



Cat.7 S/FTP PE AWG23/1



LAN cable with 4 pairs, outdoor
category 7 , with shielded pairs
and overall braiding

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



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 7 S/FTP PE Outdoor no messenger wire cable is designed for high-speed Ethernet networks in outdoor environments, where excellent protection against weather, UV radiation, moisture, and electromagnetic interference (EMI) is required. It is used for: Outdoor LAN backbone connections between buildings, Industrial Ethernet and factory automation networks, IP surveillance (PoE, PoE+, PoE++), Wireless access points (Wi-Fi 6 / Wi-Fi 6E / Wi-Fi 7), Outdoor IP telephony and VoIP systems, Data centers and campus network interconnections, Smart city and intelligent transportation systems, Building automation (BMS), Renewable energy installations (solar farms, wind parks), Harsh industrial environments with high electromagnetic interference, Security and access control systems.

Installation Environments: Outdoor cable trays, Underground installation in protective conduits, Between buildings, Industrial facilities, Utility tunnels and ducts, Rooftop installations, Telecommunication cabinets, Outdoor equipment enclosures

Main Features:, Supports 10 Gigabit Ethernet over 100 m., Operating frequency up to 600 MHz (Category 7 / Class F). , S/FTP construction: each twisted pair individually foil-shielded, plus an overall braided shield for excellent EMI protection, PE (Polyethylene) outer jacket provides excellent resistance to UV radiation, moisture, abrasion, and weathering, making it suitable for long-term outdoor use, Compatible with PoE, PoE+, and PoE++ (IEEE 802.3bt) for powering network devices over the same cable, Suitable for high-speed transmission of data, voice, and video.

This cable is the preferred choice for outdoor high-performance Ethernet installations where long service life, environmental durability, and maximum immunity to electrical interference are essential.

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 PE
Nominal diameter through insulation	1.32 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:	7.6-7.8 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

Main characteristic impedance at 100 MHz	100±5 Ω
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

Technical data

Cable type	Number of pairs (23AWG)	insulation diameter mm	Outer diameter mm	weight kg/km	Tensile force N
Cat 7 S/FTP PE Outdoor no messenger wire	4	1.32	7.6-7.8	66-67	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	93	90	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	93	77	74	74	71	26
155.5	21.7	95	92	72	69	72	69	26
175	23.1	94	91	71	68	71	68	25
200	25.1	93	90	68	65	70	67	25
250	28.3	92	89	64	61	69	66	24
300	31.5	90	87	59	56	67	64	24
450	38.2	87	84	49	46	64	61	23
600	44.8	85	82	40	37	62	59	22



