

## 1868E

### Networking Cables Datatwist® cable CAT 5E F/UTP PVC

2011-04-27 v8

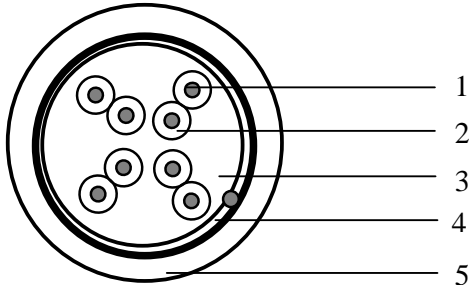
#### Applications

- Work area 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



- |                                  |   |
|----------------------------------|---|
| <b>1. Conductor</b>              |   |
| Material                         | Stranded bare copper ETP                  |
| Diameter                         | AWG 26 (7x AWG 34)                        |
| <b>2. Insulation</b>             |   |
| Material                         | Polyethylene                              |
| Nominal diameter over insulation | 0.95 mm                                   |
| <b>3. Cable core</b>             |   |
| 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                     |
| <b>4. Foil shielding</b>         |   |
| 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	PVC
Diameter	5.4 ± 0.3 mm
Colour	Grey (RAL 7032) and blue (RAL 5015)
Standard text: (+ length indication per meter):	

BELDEN 1868E F/UTP CAT5e 4PR AWG26 ISO/IEC 11801 EN50173 100 OHM

## 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
TCI 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

Low frequency and D.C. (at 20°C)	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

Low frequency and D.C. (at 20°C)	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	45	N
Burning load	395	kJ/m
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.