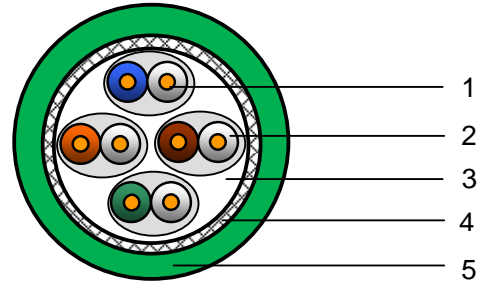


## 74011E

**Networking Cables**  
**Datatwist® cable FOR PROFINET**  
**TYPE B**  
**CAT 6A S/FTP**  
2017-05-11 v1



### Applications

- Horizontal and building backbone cable
- Support current and future Category 6A, 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)
- AWM 20276

### Construction & Dimensions

<b>1. Conductor</b>	
Material	Stranded bare copper
Diameter	AWG 23/7
<b>2. Insulation</b>	
Material	Foamed polyethylene
Nominal diameter over insulation	1.58 mm
<b>3. Cable core</b>	
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
<b>4. Braid</b>	
Material	Solid tinned copper
Coverage	≥ 85%
<b>5. Jacket</b>	
Material	PVC
Diameter	8.7 ± 0.3 mm
Colour	Green (similar RAL6018)
UL	PVC AWM 20276

## 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	< 7.19	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)	0.73	c
Delay skew (differential delay)	≤ 25	ns/100m
Transfer impedance according IEC 61156-5	Grade 1	
Coupling attenuation according IEC 61156-5	Type I	

High frequency (at 20°)													
TYPE	1*	4	10	16	31.2	62.5	100	125	200	250	300	500	MHz
Attenuation	2.1	3.8	5.9	7.5	10.5	15.0	19.1	21.5	27.6	31.1	34.3	45.3	dB/100m
NEXT min. (typ.)	75.3 (105)	66.3 (102)	60.3 (99)	57.2 (96)	52.9 (93)	48.4 (90)	45.3 (87)	43.8 (84)	40.8 (81)	39.3 (78)	38.1 (75)	34.8 (72)	dB/100m
PS NEXT min. (typ.)	72.3 (102)	63.3 (99)	57.3 (96)	54.2 (93)	49.9 (90)	45.4 (87)	42.3 (84)	40.8 (81)	37.8 (78)	36.3 (75)	35.1 (72)	31.8 (69)	dB/100m
ACR	73.2	62.5	54.4	49.8	42.4	33.4	26.2	22.3	13.2	8.3	3.9		dB/100m
PS ACR	70.2	59.5	51.4	46.8	39.4	30.4	23.2	19.3	10.2	5.3	0.9		dB/100m
ACR-F	68.0	56.0	48.0	43.9	38.1	32.1	28.0	26.1	22.0	20.0	18.5	14.0	dB/100m
PS ACR-F	65.0	53.0	45.0	40.9	35.1	29.1	25.0	23.1	19.0	17.0	15.5	11.0	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	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	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	Ω
Propagation delay	570	552	545	543	540	539	538	537	536	536	536	536	ns/100m

NOTE: Limits below 4MHz are for information only.

## Environmental and overall characteristics

	Specification	Unit
Maximum operating voltage (for all temperatures cable is intended to be used)	72	V D.C.
Maximum operating voltage UL AWM 20276	30	V ac
Maximum continuous current per conductor (@25°C)	1.5	A
Temperature rating installation	0 / 60	°C
Temperature rating operation	- 40 / 80	°C
Minimum bending radius (during operation and installation)	45 / 90	mm
Oil resistance to IEC 60811:404	Pass	
Fire performance according IEC 60332-1-2	Pass	
Fire performance according AWM 20276 Cable flame test	Pass	



Belden declares this product to be in compliance with the environmental regulations EU RoHS (Directive 2011/65/EU, 02 Jan. 2013); this is valid for all material produced after the RoHS compliant date for this product.

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