Cat.6 S/FTP AWG23/1

LAN cable with 4 pairs, category 6 ,with screen

Standards: ISO/IEC 11801, IEC 61156-5 EN 50173-1, EN 50288-6-1; EIA/TIA 568-B

Ambient installation T° C range	Operating temp.	Storage temperature	Flame retardant	Smoke density
0 + 50 °C	**-20 + 60 °C**	range **-20 + 70 °C**	**IEC 60332-1**	

Product description and Application

LAN installation cable 23 AWG for indoor use , copper wire insulated with Polyethylene. Two insulated conductors twisted together to form a pair and four such pairs covered by a Aluminum polyester tape, core unit overall braided with tinned copper wire, jacketed with flame retardant PVC/LSZH. Enhanced performance cable enables delivering high speed network.

Flame Rating: LSZH-IEC 60332-1; IEC 60754 1&2; IEC 61034-2 Specified and tested upto 250 MHz or higher if required. Excellent RFI/EMI interference attenuation to enable installation in high electrical noise locations. Compliant to ANSI/TIA 568-C.2 Cat6, ISO/IEC 11801 Class E.

Product Application: 10G BASE-T (IEEE 802.3) 1000 BASE-T (IEEE 802.3ab) 1000 BASE-TX Data center I/O consolidation Back Bone aggregation, Consolidation of network interconnects, Parrellel processing and High Speed Computing, Other Legacy LAN and application Video, BAS Meets IEEE802.3af & 802.3at PoE

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	copper
AWG size	23/1
Insulation material	Polyethylene (HDPE)
Nominal diameter through insulation	1.03 mm
Twisting:	2 conductors in a pair
Pair screen	Aluminum Polyester Tape
Cable lay up:	4 pairs to the core
Screen material	Copper, tinned wire
Screen over stranding	Braiding
Sheath:	Halogen free polymer LSZH (LSHF,FRNC)
Outer diameter:	7.0-7.4 mm
Sheath color:	blue (RAL 5012), orange (RAL 2003)

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) ≤ 156
Test voltage (DC,1min)	v 1000
Operating voltage, max.	v 125
Capacitance unbalance	(pF/km) ≤ 1500
Capacitance at 800 Hz	nF/km 45

Transmission characteristics

Propagation delay (max. 100MHz)	(ns/100m) ≤ 429
Delay skew	(ns/100m) ≤ 12
Nominal propagation speed	ca. 79 %

Technical data

Cable type	Number of pairs (23 AWG)	insulation diameter mm	Outer diameter mm	weight kg/km
Cat 6 S/FTP LSZH	4	1.03	7.0-7.4	53-55

Electrical performance

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	PS-NEXT (dB)	ACR (dB/100 m)	PS-ACR (dB/100m)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)	Return loss (dB)
1	1.8	100	97	98	95	105	102	-
4	3.3	100	97	97	94	105	102	27
10	5.2	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	9.3	100	97	91	88	86	83	30
62.5	13.3	100	97	87	84	81	78	30
100	17.1	100	97	82	79	76	73	30
125	19.3	95	92	76	73	74	71	26
155.5	21.7	93	90	71	68	72	69	25
175	23.2	93	90	70	67	71	68	25
200	25.1	92	89	67	64	70	67	24
250	28.3	90	87	62	59	69	66	23
300	31	89	86	58	55	67	64	23

ALEVADO ENERGY
NETWORK & DATA CABLES