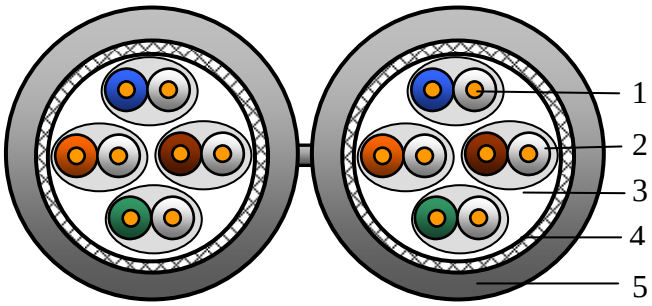
BELDEN
SENDING ALL THE RIGHT SIGNALS

Technical Data Sheet

1887ENH

Networking Cables
Datatwist® cable
2= CAT 7 S/FTP LSNH
2014-03-12 v9



Applications

- Horizontal and building backbone cable
- Support current and future Category 6a and 7 applications, such as:
  10GBase-T (10 Gigabit Ethernet), 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)

Construction & Dimensions

1.	**Conductor**	
	Material	Solid bare copper ETP
	Diameter	AWG 23
2.	**Insulation**	
	Material	Foamed polyethylene
	Nominal diameter over insulation	1.45 mm
3.	**Cable core**	
	Pair	2 twisted insulated conductors with overall foil
	Foil	Laminated aluminium-polyester Aluminium facing outside
	Number of shielded pairs	4, all twisted together
	Colour code pair 1	White / Blue
	Colour code pair 2	White / Orange
	Colour code pair 3	White / Green
	Colour code pair 4	White / Brown
4.	**Braid**	
	Material	Solid tinned copper
	Coverage	≥ 30%
5.	**Jacket**	
	Material	LSNH
	Diameter	7.0 ± 0.3 mm x 15.6 ± 0.5 mm
	Ripcord	Nylon ripcord under jacket

©Copyright 2008, Belden Wire & Cable B.V. Netherlands • Tel. +31-(0)77-3878-555 • Fax +31-(0)77-3878-488 • E-mail: venlo.salesinfo@belden.com
All rights are reserved. Reproduction in whole or in part is prohibited without the written consent of the copyright owner.
All printing errors are subject to correction. Technical specifications are subject to change without notice.

BELDEN
SENDING ALL THE RIGHT SIGNALS

Electrical characteristics

Reference standard: ISO/IEC 61156-5 edition 2.0 (2009)

Low frequency and D.C. (at 20°C)	Specification	Unit
D.C. resistance conductor	< 9,5	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)	0.78	c
Delay skew (differential delay)	≤ 25	ns/100m
Transfer impedance according IEC 61156-5	Grade 2	
Coupling attenuation according IEC 61156-5	Type II	

High frequency (at 20°)														
TYPE	1*	4	10	16	31.2	62.5	100	125	200	250	300	600	1000	MHz
Attenuation	2.0	3.7	5.9	7.4	10.4	14.9	19.0	21.4	27.5	31.0	34.2	50.1	66.9	dB/100m
NEXT	78.0	78.0	78.0	78.0	78.0	75.5	72.4	70.9	67.9	66.4	65.2	60.7	57.4	dB/100m
PS NEXT	75.0	75.0	75.0	75.0	75.0	72.5	69.4	67.9	64.9	63.4	62.2	57.7	54.4	dB/100m
ACR	76.0	74.3	72.1	70.6	67.6	60.6	53.4	49.6	40.4	35.5	31.1	10.6		dB/100m
PS ACR	73.0	71.3	69.1	67.6	64.6	57.6	50.4	46.6	37.4	32.5	28.1	7.6		dB/100m
ACR-F	78.0	78.0	75.3	71.2	65.4	59.4	55.3	53.4	49.3	47.3	45.8	39.7	35.3	dB/100m
PS ACR-F	75.0	75.0	72.3	68.2	62.4	56.4	52.3	50.4	46.3	44.3	42.8	36.7	32.3	dB/100m
Return Loss	20.0	23.0	25.0	25.0	23.6	21.5	20.1	19.4	18.0	17.3	17.3	17.3	15.1	dB/100m
TCL level 1	40.0	34.0	30.0	28.0	25.1	22.0	20.0	19.0	17.0	16.0				dB/100m
EL TCTL	35.0	23.0	15.0	10.9	5.1									dB/100m
Impedance upper limit	122.2	115.2	111.9	111.9	114.1	118.3	121.9	123.9	128.8	131.5	131.6	131.6	142.8	Ω
Impedance lower limit	81.8	86.8	89.4	89.4	87.7	84.5	82.0	80.7	77.6	76.0	76.0	76.0	70.0	Ω
Propagation delay	570	552	545	543	540	539	538	537	536	536	536	535	535	ns/100m

NOTE: Limits below 4MHz are for information only. Values at 1000 MHz are for information only.

Typical performance

TYPE	1*	4	10	16	31.2	62.5	100	125	200	250	300	600	1000	MHz
Attenuation	1.8	3.4	5.5	6.9	9.7	13.9	17.7	19.9	25.6	28.8	31.8	46.6	62.2	dB/100m
NEXT	103	100	98	97	95	94	93	92	91	90	90	89	88	dB/100m
PS NEXT	100	97	95	94	92	91	90	89	88	87	87	86	85	dB/100m
ACR	101	97	92	90	85	80	75	72	65	61	58	42	26	dB/100m
PS ACR	98	94	89	87	82	77	72	69	64	58	55	39	23	dB/100m
ACR-F	95	94	93	91	90	87	85	83	77	74	74	60	50	dB/100m
PS ACR-F	92	91	92	88	87	84	82	80	74	71	71	57	47	dB/100m
Return Loss	27	30	32	32	35	33	32	31	30	25	25	23	21	dB/100m

©Copyright 2008, Belden Wire & Cable B.V. Netherlands • Tel. +31-(0)77-3878-555 • Fax +31-(0)77-3878-488 • E-mail: venlo.salesinfo@belden.com
All rights are reserved. Reproduction in whole or in part is prohibited without the written consent of the copyright owner.
All printing errors are subject to correction. Technical specifications are subject to change without notice.

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	109	kg/km
Minimum bending radius (during operation and installation)	29 / 58	mm
Maximum pulling strength	170	N
Burning load	1000	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.

©Copyright 2008, Belden Wire & Cable B.V. Netherlands • Tel. +31-(0)77-3878-555 • Fax +31-(0)77-3878-488 • E-mail: venlo.salesinfo@belden.com
All rights are reserved. Reproduction in whole or in part is prohibited without the written consent of the copyright owner.
All printing errors are subject to correction. Technical specifications are subject to change without notice.