

**UNITRONIC® LAN 1000 S/FTP Cat. 7 (L) PE
4x2xAWG 23/1****DB2170198**
valid from: 22.02.2012**Application**

Data cable for transmission of digital and analog signals up to 1000 MHz for laying outdoors and directly in the ground (transverse watertight). Acc. to TIA/EIA-568, ISO/IEC 11801 2nd edition, EN 50173, EN 50288-4-1, IEC 61156-5. For application in LANs like IEEE 802.3: 10Base-T, 100Base-T, 1000Base-T, 10GBase-T; IEEE 802.3at: suitable for PoE; FDDI; ISDN; ATM; Cable Sharing.

Design

Conductor	bare copper AWG 23/1, massive
Insulation	Skin-Foam-Skin PE, ca. 1.37 mm outer Ø
Core identification code	acc. to IEC 708-1
Pair screening	plastic laminated aluminum foil
Stranding	4 pairs, stranded to bundle
Screening	braid of copper wire, tinned wire ca. 0,10 mm
Outer sheath	welded aluminium tape, PE compound, black similar to RAL 9005, outer Ø: ca. 9.8 mm

Electrical properties at 20° C

Resistance (loop)	max. 150 Ω/km, acc. to VDE 0812
Insulation resistance	min. 5 GΩxkm
Mutual capacitance	nom. 45 nF/km
Characteristic impedance	100 Ω ±5 Ω (at 100 MHz)
Velocity of propagation	ca. 0.79 c
Signal propagation time	<425 ns/100m
Delay difference	<8 ns/100m
Screening attenuation	>75 dB (up to 1000 MHz)
Test voltage	700 V (AC)

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Transmission properties

f [MHz]	Attenuation nom. [dB/100m]	NEXT nom. [dB]	ACR nom. [dB/100m]	ELFEXT nom. [dB/100m]	RL nom. [dB]
1	1.7	105	103	95	25
4	3.2	105	102	93	28
10	5.2	105	100	92	30
16	6.5	105	98	91	32
20	7.3	105	98	90	34
31,25	9.3	105	96	86	35
62,5	13.2	103	89	82	34
100	17.0	100	83	77	33
155	21.3	98	76	73	30
200	24.3	95	71	70	29
300	30.0	93	73	67	27
400	35.4	90	55	64	26
500	39.3	87	48	62	24
600	43.4	85	41	60	23
800	50.2	83	33	56	22
900	56.0	81	26	53	21
1000	58.0	80	22	50	20

Mechanical and thermal properties

Minimum bending radius	during installation: 10 x cable Ø static: 4 x cable Ø
Permissible temperature range	during installation: -15 °C up to +60° C static: -40 °C up to +70° C
UV-resistance	UV-resistant acc. to ISO 4892
Smoke gas test	acc. to IEC 60754-2, IEC 61034/EN 61034
General requirements	Dangerous and forbidden substances acc. to RoHS directive (2002/95/EG) are not allowed to the manufacturing.