



Part Number: 74011E

DataTuff® PROFINET Cat 6A Type B PVC

Product Description

DataTuff PROFINET Type B, Cat 6A, 10 Gb/s, AWG 23(7), Stranded, Foil+ 85% Braid, PVC Jacket, UL AWM 20726

Technical Specifications

Product Overview

Environmental Space:	Indoor - Euroclass Eca
Suitable Applications:	Profinet CAT6A, TCP/IP Ethernet

Physical Characteristics (Overall)

Conductor

Element	AWG	Stranding	Material	No. of Pairs
Individual shielded pair	23	Stranded	BC - Bare Copper	4

Conductor Count:	8
Total Number of Pairs:	4

Insulation

Element	Type	Material	Nominal Diameter
Individual shielded pair	Dielectric	FPE - Foamed Polyethylene	1.58 mm

Bonded-Pair:	No
--------------	----

Color Chart

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

Inner Shield Material

Element	Type	Material	Coverage [%]
Individual shielded pair	Tape	Aluminum / Polyester	100 %

InnerShield, Table Note:	Aluminum outside
--------------------------	------------------

Outer Shield Material

Type	Material	Min. Coverage [%]
Braid	TC - Tinned Copper	85 %

Outer Jacket Material

Material	Nominal Diameter	Diameter +/- Tolerance
PVC	8.7 mm	0.3 mm

Construction and Dimensions

Min Elongation at Breakof Conductors:	10 %
Min Elongation at Breakof Insulation:	100 %

Cabling

Description
4 pairs twisted to cable core

Min Elongation at Breakof Jacket:	100 %
-----------------------------------	-------

Electrical Characteristics

Conductor DCR

Max. Conductor DCR	Max DCR Unbalanced Between Pairs [%]	Max. DCR Unbalanced Within Pair [%]
71.9 Ohm/km	4 %	2 %

Capacitance

Max. Capacitance Unbalance	Max. Mutual Capacitance
1.6 pF/m	56 pF/m

Impedance

Nominal Characteristic Impedance
100 Ohm

High Frequency (Nominal/Typical)

Frequency [MHz]	Nom. Insertion Loss	Nom. NEXT [dB]	Nom. PSNEXT [dB]	Nom. ACR [dB]	Nom. PSACR [dB]	Nom. ACRF (ELFEXT) [dB]	Nom. PSACRF (PSELFEXT) [dB]
1 MHz	2.1 dB/100m	103 dB	100 dB	101 dB	98 dB	95 dB	92 dB
4 MHz	3.8 dB/100m	100 dB	97 dB	97 dB	94 dB	94 dB	91 dB
10 MHz	5.9 dB/100m	98 dB	95 dB	92 dB	89 dB	93 dB	92 dB
16 MHz	7.5 dB/100m	97 dB	94 dB	90 dB	87 dB	91 dB	88 dB
31.2 MHz	10.5 dB/100m	95 dB	92 dB	85 dB	82 dB	90 dB	87 dB
62.5 MHz	15 dB/100m	94 dB	91 dB	80 dB	77 dB	87 dB	84 dB
100 MHz	19.1 dB/100m	93 dB	90 dB	75 dB	72 dB	85 dB	82 dB
125 MHz	21.5 dB/100m	92 dB	89 dB	72 dB	69 dB	83 dB	80 dB
200 MHz	27.6 dB/100m	91 dB	88 dB	65 dB	64 dB	77 dB	74 dB
250 MHz	31.1 dB/100m	90 dB	87 dB	61 dB	58 dB	74 dB	71 dB
300 MHz	34.3 dB/100m	90 dB	87 dB	58 dB	55 dB	74 dB	71 dB
600 MHz	50.3 dB/100m	86 dB	86 dB	42 dB	39 dB	60 dB	57 dB

Delay

Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
25 ns/100m	78 %

High Freq

Min. NEXT [dB]	Min. ACR [dB]	Min. PSACR [dB]	Min. ACRF (ELFEXT) [dB]	Min. RL (Return Loss) [dB]	Min. ELTCTL [dB]
75.3 dB	73.2 dB	70.2 dB	68 dB	20 dB	35 dB
66.3 dB	62.5 dB	59.5 dB	56 dB	23 dB	23 dB
60.3 dB	54.4 dB	51.4 dB	48 dB	25 dB	15 dB
57.2 dB	49.8 dB	46.8 dB	43.9 dB	25 dB	10.9 dB
52.9 dB	42.4 dB	39.4 dB	38.1 dB	23.6 dB	5.1 dB
48.4 dB	33.4 dB	30.4 dB	32.1 dB	21.5 dB	
45.3 dB	26.6 dB	23.2 dB	28.0 dB	20.1 dB	
43.8 dB	22.3 dB	19.3 dB	26.1 dB	19.4 dB	
40.8 dB	13.2 dB	10.2 dB	22.0 dB	18 dB	
39.3 dB	8.3 dB	5.3 dB	20.0 dB	17.3 dB	
38.1 dB	3.9 dB	0.9 dB	18.5 dB	17.3 dB	
34.8 dB			14.0 dB	17.3 dB	

High Freq Table Note:	Limits below 4MHz are for information only
Coupling Attenuation Class:	Type I
Segregation class according EN50174-2:	d

Transfer Impedance

Description
Grade 1

Current

Max. Recommended Current [A]
1.5 A

Voltage

Voltage Rating [V]
30 V AC

Temperature Range

Storage Temp Range:	-40°C To +80°C
Operating Temp Range:	-40°C To +80°C

Mechanical Characteristics

Oil Resistance:	IEC 60811-404
Min Bend Radius During Installation:	90 mm
Min Bend Radius During Operation:	45 mm

Standards

ISO/IEC Compliance:	ISO/IEC 11801 Ed. 2.2:2002/A2:2010/C1:2011 and ISO/IEC 24702
CPR Euroclass:	Eca
CENELEC Compliance:	EN 50173-1 Ed. 3:2011
Data Category:	Category 6A

Applicable Environmental and Other Programs

EU RoHS Compliance Date (yyyy-mm-dd):	2017-04-12
---------------------------------------	------------

Flammability, LSOH, Toxicity Testing

ISO/IEC Flammability:	IEC 60332-1-2
Other Flammability:	UL Cable flame

Part Number

Variants

Item #	Color	Length
74011E.00500	Green	500 m
74011E.00100	Green	100 m
74011E.00B50	Green	50 m

Patent:	https://www.belden.com/resources/patents
---------	---

History

Update and Revision:	Revision Number: 0.56 Revision Date: 08-22-2019
----------------------	---

© 2019 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 here in 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 "ASIS" 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.

Belden believes this product to be in compliance with all applicable environmental programs as listed in the data sheet. The information provided is correct to the best of Belden's knowledge, information and belief at the date of its publication. This information 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. The 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.