



Cat.6A S/FTP PE AWG23/1

LAN cable with 4 pairs, outdoor category 6A , with pair screen and braiding



Standards: ISO/IEC 11801, IEC 61156-5 EN 50173-1, EN 50288-10-1; EIA/TIA 568-D.2



Ambient installation T° C range
0 + 50 °C



Operating temp.
-20 + 60 °C



Storage temperature range
-20 + 70 °C



Flame retardant
IEC 60332-1



Smoke density

Application

Cat. 6A S/FTP PE Outdoor cables with 4 twisted pairs, 100 ohms very high speed, for horizontal floor or backbone distribution. This cables enable the use of protocols supported by Class EA for 10G Base-T applications. It is characterised up to 500 MHz 802.3 bt PoE++ up to type 4 applications compatible according to installation standards ISO/IEC 11801 and IEC60754-2;IEC61034;EN50399.It is suitable for the connection of sockets, patch fields and modules,also with IDC technology, for installation in buildings, in ducts and flush mounting. The outer jacket is OSP-grade black, polyethylene for superior sunlight and abrasion resistance. This shielded design is suitable for the following deployments:Duct, underground conduit or open trench.

Category 6A S/FTP PE Outdoor cables are specifically designed to deliver robust standards based performance ensuring optimum bandwidth for today’s high speed network applications. The cable is designed to support horizontal

networking applications over distances up to 100 meters. The cable is future-proof for all applications according to Class C, D, E and EA and suitable for the operation of PoE and PoE+ over a channel length of up to 100m. It is suitable for the following applications: Telephony, Ethernet, Fast Ethernet, Gigabit Ethernet and 10Gigabit Ethernet, 10BaseT, 100BaseT, 1000BaseT, 1GBase-T, 10GBaseT or up to 10,000 Mbit/s.

Temperature limit conditions:

- Ambient installation temperature, range: from 0°C to +50°C
- Operating temperature, range: from -20 °C to +60°C

Mechanical properties:

Minimum internal bending radius:
(D = cable outer diameter)

- No load 4xD
- during installation (under load): 8xD
- packaging: 305m in box, 500m on wooden reel

Flame resistance:

- the cable is self-extinguishing according to IEC 60332-1 / EN 60332-1
- LSHF version additionally:
 - halogen-free according to IEC 60754-2; IEC 60332-1
 - non-corrosive combustion gases according to IEC 60754-2
 - minimal smoke emission according to IEC 61034-2

Cable construction

| | |
|-------------------------------------|---------------------------------------|
| Conductor category class: | 1 = solid conductor |
| Conductor material | Pure copper |
| AWG size | 23/1 |
| Insulation material | Skin-Foam-Skin or Polyethylene (HDPE) |
| Nominal diameter through insulation | 1.28 mm |
| Twisting: | 2 cores in a pair |
| Pair screen | Aluminum Polyester Tape |
| Cable lay up: | 4 pairs to the core |
| Screen material | Tinned copper |
| Screen over stranding | Braiding |
| Sheath: | LDPE |
| Outer diameter: | 7.1-7.3 mm |
| Sheath color: | Black(RAL 9005) |

Conductor color marking:

- 1st suit: blue/white with blue line
- 2nd suit: orange/white with orange line
- 3rd suit: green/white with green line
- 4th suit: brown/white with brown line

Electrical characteristics at 20°C ± 5°C

| | |
|--------------------------------|----------------|
| Resistance unbalance , max. | % 2 |
| Loop resistance at 20°C , max. | (Ω/km) ≤ 154 |
| Test voltage (DC,1min) | v 1000 |
| Operating voltage, max. | v 125 |
| Capacitance unbalance | (pF/km) ≤ 1500 |
| Capacitance at 800 Hz | nF/km 43 |

Transmission characteristics

| | |
|---------------------------------|-----------------|
| Propagation delay (max. 100MHz) | (ns/100m) ≤ 427 |
| Delay skew | (ns/100m) ≤ 12 |
| Nominal velocity of propagation | approx. 79 % |

Technical data

| Cable type | Number of pairs (23AWG) | insulation diameter mm | Outer diameter mm | weight kg/km | Tensile force N |
|-------------------------|-------------------------|------------------------|-------------------|--------------|-----------------|
| Cat 6A S/FTP PE Outdoor | 4 | 1.28 | 7.1-7.3 | 52-54 | 100 |

Electrical performance

| f (MHz) | Attenuation (dB/100 m) | NEXT (dB) | PS-NEXT (dB) | ACR (dB/100m) | PS-ACR (dB/100m) | ELFEXT (dB/100m) | PS-ELFEXT (dB/100m) | Return loss (dB) |
|---------|------------------------|-----------|--------------|---------------|------------------|------------------|---------------------|------------------|
| 1 | 1.8 | 100 | 97 | 98 | 95 | 105 | 102 | - |
| 4 | 3.4 | 100 | 97 | 97 | 94 | 105 | 102 | 27 |
| 10 | 5.1 | 100 | 97 | 95 | 92 | 96 | 93 | 30 |
| 16 | 6.5 | 100 | 97 | 94 | 91 | 92 | 89 | 30 |
| 20 | 7.3 | 100 | 97 | 92 | 89 | 91 | 88 | 30 |
| 31.25 | 9.1 | 100 | 97 | 91 | 88 | 86 | 83 | 30 |
| 62.5 | 13.2 | 100 | 97 | 87 | 84 | 81 | 78 | 30 |
| 100 | 17.1 | 100 | 97 | 83 | 80 | 76 | 73 | 30 |
| 125 | 19.2 | 96 | 92 | 77 | 74 | 74 | 71 | 26 |
| 155.5 | 21.7 | 95 | 91 | 73 | 70 | 72 | 69 | 26 |
| 175 | 23.1 | 94 | 90 | 71 | 68 | 71 | 68 | 25 |
| 200 | 25.1 | 93 | 89 | 68 | 65 | 70 | 67 | 25 |
| 250 | 28.3 | 92 | 87 | 64 | 61 | 69 | 66 | 24 |
| 300 | 31.5 | 90 | 86 | 59 | 56 | 67 | 64 | 24 |
| 400 | 38.2 | 87 | 84 | 49 | 46 | 64 | 61 | 23 |
| 500 | 42.7 | 86 | 82 | 43 | 40 | 62 | 59 | 22 |



The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.