



Product: [50106XU](#) 

50106XU Industrial Cat6 Cable, U/UTP, 4 Pair, AWG 24 Stranded, PE/PVC, High-Flex

Product Description

U/UTP, Category 6, 4-Pair, 24 AWG Stranded Bare Copper Conductors, Polyethylene Insulation, PVC Jacket, High Flexibility

Technical Specifications

Product Overview

Suitable Applications: Interconnecting Industrial Ethernet Switches, IP controllers, media convertors, distributed control system, programmable logic controller and transmitting industrial protocol data signals. Suitable for transmitting 1000BASETX Gigabit Ethernet, 100BASET Fast Ethernet, 100BaseVG ANYLAN, 155ATM, 622ATM, RS422, 250MHz Category 6, EtherCAT. Stranded conductor highly applicable for flexible installation. These are highly durable & ruggedized cables for both indoor and outdoor use meeting IEC 603321 flame rating.

Physical Characteristics (Overall)

Conductor

AWG	Stranding	Material
24	Stranded	BC - Bare Copper

Conductor Count: 8

Total Number of Pairs: 4

Insulation

Material
PO - Polyolefin

Color Chart

Number	Color
Pair 1	White / Blue & Blue
Pair 2	White / Orange & Orange
Pair 3	White / Green & Green
Pair 4	White / Brown & Brown

Cabling

Filler
Central Spline

Outer Shield

Material
No Shield

Outer Jacket

Material	Nominal Diameter
PVC - Polyvinyl Chloride	6.3 mm

Electrical Characteristics

Conductor DCR

Max. Conductor DCR	Max DCR Unbalanced Between Pairs [%]
93.8 Ohm/km	5 %

Capacitance

Max. Capacitance Unbalance	Nom. Mutual Capacitance
5,600 pF/100m	330 pF/100m

Impedance

Nominal Characteristic Impedance
100 Ohm

Delay

Max. Delay	Max. Delay Skew
538 ns/100m	45 ns/100m

High Frequency

Frequency [MHz]	Max. Insertion Loss (Attenuation)	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. ACRF (ELFEXT) [dB]	Min. PSACRF (PSELFEXT) [dB]	Min. RL (Return Loss) [dB]
1 MHz	2.4 dB/100m	74.3 dB	72.7 dB	67.8 dB	64.8 dB	20 dB
4 MHz	4.5 dB/100m	65.3 dB	63.3 dB	55.8 dB	52.8 dB	23 dB
8 MHz	6.4 dB/100m	60.8 dB	58.8 dB	49.7 dB	46.7 dB	24.5 dB
10 MHz	7.1 dB/100m	59.3 dB	57.3 dB	47.8 dB	44.8 dB	25 dB
16 MHz	9.1 dB/100m	56.2 dB	54.2 dB	43.7 dB	40.7 dB	25 dB
20 MHz	10.2 dB/100m	54.8 dB	52.8 dB	41.8 dB	38.8 dB	25 dB
25 MHz	11.4 dB/100m	53.3 dB	51.3 dB	39.8 dB	36.8 dB	24.2 dB
31.25 MHz	12.8 dB/100m	51.9 dB	49.9 dB	37.9 dB	34.9 dB	23.3 dB
62.5 MHz	18.5 dB/100m	47.4 dB	45.4 dB	31.9 dB	28.9 dB	20.7 dB
100 MHz	23.8 dB/100m	44.3 dB	42.3 dB	27.8 dB	24.8 dB	19 dB
200 MHz	34.8 dB/100m	39.8 dB	37.8 dB	21.8 dB	18.8 dB	16.4 dB
250 MHz	39.4 dB/100m	38.3 dB	36.3 dB	19.8 dB	16.8 dB	15.6 dB

Table Notes: Limits below 4MHz are for information only.

Voltage

UL Voltage Rating	Voltage Rating [V]
300 V RMS (UL AWM Style 2095)	300 V RMS (UL AWM Style 2095)

Temperature Range

Operating Temperature Range:	-20°C To 75°C
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Mechanical Characteristics

Flex Cycle Rating:	≥ 2 million
Bulk Cable Weight:	42 kg/km
Max. Pull Tension:	110 N
Min. Bend Radius During Installation:	50.4 mm

Standards

ISO/IEC Compliance:	ISO/IEC 11801
Data Category:	Category 6
ANSI Compliance:	ANSI/TIA 568-D.2

Applicable Environmental and Other Programs

Environmental Space:	Indoor/Outdoor
EU Directive 2011/65/EU (RoHS 2):	Yes
EU Directive Compliance:	Yes

Suitability

Suitability - Indoor:	Yes
Suitability - Oil Resistance:	Yes
Suitability - Outdoor:	Yes
Suitability - Sunlight Resistance:	Yes

Flammability, LS0H, Toxicity Testing

IEC Flammability:	IEC 60332-1-2
UL voltage rating:	300 V RMS (UL AWM Style 2095)

Related Part Numbers

Variants

Item #	Color	Put-Up Type	Length
50106XU 010305M	Black	Reel	305 m
50106XU 006305M	Blue	Reel	305 m
50106XU 008305M	Gray	Reel	305 m

Footnote:	For more order number information, please approach your Belden sales representative freely
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History

Update and Revision:	Revision Number: 0.69 Revision Date: 11-27-2023
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