

## 7921A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable



For more Information  
please call

1-800-Belden1



### General Description:

24 AWG Bonded-Pairs solid bare copper conductors, polyolefin insulation, overall Beldfoil® (100%coverage) plus tinned copper braid shield (70% coverage), drain wire, industrial grade sunlight- and oil-resistant PVC jacket. Seq. marking at 2 ft. intervals

### Usage (Overall)

Suitable Applications:

Industrial Ethernet, Harsh Environments, Category 5e, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, Noisy Environments, CMX - Outdoor, EtherNet/IP™

### Physical Characteristics (Overall)

#### Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
4	24	Solid	BC - Bare Copper

Total Number of Conductors:

8

#### Insulation

Insulation Material:

Insulation Material	Wall Thickness (mm)	Dia. (mm)
PO - Polyolefin	0.305	1.168

#### Outer Shield

Outer Shield Material:

Layer #	Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
1	Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100.000
2		Braid	TC - Tinned Copper	70.000

Outer Shield Drain Wire AWG:

AWG	Stranding	Drain Wire Conductor Material
26	Solid	TC - Tinned Copper

#### Outer Jacket

Outer Jacket Material:

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

#### Overall Cable

Overall Nominal Diameter:

8.382 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 +80°C
Installation Temperature Range:	-25°C To +75°C
Operating Temperature Range:	-40°C To +75°C
Bulk Cable Weight:	74.410 Kg/Km
Max. Recommended Pulling Tension:	333.615 N
Min. Bend Radius/Minor Axis:	33.528 mm

## 7921A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC(UL) Specification:	CMR, CMX-Outdoor
CEC/C(UL) Specification:	CMR
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):	01/01/2004
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 5e - TIA 568.C.2
Other Specification:	NEMA WC-63.1 Category 5e, EtherNet/IP™ Compliant

#### Applicable Patents:

Country
www.belden.com/p

#### Flame Test

UL Flame Test:	UL1666 Vertical Riser
CSA Flame Test:	FT4
IEEE Flame Test:	1202

#### Suitability

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

#### Plenum/Non-Plenum

Plenum (Y/N):	No
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### Electrical Characteristics (Overall)

#### Nom. Mutual Capacitance:

Capacitance (pF/m)
49.215

Maximum Capacitance Unbalance (pF/100 m):	150
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#### Nominal Velocity of Propagation:

VP (%)
70

#### Maximum Delay:

Delay (ns/100 m)
538 @ 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 (%)
3

### 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	65.3	62.3	63.0	60.0	20.0	20.0

## METRIC MEASUREMENT VERSION

### 7921A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable

4	4.1	56.3	53.3	51.0	49.0	23.6	23.6
8	5.8	51.8	48.8	46.0	43.0	25.4	25.4
10	6.5	50.3	47.3	43.0	41.0	26.0	26.0
16	8.2	47.3	44.3	39.0	36.0	26.0	26.0
20	9.3	45.8	42.8	36.5	33.5	26.0	26.0
25	10.4	44.3	41.3	33.9	30.9	25.5	25.5
31.25	11.7	42.9	39.9	31.0	28.0	25.0	25.0
62.5	17.0	38.4	35.4	22.0	19.0	23.5	23.5
100	22.0	35.3	32.3	14.0	11.0	22.5	22.5

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ELFEXT (dB)	Min. PSELFEXT (dB)
1	100 ± 15	95-110	63.8	60.8
4	100 ± 15	95-110	51.7	48.7
8	100 ± 15	95-107	45.7	42.7
10	100 ± 15	95-107	43.8	40.8
16	100 ± 15	95-107	39.7	36.7
20	100 ± 15	95-107	37.7	34.7
25	100 ± 15	95-107	35.8	32.8
31.25	100 ± 15	95-107	33.9	30.9
62.5	100 ± 15	95-107	27.8	24.8
100	100 ± 15	95-107	23.8	20.8

#### Notes (Overall)

**Notes:** US Patent #'s 5606151; 5734126. EtherNet/IP is a trademark of ControlNet International, Ltd. under license by Open DeviceNet Vendor Association, Inc. Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581.

#### Notes (Cont'd.):

T568A Plug Compatible Part Number: R301601 T568B Plug Compatible Part Number: R301602

#### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7921A 0021000	1,000 FT	54.000 LB	RED	C	4 PR #24 PP SH PVC
7921A 0061000	1,000 FT	21.000 LB	BLUE, LIGHT	C	4 PR #24 PP SH PVC
7921A 0101000	1,000 FT	54.000 LB	BLACK	C	4 PR #24 PP SH PVC
7921A 0102000	2,000 FT	106.000 LB	BLACK	C	4 PR #24 PP SH PVC
7921A 1NH1000	1,000 FT	54.000 LB	TEAL 1NH	C	4 PR #24 PP SH PVC

**Notes:**

C = CRATE REEL PUT-UP.

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