PROFINET Type B/C Category 5e SF/UTP Copper Cable

PANDUIT®

SPECIFICATION SHEET

specifications

Category 5e 2-pair SF/UTP copper cable shall meet or exceed the ISO/IEC 11801 Ed. 2.0 and components of the IEC 61156 standard. The cable shall be power limited tray cable (PLTC). The stranded copper conductor shall be 22 AWG of 19 strands with a high-density polyethylene (HDPE) insulation. The copper conductors shall be twisted in pairs and wrapped with a foam polypropylene tape to form the cable core. Each core shall be covered in an overall shield of 38 AWG tinned copper braid, with a second shield of aluminized polyester foil over the braid. The cable shall be completely covered in a RAL 6018 standard green thermoplastic elastomer. The cable shall be rated for panel or on-machine applications where space is shared with 600V high voltage cables.



technical information

Category 5e component performance up to 100 meters:	Meets the requirements of ISO/IEC 11801 Ed. 2.0, Class D at swept frequencies up to 100 MHz
Electrical performance:	Meets all ISO/IEC 11801 Edition 2.0 performance requirements
Standard compliances:	UL AWM Style 2463 (80C 600V), UL Type PLTC, UL Type ITC, Sun Res, Oil Res, Weld spatter Res
RoHS compliances:	Compliant (EU DIRECTIVE 2011/65/EU)
Conductors/insulators:	Two pairs of 22 AWG stranded copper insulated with high density polyethylene (HDPE) insulation
Insulation diameter:	1.37 mm (0.054 in.)
Flame rating:	CMX Outdoor/CMR, EN50575: Euroclass Eca
Installation tension:	50 N (11.2 lbf) maximum
Temperature rating:	-40°C—75°C (-40°F— 167°F) during transport, installation and operation
Shields:	38 AWG tinned copper shield (75% coverage min.), Aluminized polyester foil
Cable jacket:	Oil and sunlight resistant thermoplastic elastomer (TPE)
Cable diameter:	7.9 mm (0.310 in.)
Cable weight:	21.4kg/305m (47.2 lbs./1000 ft)
Packaging:	Packaged 305 meters (1000 feet) on a reel. Package tested to ISTA Procedure 1A.

key features and benefits

Power Limited Tray Cable (PLTC) approved:	Can be used for Class 1 Div 2 Hazardous location applications
Oil and sunlight performance rated cable jacket:	Delivers enhanced chemical resistance and mechanical performance
600V rated jacket:	Approved for control panel or on-machine applications when the space is shared with 600V high voltage power cables, required for UL 508A

applications

PROFINET Type B/C Category 5e Stranded Conductor SF/UTP Copper Cable provides reliability and high performance as an integral component of the end-to-end solution for industrial PROFINET based communications networks. The PLTC compliant cable with oil and UV resistant TPE jacket withstands harsh industrial conditions such as oil rigs and other hazardous Class 1 Div 2 environments. Rated for panel or on-machine applications when the space is shared with 600V high voltage power cables, PROFINET Category 5e Stranded Conductor SF/UTP Copper Cable is ideal for control panel deployments featuring power source voltages. Category 5e rated cable is suitable for transmission of high performance 10BASE-T, 100BASE-T and 1000BASE-T uplinks featuring up to gigabit data transmission from the control panel to the consolidation point.

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Solid, 2-pair: ESFLHT5C02FGR-X

PROFINET Certified Parts

IndustrialNet™ M12 D-Code female to RJ45 jack panel mount adapter: ICAM12DRJS

IndustrialNet™ Category 5e M12 D-Code field terminable plug: ISPS5E44MFA

IndustrialNet™ Category 6/5e RJ45 Field Terminable Plug, 1.0-1.6mm insulation diameter: ISPS688FA

IndustrialNet™ Category 6/5e RJ45 Field Terminable Plug, 0.85-1.0mm insulation diameter: ISPS688FAS

IndustrialNet™ Category 6A Field Terminable Plug, 1.1-2.1mm insulation diameter: ISPS6A88MFA

IndustrialNet™ M12 X-Code female to RJ45 jack panel mount adapter: ICAM12XRJS

IndustrialNet™ M12 X-Code female to RJ45 jack panel mount adapter, 90°: ICAM12X90RJS

IndustrialNet™ Variant 5 Category 6A, 8-position, 8-wire STP bulkhead connector: IAEBHV56XS

IndustrialNet™ Variant 5 Category 6A, RJ45 Modular STP Plug: MPSIV56XT

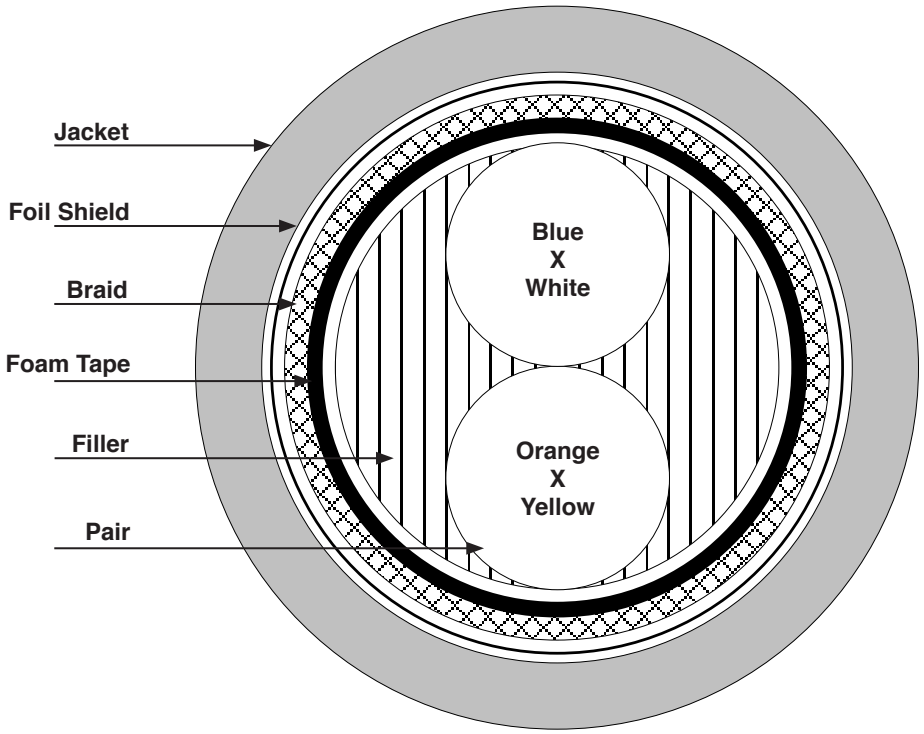
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additional specifications

Electrical Characteristics: (For 100M Of Cable)		
Capacitance, Mutual, Nom.	13.5 PF/FT. AT 1 MHz	
Dielectric Withstanding, Min.	2000V RMS	
Voltage Rating, Max.	600V	
D.C. Resistance, Max.	6.2 Ω	
Impedance	100 +/- 15 Ω 1-100 MHz	
Return Loss	$1 \le f < 10$ MHz $10 \le f < 20$ MHz $20 \le f \le 100$ MHz	$20 + 5\ \mathrm{LOG}(f)$ dB MIN 25 dB MIN $25 - 7\ \mathrm{LOG}(f/20)$ dB MIN
Next	$1 \le f \le 100$ MHz	$35.3 - 15\ \mathrm{LOG}(f/100)$ dB MIN
ACRF	$1 \le f \le 100$ MHz	$23.8 - 20\ \mathrm{LOG}(f/100)$ dB MIN
Attenuation	$1 \le f \le 100$ MHz	$1.967\sqrt{f} + 0.023(f) + 0.050/\sqrt{f}$ dB MAX
Delay	$1 \le f \le 100$ MHz	$534 + 36/\sqrt{f}$ ns MAX
Delay Skew	1-100 MHz	≤ 20ns Per IEC 61156-5
Coupling Attenuation	30-100 MHz	≥ 80 dB Segregation class d acc. EN 50174-2
Velocity Of Propagation	69%	

Note: All Testing Is Conducted Off The Reel

cable construction



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