

LanMarin® Cat 7 Solid

S/FTP
AWG 23/1, solid
UV, SHF1
DNV

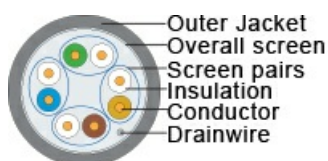
Application

High performance offshore LAN cable with solid conductors, AWG 23/1. Compliant with the category 7 standards, requiring bandwidths up to 600 MHz. Foil screened pairs with an overall tinned copper braid. Tested for high-frequency and transmission measurements for class F-link. RMRS on special request. Ethernet IEEE 802.3at-2009 Type 4 (PoE++). This cable can be used in rough environments.



Construction

Conductor	Solid Bare Cu 0.56 [mm] AWG 23/1
Insulation	Foam PE 1.34 ± 0.05 [mm]
No. of pairs	4
Colour code	pair 1: blue - white/blue pair 2: orange - white/orange pair 3: green - white/green pair 4: brown - white/brown
Individual Screen pairs	Al/Mylar tape
Drain wire	0.4mm solid Annealed Tinned Copper
Overall Screen	Tinned Cu-braid ≥ 60%
Jacket	Grey SHF1 LSZH , can also be produced with black jacket
O.D.	8.0 ± 0.3 [mm]
Weight	60 [kg/km]
Jacket marking	NEK Kabel LanMarin CAT7 S/FTP 4x2xAWG23/1 – SHF1 – IEC60332-3-22 – DNV – Batch no– DD/MM/YY – ****m



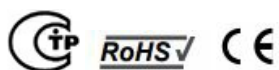
Specifications

Operating temperature normal	-40 – +80 [°C]
Temperature @ installation	-20 – +60 [°C]
Dielectric strength	DC 1kV for 1min.
Characteristic impedance	100 ± 5 [Ω @ 100 MHz]
Conductor DC resistance	≤ 93.8 [Ω/km]
Tensile strength	> 100 [N]
Resistance DC unbalance	≤ 5 [%]
Insulation resistance	≥ 5000 [MΩ x km] (IEC 61156-5)
Power over Ethernet	IEEE 802.3at-2009 Type 4 (PoE++)
Rated voltage	≤ 80 [V]
Capacitance unbalance	≤ 160 [pF/100m] @ 1kHz (IEC 61156-5)
Velocity factor	70 [%]
Mutual capacitance	48 [nF/km]
Min. bending radius installed	5 [x outer diam]
Min. bending radius @ installation	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
Design and testing standards	IEC 61156-5 EN 50288-4-2
Flame resistance	IEC 60332-3-22 Cat.A
Flame retardant	IEC 60332-1
Smoke emission	IEC 61034-2 , ≥ 60%
Oil and fuel resistant	IRM 902 4h @ 70°C
UV-resistant	UL 1581 (300H)
Certification	DNV / ABS

Prod.no.	Grey: 1089667 Black: 2030001
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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
14.03.2022	1	New part no. for RS
08.11.2023	2	Additional info.