

**UNITRONIC® LAN 500 U/FTP Cat. 6<sub>A</sub> LSZH  
4x2xAWG 23/1**
**DB2170195**  
 valid from: 20.02.2012

### Application

Data cable for transmission of digital and analog signals up to 500 MHz. The cable is designed for horizontal cabling systems as connection between a floor distribution and the telecommunication outlets (TO's). According to TIA/EIA-568-B.2-10, ISO/IEC 11801 2nd edition, EN 50173, EN 50288-5-1, IEC 61156-5. For application in LANs like IEEE 802.3: 10Base-T, 100Base-T, 1000Base-T, 10GBase-T; FDDI; ISDN; ATM.

### Design

Conductor	bare copper AWG 23/1, massive
Insulation	Skin-Foam-Skin PE, ca. 1.34 mm outer Ø
Core identification code	acc. to IEC 708-1
Pair screening	plastic laminated aluminium foil with 1 drain wire
Stranding	4 pairs, stranded to bundle
Outer sheath	halogen free compound (FRNC), orange similar to RAL 2003, outer Ø: ca. 7.2 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. 0.78 c
Signal propagation time	<425 ns/100m
Delay difference	<10 ns/100m
Screening attenuation	>55 dB (up to 500 MHz)
Test voltage	700 V (AC)

### Transmission properties

f [MHz]	Attenuation nom. [dB/100m]	NEXT nom. [dB]	ACR nom. [dB/100m]	ELFEXT nom. [dB/100m]	RL nom. [dB]
1	1.9	100	98.1	103	24
4	3.5	100	96.5	103	28
10	5.6	100	94.4	98	30
16	7.0	100	93.0	96	30
20	7.9	100	92.1	95	30
31,25	9.8	100	90.2	91	30
62,5	14.2	100	85.8	87	30
100	17.8	98	80.2	80	30
155	22.1	95	72.9	78	29
200	25.1	93	67.9	72	28
300	31.0	88	57.0	70	26
400	36.4	85	48.6	68	24
500	41.8	83	41.2	62	23

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Minimum bending radius	during installation: 8 x cable Ø static: 4 x cable Ø
Permissible temperature range	during installation: 0° C up to +50° C static: -20° C up to +60° C
Flame propagation	flame retardant acc. IEC 60332-3-24, IEC 60332-1-2
Smoke gas test	acc. to EN 50267-2-1/EN 50267-2-2, IEC 60754-1/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.