



Product: [7940T](#)

DataTuff® 6, 4 Bonded-Pr #23 Sol BC, PO Ins, LSZH Jkt, CMG-ST1, FT4



## Product Description

Industrial Ethernet Cat 6, 4 Bonded-Pair 23AWG (Solid) Bare Copper, PO Insulation, LSZH Outer Jacket, CMG-ST1, FT4, NFPA 130

## Technical Specifications

### Product Overview

Suitable Applications:	shipboard, transportation, harsh environment, IIoT, factory or process automation, IP cameras and devices, data communication, etc.
Patent:	This product has one or more applicable patents. More information on patents can be found at <a href="https://www.belden.com/patents">https://www.belden.com/patents</a> .

### Physical Characteristics (Overall)

#### Conductor

Element	AWG	Stranding	Material	No. of Pairs
Pair(s)	23	Solid	BC - Bare Copper	4

Conductor Count:	8
Total Number of Pairs:	4

#### Insulation

Element	Material	Nominal Diameter	Nominal Wall Thickness
Pair(s)	PO - Polyolefin	0.045 in	0.010 in

Bonded-Pair:	Yes
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#### Color Chart

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

#### Outer Jacket

Material	Material Trade Name	Nominal Diameter
LSZH - Low Smoke Zero Halogen (Flame Retardant)	Haloarrest®	0.328 in

### Electrical Characteristics

#### Conductor DCR

Max. Conductor DCR	Max. DCR Unbalance
25 Ohm/1000ft	5.0 %

#### Capacitance

Max. Capacitance Unbalance	Nom. Mutual Capacitance
330 pF/ft	15 pF/ft

#### Delay

Max. Delay	Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
537 ns/100m	45 ns/100m	72%

## High Frequency

Frequency [MHz]	Max. Insertion Loss (Attenuation)	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. ACR [dB]	Min. PSACR [dB]	Min. ACRF (ELFEXT) [dB]	Min. PSACRF (PSELFEXT) [dB]	Min. RL (Return Loss) [dB]	Max./Min. Input Impedance (unFitted)
1 MHz	2 dB/100m	74.3 dB	72.3 dB	72.3 dB	70.3 dB	67.8 dB	64.8 dB	21 dB	100 ± 15 Ohm
4 MHz	3.8 dB/100m	65.3 dB	63.3 dB	61.5 dB	59.5 dB	55.8 dB	52.7 dB	24 dB	100 ± 15 Ohm
8 MHz	5.3 dB/100m	60.8 dB	58.8 dB	55.4 dB	53.4 dB	49.7 dB	46.7 dB	25.5 dB	100 ± 15 Ohm
10 MHz	6 dB/100m	59.3 dB	57.3 dB	53.3 dB	51.3 dB	47.8 dB	44.8 dB	26 dB	100 ± 15 Ohm
16 MHz	7.6 dB/100m	56.2 dB	54.3 dB	48.7 dB	46.7 dB	43.7 dB	40.7 dB	26 dB	100 ± 15 Ohm
20 MHz	8.5 dB/100m	54.8 dB	52.8 dB	46.3 dB	44.3 dB	41.8 dB	38.8 dB	26 dB	100 ± 15 Ohm
25 MHz	9.5 dB/100m	53.3 dB	51.3 dB	43.8 dB	41.8 dB	39.8 dB	36.8 dB	25.3 dB	100 ± 15 Ohm
31.25 MHz	10.7 dB/100m	51.9 dB	49.9 dB	41.2 dB	39.2 dB	37.9 dB	34.9 dB	24.6 dB	100 ± 15 Ohm
62.5 MHz	15.4 dB/100m	47.4 dB	45.4 dB	32 dB	30 dB	31.9 dB	28.9 dB	22.5 dB	100 ± 15 Ohm
100 MHz	19.8 dB/100m	44.3 dB	42.3 dB	24.5 dB	22.5 dB	27.8 dB	24.8 dB	21.1 dB	100 ± 15 Ohm
155 MHz	25.2 dB/100m	41.5 dB	39.5 dB	16.3 dB	14.3 dB	23.9 dB	20.9 dB	19.8 dB	100 ± 22 Ohm
200 MHz	29 dB/100m	39.8 dB	37.8 dB	10.8 dB	8.8 dB	21.8 dB	18.8 dB	19 dB	100 ± 22 Ohm
250 MHz	32.8 dB/100m	38.3 dB	36.3 dB	5.5 dB	3.5 dB	19.8 dB	16.8 dB	18.3 dB	100 ± 32 Ohm

## Voltage

<b>UL Voltage Rating</b>
300 V RMS

## Temperature Range

Installation Temp Rating:	-30°C To +60°C
Installation Temperature Range:	-20°C To +75°C
UL Temp Rating:	60°C
Storage Temperature Range:	-30°C To +60°C
Operating Temperature Range:	-30°C To +60°C

## Mechanical Characteristics

UV Resistance:	Yes
Bulk Cable Weight:	47 lbs/1000ft
Max. Pull Tension:	50 lbs
Min. Bend Radius (Continuous Flexing):	3.3 in

## Standards

NEC Articles:	Article 800
NEC/(UL) Compliance:	CMG-ST1
ISO/IEC Compliance:	ISO/IEC 11801 Cat 6, 60754-1, 60754-2
CPR Euroclass:	Eca
Data Category:	Category 6
TIA/EIA Compliance:	ANSI/TIA-568.2-D Category 6
Other Standards:	NFPA 130

## Applicable Environmental and Other Programs

Environmental Space:	Indoor/Outdoor
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2003/11/EC (BFR):	Yes
EU Directive 2011/65/EU (RoHS 2):	Yes
EU Directive 2012/19/EU (WEEE):	Yes
EU Directive 2015/863/EU (RoHS 2 amendment):	Yes
EU Directive Compliance:	EU Directive 2003/11/EC (BFR)
EU CE Mark:	Yes

## Suitability

Suitability - Aerial:	Yes
Suitability - Indoor:	Yes
Suitability - Non-Halogenated:	Yes
Suitability - Outdoor:	Yes
Suitability - Sunlight Resistance:	Yes

## Flammability, LS0H, Toxicity Testing

CSA/C(UL) Flammability:	FT4
UL Flammability:	UL 1685 FT4 Loading
IEC Flammability:	IEC 60332-3-22
IEEE Flammability:	IEEE 1202
UL voltage rating:	300 V RMS

## Plenum/Non-Plenum

Plenum (Y/N):	No
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## Related Part Numbers

### Variants

Item #	Color	UPC
7940T 0105000	Black	612825191858

## Product Notes

Notes:	Jacket sequentially marked at 2 ft. intervals.
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## History

Update and Revision:	Revision Number: 0.463 Revision Date: 04-29-2024
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