Belden



Product: IOP6F

Category 6 Indoor/Outdoor Cable, 4 Pair, F/UTP, CMP/CMX, Gel Free

Product Description

Category 6 Premise Horizontal Cable, Indoor/Outdoor, 4 Pair, 23 AWG Solid Bare Copper Conductors, F/UTP - Foil Shielded, Plenum-CMP/CMX Outdoor, Gel Free

Technical Specifications

Product Overview

Suitable Applications:	Indoor/Outdoor, Premise Horizontal Cable, Ethernet 1000BASE-T, Ethernet 100BASE-TX, Ethernet 10BASE-T, Surveillance, PoE++, PoE+, PoE, Noisy Environments, Wet Locations following Product Notes
Patent:	This product has one or more applicable patents. More information on patents can be found at https://www.belden.com/patents.

Construction Details

Conductor

Size	Stranding	Material	No. of Pairs
23	Solid	BC - Bare Copper	4

Insulation

Material	Color Code
FEP - Fluorinated Ethylene Propylene	White & Blue, White & Orange, White & Green, White & Brown

Outer Shield

Shield Type	Material	Coverage	Drainwire Type
Tape	Bi-Laminate (Alum+Poly)	100%	26 AWG (7x34) TC

Outer Jacket

Separator	Material	Nom. Diameter	Ripcord
Center Member (Patented X-Spline®)	PVDF - Polyvinylidene Fluoride	0.27 in (6.9 mm)	Yes

Overall Cable Diameter (Nominal):	0.27 in (6.9 mm)

Electrical Characteristics

Electricals

Max. Conductor DCR	Max. Capacitance Unbalance
82 Ohm/km (25 Ohm/1000ft)	45 pF/100m

Delay

Frequency	Max. Delay	Max. Delay Skew	Nom. Velocity of Prop.
100 MHz	537.6 ns/100m	45 ns/100m	70%

High Frequency

Frequency [MHz]	Max. Insertion Loss (Attenuation) [dB/100m]	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. ACRF (ELFEXT) [dB]	Min. PSACRF (PSELFEXT) [dB]	Min. RL (Return Loss) [dB]	Max./Min. Input Impedance (unFitted) [Ohm]
1	2.0	74.3	72.3	67.8	64.8	20	100 ± 15
4	3.8	65.3	63.3	55.8	52.7	23	100 ± 15
8	5.3	60.8	58.8	49.7	46.7	24.5	100 ± 15
10	6	59.3	57.3	47.8	44.8	25	100 ± 15

16	7.6	56.2	54.3	43.7	40.7	25	100 ± 15
20	8.5	54.8	52.8	41.8	38.8	25	100 ± 15
25	9.5	53.3	51.3	39.8	36.8	24.3	100 ± 15
31.25	10.7	51.9	49.9	37.9	34.9	23.6	100 ± 15
62.5	15.4	47.4	45.4	31.9	28.9	21.5	100 ± 15
100	19.8	44.3	42.3	27.8	24.8	20.1	100 ± 20
155	25.2	41.5	39.5	23.9	20.9	18.8	100 ± 20
200	29.0	39.8	37.8	21.8	18.8	18	100 ± 20
250	32.8	38.3	36.3	19.8	16.8	17.3	100 ± 20

Voltage

UL Voltage Rating
300 V (CMP), 300 V (CL3P)

Mechanical Characteristics

Temperature

UL Temperature	Operating	Installation	Storage
150C	-40°C To +75°C	0°C To +60°C	-40°C To +75°C

Bend Radius

Installation Min.
2.7 in (69 mm)

Max. Pull Tension:	25 lbs (11 kg)
Bulk Cable Weight:	39 lbs/1000ft (58 kg/km)

Standards and Compliance

Environmental Suitability:	Indoor/Outdoor, Water Exposure/Below-Grade Conduit, Indoor, Outdoor, Sunlight Resistance
Flammability / Reaction to Fire:	NFPA 262, UL 910 (Plenum), FT6
NEC / UL Compliance:	Article 800, CMP
IEEE Compliance:	IEEE 802.3bt Type 1, Type 2, Type 3, Type 4
Data Category:	Category 6
TIA/EIA Compliance:	ANSI/TIA-568.2-D Category 6
ISO/IEC Compliance:	11801 ed 2.2 (2011) Class EA
CENELEC Compliance:	Segregation class according EN50174-2 = a
European Directive Compliance:	REACH

Product Notes

Notes:	Electrical values are expected performance based on cable testing and representative performance within a typical Belden system. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0. Suitable for burial or use in outdoor wet locations. Not recommended for Direct Burial applications without additional crush and impact protection. Additional crush and impact protection would include cable armoring, installation in conduit or installation with over top barriers per Belden Technical Bulletin T/8-6. Cable jacket system is specially designed to protect cable core. Cable contains no water-blocking tapes, gels, or powders. Install in accordance with all applicable electrical codes. Maintain jacket integrity throughout installation process. Do not allow water or fluids to penetrate jacket sheath or to enter ends of cable. Ensure ends of cable will be protected from water/fluids after installation.

History

Update and Revision:	Revision Number: 0.61 Revision Date: 09-07-2025

Part Numbers

Variants

Item #	Color	Putup Type	Length
IOP6F 0101000	Black	Reel	1,000 ft

© 2025 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.