

## 7931A Multi-Conductor - Category 6 DataTwist® Twisted Pair Cable



For more Information  
please call

1-800-Belden1



### General Description:

23 AWG Bonded-Pairs solid bare copper conductors, FEP insulation, sunlight- oil- and gas-resistant FEP jacket. Sequential marking at two foot intervals.

### Usage (Overall)

**Suitable Applications:**

Industrial Ethernet Cable, Harsh Environments, 350MHz Enhanced Category 6, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, RJ-45 Compatible, High and Low Temperature, Oil and Gasoline Exposure, Limited Combustible FHC 25/50

### 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
FEP - Fluorinated Ethylene Propylene

#### Outer Shield

**Outer Shield Material:**

Outer Shield Material
Unshielded

#### Outer Jacket

**Outer Jacket Material:**

Outer Jacket Material
FEP - Fluorinated Ethylene Propylene

#### Overall Cable

**Overall Cabling Fillers:** Rod Center Member

**Overall Nominal Diameter:** 5.436 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)

**Installation Temperature Range:** -55°C To +150°C

**Operating Temperature Range:** -70°C To +150°C

**Bulk Cable Weight:** 41.670 Kg/Km

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Max. Recommended Pulling Tension: 177.928 N

Min. Bend Radius/Minor Axis: 12.700 mm

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMP, FHC 25/50, UL444

NEC Articles: NFPA 259

CEC/C(UL) Specification: CMP

EU Directive 2011/65/EU (ROHS II): Yes

EU Directive 2000/53/EC (ELV): Yes

EU Directive 2002/95/EC (RoHS): Yes

EU RoHS Compliance Date (mm/dd/yyyy): 04/01/2005

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

Other Specification: UL verified to Category 6

#### Applicable Patents:

##### Country

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#### Flame Test

CSA Flame Test: FT6

#### Suitability

Oil Resistance: Yes

#### Plenum/Non-Plenum

Plenum (Y/N): Yes

### Electrical Characteristics (Overall)

#### Nom. Mutual Capacitance:

##### Capacitance (pF/m)

49.215

Maximum Capacitance Unbalance (pF/100 m): 330

#### 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)

9.38

#### Max. Operating Voltage - UL:

##### Voltage

300 V RMS

#### Maximum DCR Unbalanced:

##### DCR Unbalance @ 20°C (%)

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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	2.0	74.3	72.3	72.3	70.3	20.0	na
4	3.8	65.3	63.3	61.5	59.5	23.0	na
8	5.3	60.8	58.8	55.4	53.4	24.5	na
10	6.0	59.3	57.3	53.3	51.3	25.0	na
16	7.6	56.2	54.3	48.7	46.7	25.0	na
20	8.5	54.8	52.8	46.3	44.3	25.0	na
25	9.5	53.3	51.3	43.8	41.8	24.3	na
31.25	10.7	51.9	49.9	41.2	39.2	23.6	na
62.5	15.4	47.4	45.4	32.0	30.0	21.5	na
100	19.8	44.3	42.3	24.5	22.5	20.1	na
155	25.2	41.5	39.5	16.3	14.3	18.8	na
200	29.0	39.8	37.8	10.8	8.8	18.0	na
250	32.8	38.3	36.3	5.5	3.5	17.3	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	38.7
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	28.8
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	18.7
250	100 ± 32	100 ± 15	19.8	16.8

### Notes (Overall)

**Notes:** Operating temperatures subject to length de-rating.

**Notes (Cont'd.):** Cable passes -70C Cold Bend per UL 1581. T568A Plug Compatible Part Number: R301603 T568B Plug Compatible Part Number: R301604

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7931A 0101000	1,000 FT	37.000 LB	BLACK		4 PR #23 FEP FEP

Revision Number: 7    Revision Date: 07-19-2016

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