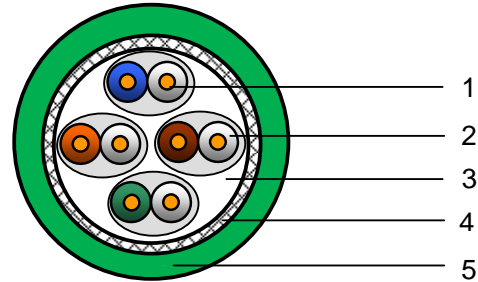


74010NH

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



Applications

- Horizontal and building backbone cable
- Support current and future Category 6a, 7 applications, such as:
10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI, ATM
- PROFINET4 Pairs.

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 20851

Construction & Dimensions

| | |
|----------------------------------|---|
| 1. Conductor | |
| Material | Solid bare copper ETP |
| Diameter | AWG 22 |
| 2. Insulation | |
| Material | Foamed polyethylene |
| Nominal diameter over insulation | 1.54 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 | ≥ 80% |
| 5. Jacket | |
| Material | LSZH |
| Diameter | 8.7 ± 0.3 mm |
| Colour | GREEN (similar RAL6018) |

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 | < 5.91 | 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 | 600 | | 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 | | 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 | | 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 | | 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 | | 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 | | 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 | 535 | | ns/100m |

NOTE: Limits below 4MHz are for information only

Environmental and overall characteristics

| | Specification | Unit |
|--|---------------|--------|
| Maximum operating voltage | 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 |
| Halogen content according to IEC 60754-1 | zero | |
| Corrosivity of fire gasses according to IEC 60754-2 | | |
| - Conductivity | < 100 | µS/cm |
| - pH value | > 4.3 | |
| Oil resistance to IEC 60811:404 | Pass | |
| Fire performance according IEC 60332-1-2 | Pass | |
| Fire performance according AWM 20851 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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