Technical Data Sheet
Industrial Category 6 FAL LSZH Cable

Belden P/N 50106FAL
Industrial Category 6 FAL LSZH Cable



Applications

Industrial Ethernet cables are used for interconnecting Industrial Ethernet Switches, IP controllers, media convertors, distributed control system, programmable logic controller and transmitting industrial protocol data signals. These cables are suitable for transmitting 1000BASE-TX Gigabit Ethernet, 100BASE-T Ethernet, 100BaseVG ANYLAN, 155ATM, 622ATM, RS-422, 250MHz Category 6, EtherCAT. These are highly durable & ruggedized cables for both indoor and outdoor use meeting IEC 60332-3-24 and IEC 60754-1 & 2

General Reference Standards

- IEC/ISO 11801, IEC 61156-5 & TIA-568 -C.2
- IEC 60332-3-24, 60754-1, 60754-2, 61034-2
- EU RoHS

Physical Characteristics	
Conductor Size	23 AWG
Conductor Material	Solid Bare Copper
Insulation Material	PO - Polyolefin
Number of Pairs	4 Pairs
Overall cabling filler	Central Spline
Shield	Aluminium Foil -Polyester Tape
Shield Drain Wire	Solid Tinned Copper
Armor	Aluminium Tape Armor (ATA)
Outer jacket Ripcord	Yes
Outer Jacket	LSZH - Low Smoke Zero Halogen
Nom. Diameter	9.5 mm
Suitability	Indoor and Outdoor
UV Resistance	Yes
Oil Resistance	Yes
Flame Retardant	IEC 60332-3-24
Other Specifications	ISO/IEC 11801 Cat 6 IEC 61156-5 Cat 6 TIA/EIA 568-C.2 Cat 6

Electrical Characteristics	
Max. Conductor DCR @ 20°C	9.38 Ω/100m
DCR Unbalance @ 20°C	Max. 5%
Nom. Mutual Capacitance @ 1KHz	5.6 nF/100m
Max. Capacitance Unbalance	330 pF/100m
Characteristic Impedance	100 ± 15 Ω
Max. Delay @ 100MHz	538 ns/100m
Max. Delay Skew	45 ns/100m
Max. Operating Voltage	300V RMS
Mechanical Characteristics	
Operating Temperature Range	-20°C To +75°C
Bulk Cable Weight	100 kg/km
Max. Recommended Pulling Tension	110 N
Min. Bending Radius (Install)	76 mm
Other Properties	
Halogen Content per IEC 60754-1	≤ 5 mg/g
Acid Gas Emission pH per IEC 60754-2	≥ 4.3
Acid Gas Emission Conductivity per IEC 60754-2	< 10 µs/mm
Smoke Density as per IEC 61034-2	≥ 60% Light Transmittance

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Electrical Characteristic - Premises:

Frequency (MHz)	Max. Attenuation (dB/100m)	Min. NEXT (dB)	Min. PSNEXT (dB)	Min. Return Loss (dB)	Min. ACRF (dB)	Min. PSACRF (dB)
1	2.0	74.3	72.3	20.0	67.8	64.8
4	3.8	65.3	63.3	23.0	55.8	52.8
8	5.3	60.8	58.8	24.5	49.7	46.7
10	6.0	59.3	57.3	25.0	47.8	44.8
16	7.6	56.2	54.2	25.0	43.7	40.7
20	8.5	54.8	52.8	25.0	41.8	38.8
25	9.5	53.3	51.3	24.3	39.8	36.8
31.25	10.7	51.9	49.9	23.6	37.9	34.9
62.5	15.4	47.4	45.4	21.5	31.9	28.9
100	19.8	44.3	42.3	20.1	27.8	24.8
155	25.2	41.4	39.4	18.8	24.0	21.0
200	29.0	39.8	37.8	18.0	21.8	18.8
250	32.8	38.3	36.3	17.3	19.8	16.8

Put Ups & Colours:

Stock Code	Cable Description	Put Up (MT)	Jacket Colour	Ship Weight (kg/reel)
50106FAL 006305M	4P X 23 AWG PO LSZH FAL CAT6	305	BLU	30.5
50106FAL 008305M	4P X 23 AWG PO LSZH FAL CAT6	305	GRY	30.5
50106FAL 010305M	4P X 23 AWG PO LSZH FAL CAT6	305	BLK	30.5



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