

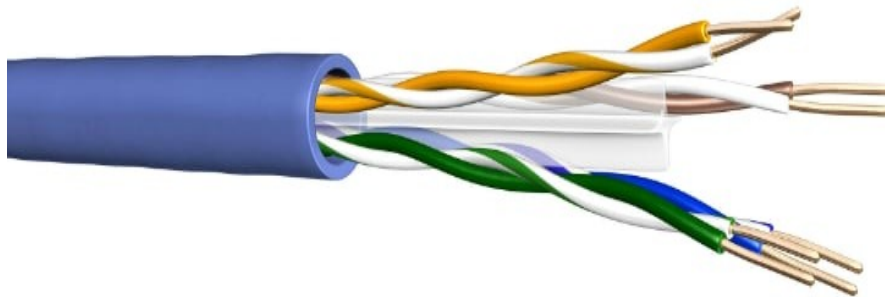


Cat.6 U/UTP AWG23/1

LAN cable with 4 pairs,
category 6, without screen



Standards: ISO/IEC 11801, IEC 61156-5
EN 50173-1, EN 50288-6-1; 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 6 U/UTP (Unshielded/Unshielded Twisted Pair) cable is designed for high-speed Ethernet networks in environments with low electromagnetic interference (EMI). It is mainly used for both residential and commercial structured cabling systems: Gigabit Ethernet (1000BASE-T), 2.5 Gigabit Ethernet (2.5GBASE-T), 5 Gigabit Ethernet (5GBASE-T), 10 Gigabit Ethernet (10GBASE-T) up to **55 m** (depending on installation conditions), Office Local Area Networks (LAN), Home and residential networking, Structured cabling systems, Internet and broadband distribution, VoIP (Voice over IP) telephony, IP surveillance (IP CCTV cameras), Wireless Access Points (Wi-Fi 5, Wi-Fi 6, Wi-Fi 6E), Network switches, routers, and patch panels, Printers, servers, and desktop computers, Smart building

and IoT devices, Audio and video over IP, Power over Ethernet (PoE), PoE+, and suitable installations for higher-power PoE according to cable design and installation practices

Also is widely used in: Office buildings, Homes and apartments, Schools and universities, Hospitals, Hotels, Retail stores and shopping centers, Data rooms and telecommunications closets, Industrial offices with low EMI levels.

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 60754-1
 - 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	Polyethylene (HDPE)
Nominal diameter through insulation	1.03 mm
Twisting:	2 cores in a pair
Cable lay up:	4 pairs to the core
	PE cross separator
(spline)	
Sheath:	PVC or LSZH
(LSHF,FRNC)	
Outer diameter:	6.0-6.4 mm
Sheath color:	Grey(RAL 7001); blue
(RAL 5012)	
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

Characteristic impedance at 100 MHz	(Ω) 100 ± 5
Resistance unbalance , max.	% 2
Loop resistance at 20°C , max.	(Ω/km) ≤ 178
Test voltage (DC,1min)	v 1000
Operating voltage, max.	v 125

Capacitance unbalance	(pF/km) ≤
1500	
Capacitance at 800 Hz	nF/km 48
Transmission characteristics	
Propagation delay (max. 100MHz)	(ns/100m) 535
Delay skew	(ns/100m) 20
Nominal propagation speed	ca. 66 %

Technical data

Cable type	Number of pairs (23AWG)	insulation diameter mm	Outer diameter mm	weight kg/km	Tensile force N
Cat 6 U/UTP PVC	4	1.03	6.0-6.4	40-42	100
Cat 6 U/UTP LSZH	4	1.03	6.0-6.2	39-41	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	2.1	76	73	74	71	81	79	22
4	3.8	67	64	63.2	60.2	69	67	25
10	6.1	61	58	54.9	51.9	62	60	27
16	7.7	60	57	52.3	47.3	58	56	27
20	8.5	57	54	48.5	45.5	56	54	27
31.25	10.8	54	51	43.2	41.1	52	50	26
62.5	15.6	49	46	33.4	31.8	45	43	24
100	19.8	46	43	26.2	24.3	42	40	23
125	22.2	45	42	22.8	20.8	40	38	22
155.5	25.1	44	41	18.9	16.4	38	36	21
175	26.9	43	40	16.1	13.1	37	35	21
200	28.9	43	40	14.1	10.5	35	33	20
250	33.8	42	39	8.2	5.5	33	31	19
300	36.2	41	38	4.8	0.9	32	30	18



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.