LanMarin® Cat 7 Arctic Grade

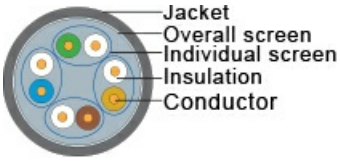
S/FTP
AWG 23
UV Resistant
SHF2
RMRS

Application

High performance LAN cable for extreme environments. Designed for ship- and offshore applications. Each pair individually shielded with Al-tape. IEEE 802.3at-2009 Type 2 (PoE+). This cable can be used in rough environments.

Construction

Conductor	0.28 [mm²] solid (or stranded) plain Cu, AWG23
Insulation	Foam PE
No. of pairs	4
Colour code	pair 1: blue - white pair 2: orange - white pair 3: green - white pair 4: brown - white
Individual Screen pairs	Al-/polyester tape
Overall Screen	Tinned Cu-braid ≥60 %
Outer Jacket	Grey SHF2
O.D.	8,0 (9,0) ± 0,4 [mm]
Weight	110 [kg/km]
Jacket marking	NEK Kabel – LanMarin® Cat7 S/FTP 4x2xAWG23 – Arctic Grade – RS – IEC 60332-3-22A – batch no – DD/MM/YY – ****M



Specifications

Operating temperature normal	-45 – +80 [°C]
Operating temperature max	-55 – +80 [°C]
Temperature @ installation	-25 – +70 [°C]
Characteristic impedance	100 ± 5 [Ω @ 100 MHz]
Conductor resistance	≤73,2 [Ω/km]
Resistance unbalance	≤5 [%]
Insulation resistance	≥5000 [MΩ x km] (IEC 61156-5)
Power over Ethernet	IEEE 802.3at-2009 Type 2 (PoE+)
Rated voltage	≥ 80 [V]
Tensile strength	120 [N]
Capacitance	65 [pF/m] at 800 - 1000 Hz
Capacitance unbalance	Pair to ground: ≤160 [pF/100m at 1kHz] (IEC 61156-5
Velocity factor	70 [%]
Mutual capacitance	48 [nF/km]
Min. bending radius	10 [x outer diam]

Norms

Halogenfree, max content corrosive and toxic gases	IEC 60754-1 & IEC 60754-2
Material properties, insulation and sheath	IEC 60092-360
Transmission performance	IEC 61156-5
Flame resistance	IEC 60332-3-22 Cat.A
Flame retardant	IEC 60332-1-2
Cold bend and impact	Cold bend CSA 22.2 @ -55ºC Cold impact CSA 22.2 @ -55ºC
Smoke emission	IEC 61034-2 ≤60%
Oil and fuel resistant	IEC 60811-3-1 IRM 902 100°C x 24h
UV-resistant	UL 1581 (300H)
Certification	RS

Part No.	Stranded: 1089613 Solid: 1097000

Attenuation

Freq. [MHz]	Att. std [dB]	Att.typ [dB]	RL std [dB]	RLtyp [dB]	NEXTst [dB]	NEXTtyp [dB]	PSNEXTstd [dB]	PSNEXT typ [dB]	ELFEXT std [dB]	ELFEXT typ [dB]
4	3,74	3,59	23,0	25,0	78,0	101,0	75,0	98,0	78,0	93,0
8	5,24	5,03	24,5	27,5	78,0	99,0	75,0	96,0	77,2	91,0
10	5,86	5,63	25,0	28,0	78,0	98,0	75,0	95,0	75,3	89,0
16	7,41	7,11	25,0	28,0	78,0	96,0	75,0	93,0	71,2	86,0
20	8,29	7,96	25,0	28,0	78,0	93,0	75,0	90,0	69,3	83,0
25	9,29	8,92	24,3	28,0	78,0	93,0	75,0	90,0	67,3	81,0
31,25	10,41	10,00	23,6	27,0	78,0	93,0	75,0	90,0	65,4	79,0
62,5	14,88	14,28	21,5	25,5	75,5	88,0	72,5	85,0	59,4	74,0
100	19,02	18,26	20,1	24,0	72,4	83,0	69,4	80,0	55,3	69,0
200	27,47	26,37	18,0	21,0	67,9	83,0	64,9	80,0	51,5	63,0
250	31,97	30,69	17,3	20,0	66,4	80,0	63,4	77,0	49,3	61,0
300	34,19	32,82	17,3	19,0	65,2	80,0	62,2	77,0	45,8	55,0
500	45,26	43,45	17,3	19,0	61,9	75,0	58,9	72,0	41,3	50,0
600	50,10	48,10	17,3	19,0	60,7	75,0	57,7	72,0	39,7	48,0

Updated

Date	Rev.	Description
10.12.2020	1	Created
20.01.2022	2	Temperature
03.10.2023	3	Power over Ethernet