

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

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

METRIC MEASUREMENT VERSION

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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
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Suitability

Oil Resistance:	Yes
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Plenum/Non-Plenum

Plenum (Y/N):	Yes
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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)

9.38

Max. Operating Voltage - UL:

Voltage

300 V RMS

Maximum DCR Unbalanced:

DCR Unbalance @ 20°C (%)

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:

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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

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