BELDEN
SENDING ALL THE RIGHT SIGNALS

Technical Data Sheet

1868ENH

Networking Cables
Datatwist® cable
CAT 5E F/UTP LSNH PATCH
2011-09-08 v9

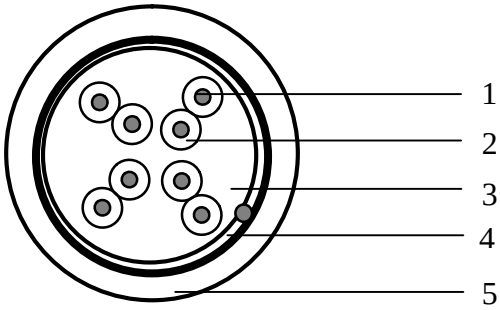
Applications

- Work area patch cable
- Support current and future Category 5e applications, such as:
  1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI, ATM

General standards

- International standard: ISO/IEC 11801 2nd edition (2002) and ISO/IEC 11801 Amendment 2 (2010)
- European standard: EN 50173-1 (2002) and EN 50173-1 Amendment 1 (2009)
- U.S. Standards: ANSI/TIA/EIA 568-B.2-1 (2002)

Construction & Dimensions



1. Conductor

Material	Stranded bare copper ETP
Diameter	AWG 26 (7x AWG 34)

2. Insulation

Material	Polyethylene
Nominal diameter over insulation	0.95 mm

3. Cable core

Pair	2 twisted insulated conductors
Number of pairs	4, all twisted together
Colour code pair 1	Black / Blue & Blue
Colour code pair 2	Black / Orange & Orange
Colour code pair 3	Black / Green & Green
Colour code pair 4	Black / Brown & Brown

4. Foil shielding

Material	Laminated Aluminium / Polyester
Position aluminium	Facing inside, in contact with drain wire
Drain wire material	Stranded tinned copper
Drain wire diameter	AWG 26 (7x AWG 34)

5. Jacket

Material	LSNH
Diameter	5.4 ± 0.3 mm

Electrical characteristics

Reference standard: ISO/IEC 61156-6 edition 3.0 (2010)

Low frequency and D.C. (at 20 °C)	Specification	Unit
D.C. resistance conductor	< 14.5	Ω/100m
Resistance unbalance: within a pair / between pairs	< 2 / < 4	%
Insulation resistance	≥ 5000	MΩ.km
Dielectric strength conductor-conductor and conductor-screen (2 sec.)	2.5	kV DC
Mutual capacitance	< 56	nF/km
Capacitance unbalance pair to ground	< 1600	pF/km
Nominal velocity of propagation (for information only)	> 0.6	c
Delay skew (differential delay)	≤ 40	ns/100m
Transfer impedance according IEC 61156-5	Grade 2	
Coupling attenuation according IEC 61156-5	Type II	

High frequency (at 20°), reference standard: ISO/IEC61156-5									
TYPE	**1***	**4**	**10**	**16**	**20**	**31.25**	**62.5**	**100**	**MHz**
Attenuation	3.2	6.0	9.5	12.1	13.5	17.1	24.8	32.0	dB/100m
NEXT	65.3	56.3	50.3	47.2	45.8	42.9	38.4	35.3	dB/100m
PS NEXT	62.3	53.3	47.3	44.2	42.8	39.9	35.4	32.3	dB/100m
ACR	62.1	50.3	40.8	35.2	32.2	25.8	13.6	3.3	dB/100m
PS ACR	59.1	47.3	37.8	32.2	29.2	22.8	10.6	0.3	dB/100m
ACR-F	64.0	52.0	44.0	39.9	38.0	34.1	28.1	24.0	dB/100m
PS ACR-F	61.0	49.0	41.0	36.9	35.0	31.5	25.1	21.0	dB/100m
Return Loss	20.0	23.0	25.0	25.0	25.0	23.3	20.7	19.0	dB/100m
TCL level 1	40.0	34.0	30.0	28.0	27.0	25.1	22.0	20.0	dB/100m
EL TCTL	35.0	23.0	15.0	10.9	9.0	5.5			dB/100m
Impedance upper limit	122.2	115.2	111.9	111.9	111.9	114.6	120.2	125.3	Ω
Impedance lower limit	81.8	86.8	89.4	89.4	89.4	87.2	83.2	79.8	Ω
Propagation delay	570	552	545	543	540	539	538	537	ns/100m

NOTE: Limits below 4MHz are for information only

Mechanical characteristics

	Specification	Unit
Elongation at break of the conductors	8	%
Minimum elongation at break of the insulation	≥ 100	%
Minimum elongation at break of the sheath	≥ 100	%
Tensile strength of sheath	> 9	MPa

Environmental and overall characteristics

	Specification	Unit
Maximum operating voltage (for all temperatures cable is intended to be used)	72	V D.C.
Maximum continuous current per conductor (@25°C)	1.5	A
Temperature rating installation	0 / 50	°C
Temperature rating operation	- 30 / 60	°C
Total cable weight	31	kg/km
Minimum bending radius (during operation and installation)	21 / 42	mm
Maximum pulling strength	72	N
Burning load	395	kJ/m
Smoke density acc. to IEC 61034-1/2 & EN50268-1/2; transmittance	> 60	%
Amount of halogen acid gas acc. to IEC 60754-1/2 & EN50267-1/2; pH	> 4.3	
Amount of halogen acid gas acc. to IEC 60754-1/2 & EN50267-1/2; Conductivity	< 10	µS/mm
Fire performance according IEC 60332-1	Pass	

Belden declares this product to be in compliance with the environmental regulations EU RoHS (Directive 2002/95/EC, 27 January 2003); this is valid for all material produced after the RoHS compliant date for this product.