

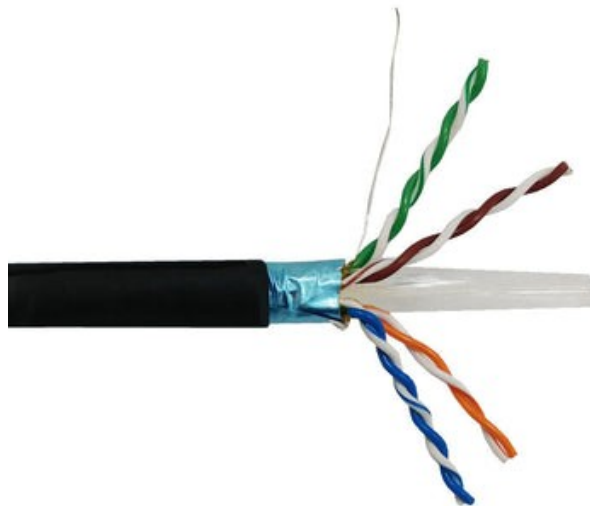


Cat.7 F/UTP PE AWG23/1

LAN cable with 4 pairs, outdoor
category 7 , with cable core screen



Standards: ISO/IEC 11801, IEC 61156-5
EN 50173-1, EN 50288-11-1; 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

A **CAT 7 F/UTP Outdoor (No Messenger Wire)** cable is designed for high-speed Ethernet installations in outdoor environments where the cable is not suspended between poles or buildings and therefore does not require a steel messenger wire. The PE outer jacket provides UV and weather resistance for outdoor use. It is used in: Outdoor LAN backbone connections between buildings (installed in conduit or underground duct), Industrial Ethernet networks, IP surveillance (PoE, PoE+, PoE++), Outdoor Wi-Fi access points, Building automation and smart building systems, Security and access control systems, Campus and factory network

infrastructure, Data transmission up to 10 Gigabit Ethernet (10GBASE-T) over distances up to 100 m, depending on the installation and standards.

Suitable for outdoor fixed installation Can be installed: in underground ducts or conduits, directly buried (only if specifically designed as direct-burial), on cable trays, attached to walls or building facades. Not suitable for aerial installation between poles or buildings without additional mechanical support, because it has no messenger wire. If an aerial span is required, use a cable with an integrated messenger wire or provide a separate supporting steel wire.

Key features: UV-resistant PE outer jacket, Moisture and weather resistant, Overall foil shield (F/UTP) for improved EMI protection, Supports PoE, PoE+, and PoE++, Suitable for Gigabit and 10 Gigabit Ethernet networks.

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: 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
Nominal diameter through insulation	1.32 mm
Twisting:	2 cores in a pair
Cable lay up:	4 pairs to the core
	PE cross separator (spline)
Screen over stranding	Aluminum Polyester Tape
Sheath:	LDPE
Outer diameter:	7.5-7.7 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) ≤ 178

Test voltage (DC,1min)

$v \geq 1000$

Operating voltage, max.

$v \geq 125$

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 propagation speed

approx. 76 %

Technical data

Cable type	Number of pairs (23AWG)	insulation diameter mm	Outer diameter mm	weight kg/km
Cat 7 F/UTP PE outdoor no messenger wire	4	1.32	7.5-7.7	58-62

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	2	100	97	98	95	105	102	-
4	3.6	100	97	97	94	105	102	27
10	5.6	100	97	95	92	97	94	30
20	7.9	100	97	92	89	91	88	30
30	9.7	100	97	90	87	87	84	30
100	18.0	100	97	83	80	77	74	30
150	22.4	94	91	72	69	73	70	26
200	26.0	92	89	67	64	71	68	25
250	29.4	90	87	62	59	69	66	24
300	32.5	89	86	58	55	67	64	24
400	38.0	88	85	52	49	65	62	23
500	43.0	86	83	46	43	63	60	22
600	47.6	85	82	40	37	61	58	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.