHz: } 35.3 - 15 \text{ LOG}(f/100) \text{ dB MIN}$ $1 \le f \le 100 \text{ MHz: } 32.3 - 15 \text{ LOG}(f/100) \text{ dB MIN}$ $1 \le f \le 100 \text{ MHz: } 30 - 10 \text{ LOG}(f/100) \text{ dB MIN}$ $1 \le f \le 30 \text{ MHz: } 35 - 20 \text{ LOG}(f) \text{ dB MIN}$ $1 \le f \le 30 \text{ MHz: } 35 - 20 \text{ LOG}(f) \text{ dB MIN}$ $1 \le f \le 30 \text{ MHz: } 35 - 20 \text{ LOG}(f) \text{ dB MIN}$ $1 \le f \le 30 \text{ MHz: } 35 - 20 \text{ LOG}(f) \text{ dB MIN}$ $1 \le f \le 30 \text{ MHz: } 35 - 20 \text{ LOG}(f) \text{ dB MIN}$	Return Loss		10 ≤ f < 20 MHz: 25 dB MIN		Crosstalk Ratio, Far End		$1 \le f \le 100 \text{ MHz}$: 20.8 - 20 LOG(f /100) dB MIN	
Crosstalk (PSNEXT) $1 \le f \le 100 \text{ MHz}$: 32.3 - 15 LOG(f/100) dB MIN TCL $1 \le f \le 100 \text{ MHz}$: 30 - 10 LOG(f/100) dB MIN ELTCTL $1 \le f \le 30 \text{ MHz}$: 35 - 20 LOG(f) dB MIN Velocity Of Propagation 0.66 Cross Section	Near End Crosstalk (NEXT)		,					
ELTCTL $1 \le f \le 30 \text{ MHz: } 35 - 20 \text{ LOG}(f) \text{ dB MIN}$ Velocity Of Propagation 0.66	Power Sum Near End Crosstalk (PSNEXT)							
Velocity Of Propagation 0.66	TCL		1 ≤ f ≤ 100 MHz: 30 -	10 LOG(f/100) dB MIN				
	ELTCTL		1 ≤ f ≤ 30 MHz: 35	- 20 LOG(<i>f</i>) dB MIN	Cross Section			
Delay $4 < f < 100 \text{ MHz} \cdot 534 + 36 \text{ M/f} \text{ ns MAX}$	Velocity Of Propagation		0.66 $4 \le f \le 100 \text{ MHz: } 534 + 36/\sqrt{(f \text{ ns MAX})}$ $1 \le f \le 100 \text{ MHz: } <45 \text{ns}/100 \text{m}$					
	Delay							
Delay Skew 1 ≤ f ≤ 100 MHz: <45ns/100m	Delay Skew							

^{*} 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.



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



