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1-800-Belden1



### General Description:

CAT6 (250 MHz) 23 AWG Solid Bare Copper Conductors, Bonded Pair Polyolefin Insulation, Tape Separator, Ripcord, DATATUFF® PVC Jacket,

### Usage (Overall)

Suitable Applications: Premise Horizontal Cable, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155 ATM, 622 ATM, 250MHz Category 6

### Physical Characteristics (Overall)

#### Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
4	23	Solid	BC - Bare Copper

Total Number of Conductors: 8

#### Insulation

Insulation Material:

Insulation Material	Wall Thickness (mm)
PO - Polyolefin	0.254

#### Outer Shield

Outer Shield Material:

Outer Shield Material
Unshielded

#### Outer Jacket

Outer Jacket Material:

Outer Jacket Trade Name	Outer Jacket Material	Nom. Wall Thickness (mm)
Datatuff®	Industrial Grade PVC - Polyvinyl Chloride	0.762

Outer Jacket Diameter:

Nom. Dia. (mm)
6.350

Outer Jacket Ripcord: Yes

#### Overall Cable

Overall Cabling Separator Material: Foamed Polyolefin Tape.

Overall Nominal Diameter: 6.350 mm

#### Pair

Pair Color Code Chart:

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

### Mechanical Characteristics (Overall)

Storage Temperature Range: -40°C To +75°C

Installation Temperature Range: -20°C To +75°C

Operating Temperature Range: -40°C To +75°C

Bulk Cable Weight: 44.646 Kg/Km

Max. Recommended Pulling Tension: 177.928 N

Min. Bend Radius/Minor Axis: 63.500 mm

### Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMR, CMX-Outdoor
CEC/C(UL) Specification:	CMG
EU Directive 2011/65/EU (ROHS II):	Yes
EU CE Mark:	Yes
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	10/13/2005
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes
Telecommunications Standards:	Category 6 - TIA 568.C.2
Other Specification:	UL Verified to Category 6

Applicable Patents:

Country
www.belden.com/p

Flame Test

UL Flame Test:	UL1666 Vertical Riser
C(UL) Flame Test:	FT4
CSA Flame Test:	FT4
IEEE Flame Test:	1202

Suitability

Suitability - Indoor:	Yes
Suitability - Outdoor:	Yes
Suitability - Aerial:	Yes
Suitability - Burial:	No
Sunlight Resistance:	Yes
Oil Resistance:	Yes

Plenum/Non-Plenum

Plenum (Y/N):	No
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Surface Printing (Overall)

Surface Printing:	7940A (DATATUFF(R) BY BELDEN LOGO) VERIFIED (UL) CAT6 4PR23 E108998(-PLANT IDENTIFIER) CMR-CMX OUTDOOR OR C(UL)CMG-ISO/IEC 11801 CAT 6--US PAT. 5,734,126--OIL/SUN RES FT4 IEEE 1202 (2 FT, 6 DIGIT SEQUENTIAL NUMBER) FT
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Electrical Characteristics (Overall)

Nom. Mutual Capacitance:

Capacitance (pF/m)
49.215

Maximum Capacitance Unbalance (pF/100 m):	330
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Nominal Velocity of Propagation:

VP (%)
72

Maximum Delay:

Delay (ns/100 m)
537 @ 100MHz

Max. Delay Skew:

Delay Skew (ns/100 m)
45

Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)
8.2

Max. Operating Voltage - UL:

Voltage
300 V RMS

## METRIC MEASUREMENT VERSION

## 7940A Multi-Conductor - Industrial Cat 6 CMR

Maximum DCR Unbalanced:

<b>DCR Unbalance @ 20°C (%)</b>
5

### Electrical Characteristics-Premise (Overall)

Premise Cable Electrical Table 1:

Freq. (MHz)	Max. Attenuation (dB/100 m)	Min. NEXT (dB)	Min. PSNEXT (dB)	Min. ACR (dB)	Min. PSACR (dB)	Min RL (dB)	Min. SRL (dB)
1	2.000	74.3	72.3	72.3	70.3	21.000	na
4	3.800	65.3	63.3	61.5	59.5	24.000	na
8	5.300	60.8	58.8	55.4	53.4	25.500	na
10	6.000	59.3	57.3	53.3	51.3	26.000	na
16	7.600	56.2	54.3	48.7	46.7	26.000	na
20	8.500	54.8	52.8	46.3	44.3	26.000	na
25	9.500	53.3	51.3	43.8	41.8	25.300	na
31.25	10.700	51.9	49.9	41.2	39.2	24.600	na
62.5	15.400	47.4	45.4	32.0	30.0	22.500	na
100	19.800	44.3	42.3	24.5	22.5	21.100	na
155	25.200	41.5	39.5	16.3	14.3	19.800	na
200	29.000	39.8	37.8	10.8	8.8	19.000	na
250	32.800	38.3	36.3	5.5	3.5	18.300	na

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ELFEXT (dB)	Min. PSELFEXT (dB)
1	100 ± 15	100 ± 15	67.8	64.8
4	100 ± 15	100 ± 15	55.8	52.7
8	100 ± 15	100 ± 15	49.7	46.7
10	100 ± 15	100 ± 15	47.8	44.8
16	100 ± 15	100 ± 15	43.7	40.7
20	100 ± 15	100 ± 15	41.8	38.8
25	100 ± 15	100 ± 15	39.8	36.8
31.25	100 ± 15	100 ± 15	37.9	34.9
62.5	100 ± 15	100 ± 15	31.9	28.9
100	100 ± 15	100 ± 15	27.8	24.8
155	100 ± 22	100 ± 15	23.9	20.9
200	100 ± 22	100 ± 15	21.8	18.8
250	100 ± 32	100 ± 15	19.8	16.8

### Notes (Overall)

**Notes:** Jacket sequentially marked at 2 ft. intervals. Third party verified to ANSI/TIA-568-C.2, Category 6.

**Notes (Cont'd.):** T568A Plug Compatible Part Number: R301603 T568B Plug Compatible Part Number: R301604

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7940A 0061000	1,000 FT	32.000 LB	BLUE, LIGHT		4 PR #23 PO FRPVC
7940A 0081000	1,000 FT	32.000 LB	GRAY		4 PR #23 PO FRPVC
7940A 0101000	1,000 FT	32.000 LB	BLACK	C	4 PR #23 PO FRPVC
7940A 0102000	2,000 FT	64.000 LB	BLACK	C	4 PR #23 PO FRPVC
7940A 1NH1000	1,000 FT	32.000 LB	TEAL 1NH	C	4 PR #23 PO FRPVC

**Notes:**  
C = CRATE REEL PUT-UP.

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