

# Detailed Specifications & Technical Data

**BELDEN**  
SENDING ALL THE RIGHT SIGNALS

ENGLISH MEASUREMENT VERSION

## 7928A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable



For more Information  
please call

1-800-Belden1



### Description:

24 AWG Bonded-Pair 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 5e, 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	Dia. (in.)
4	24	Solid	BC - Bare Copper	.020

#### Insulation

##### Insulation Material:

Insulation Material	Wall Thickness (in.)
FEP - Fluorinated Ethylene Propylene	.008

#### Outer Shield

##### Outer Shield Material:

Outer Shield Material
Unshielded

#### Outer Jacket

##### Outer Jacket Material:

Outer Jacket Material
FEP - Fluorinated Ethylene Propylene

### Overall Cabling

Overall Nominal Diameter: 0.187 in.

### 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: 25 lbs/1000 ft.

Max. Recommended Pulling Tension: 40 lbs.

Min. Bend Radius (Install)/Minor Axis: 0.250 in.

# Detailed Specifications & Technical Data



ENGLISH MEASUREMENT VERSION

## 7928A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMP, UL444, FHC 25/50
NEC Articles:	NFPA 259
CEC/C(UL) Specification:	CMP
Other Standards:	11801 Category 5
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
Telecommunications Standards:	568-B.2 Category 5e
Other Specification:	NEMA WC-63.1 Category 5e, UL verified to Category 5e, Ethernet/IP™ Compliant

#### Flame Test

UL Flame Test:	UL723 (NFPA 255), NFPA 262
CSA Flame Test:	FT6

#### Plenum/Non-Plenum

Plenum (Y/N):	Yes
---------------	-----

### Electrical Characteristics (Overall)

#### Nom. Mutual Capacitance:

Capacitance (pF/ft)
15

Maximum Capacitance Unbalance (pF/100 m):	66
---	----

#### Nominal Velocity of Propagation:

VP (%)
72

#### Maximum Delay:

Delay (ns/100 m)
510

#### Max. Delay Skew:

Delay Skew (ns/100 m)
25

#### Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)
9

#### 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:

# Detailed Specifications & Technical Data



ENGLISH MEASUREMENT VERSION

## 7928A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable

Freq. (MHz)	Max. Attenuation (dB/100 m)	Min. NEXT (dB)	Min. PSNEXT (dB)	Min. ACR (dB)	Min. PSACR (dB)	Min RL (dB)
1	2.0	65.3	65.3	63.3	63.3	20.0
4	4.0	56.3	56.3	52.3	52.3	23.6
8	5.7	51.8	51.8	46.1	46.1	25.4
10	6.4	50.3	50.3	43.9	43.9	26.0
16	8.1	47.3	47.3	39.1	39.1	26.0
20	9.2	45.8	45.8	35.2	35.2	26.0
25	10.3	44.3	44.3	34.1	34.1	25.5
31.25	11.6	42.9	42.9	31.3	31.3	25.0
62.5	16.8	38.4	38.4	21.6	21.6	23.5
100	21.7	35.3	35.3	17.1	17.1	22.5
155	27.7	32.5	32.5	4.7	4.7	19.0
200	32.0	30.8	30.8	3.0	3.0	19.0
250	36.4	29.3	29.3	>0	>0	18.0
300	40.5	28.2	28.2	>0	>0	18.0
310	41.3	27.9	27.9			18.0
350	44.3	27.2	27.2			17.0

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ELFEXT (dB)	Min. PSELFEXT (dB)
1	100 ± 12	95-110	63.8	60.8
4	100 ± 12	95-110	51.7	48.7
8	100 ± 12	95-107	45.7	42.7
10	100 ± 12	95-107	43.8	40.8
16	100 ± 12	95-107	39.7	36.7
20	100 ± 12	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
155	100 ± 18	100 ± 10	19.9	16.9
200	100 ± 20	100 ± 10	17.7	14.7
250	100 ± 20	100 ± 10	15.8	12.8
300	100 ± 20	100 ± 10	14.2	11.2
310	100 ± 20	100 ± 10	13.9	10.9
350	100 ± 22	100 ± 10	12.9	9.9

### Notes (Overall)

**Notes:** US Patent #'s 5, 606, 151; 5, 734, 126. 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 -70C Cold Bend per UL 1581.

### Related Documents:

No related documents are available for this product

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7928A 0101000	1,000 FT	24.000 LB	BLACK		4 PR #24 FEP FEP

Revision Number: 7    Revision Date: 05-14-2007

© 2011 Belden, Inc  
All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described herein are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "AS IS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

# Detailed Specifications & Technical Data



ENGLISH MEASUREMENT VERSION

## 7928A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable

Belden believes this product to be in compliance with EU RoHS (Directive 2002/95/EC, 27-Jan-2003). Material manufactured prior to the compliance date may be in stock at Belden facilities and in our Distributor's inventory. The information provided in this Product Disclosure, and the identification of materials listed as reportable or restricted within the Product Disclosure, is correct to the best of Belden's knowledge, information, and belief at the date of its publication. The information provided in this Product Disclosure is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. This Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.