

APPLICATION :

PBX, V.11, X.21, ISDN, Ethernet (10Base-T), ATM-25/52/155 Mbit/s, 100VG-AnyLAN, Fast Ethernet (100BASE-TX), Token Ring 16/100 Mbit/s, Gigabit Ethernet (1000BASE-T), Firewire 100 Mbit/s

COMPLIANCE WITH THE REQUIREMENTS

ISO/IEC 11801:2002

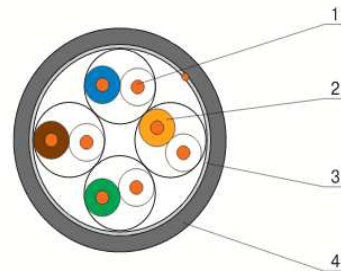
EN 50173-1:2002

ANSI/TIA/EIA-568-B.2-2001



DESIGN

- 1) Conductor: soft copper wire
Diameter: 0.51 mm (24 AWG)
- 2) Insulation: polyethylene Conductor diameter: 1.07 mm
Pair: two conductors twisted together Colour identification of pairs:
 - pair 1:** white-blue / blue
 - pair 2:** white-orange / orange
 - pair 3:** white-green / green
 - pair 4:** white-brown / brown
- 3) Pair shield: aluminum polymer foil (metal inside). Copper tinned contact wire Ø 0.4 mm is applied longitudinally under the shield.
- 4) Sheath: UV-stabilized polyethylene Sheath colour: black Maximum cable diameter: 7.6 mm



INSTALLATION AND OPERATION CONDITIONS

For outdoor installation in cable ducts, collectors, shafts and along building walls. Operation in conditions of heightened electromagnetic impacts on frequencies up to 100 MHz.

ELECTRICAL CHARACTERISTICS AT 20 °C

Direct current resistance $\leq 96 \text{ Ohm/km}$
 Insulation resistance $\geq 5 \text{ Gohm/km}$
 Capacitance $\leq 56 \text{ pF/m}$
 Signal propagation velocity $\geq 0.68 \text{ s}$
 Propagation delay $\leq 534+36/\sqrt{f} \text{ ns/100 m}$
 Delay shift on 100 MHz $\leq 45 \text{ ns/100 m}$
 Characteristic impedance in the frequency range of 1 to 100 MHz $100\pm 10 \text{ Ohm}$
 Screening attenuation in the frequency range of 30-100 MHz $\leq 40 \text{ dB}$
 Test voltage between cores, cores and shield (DC, 2 s) 2.5 kV
 Working voltage (DC) 72 V

MECHANICAL CHARACTERISTICS

Temperature range: During installation $-15 \text{ }^\circ\text{C} \dots +60 \text{ }^\circ\text{C}$
 After installation $-50 \text{ }^\circ\text{C} \dots +60 \text{ }^\circ\text{C}$
 Bending radius: During installation $\geq 10 \text{ cable diameters}$
 After installation $\geq 4 \text{ cable diameters}$
 Tensile stress 85 N

MARKING

OPTRO-NET <year of production> FTP outdoor CAT.5e 100 MHz 4Pr AWG24 NVP 68% ISO/IEC
 11801 100 OHM K-29 <metric mark>

SIGNAL TRANSMISSION PERFORMANCE AT 20 °C

Frequency (MHz)	Attenuation (dB/100 m)		NEXT (dB)		PS-NEXT (dB)		EL-FEXT (dB)		PS-ELFEXT (dB/100 m)		RL (dB)	
	max.*	nom.	min.*	nom.	min.*	nom.	min.*	nom.	min.*	nom.	min.*	nom.
1**	2,1	1,9	65,3	78,0	62,3	75,0	64,0	70,0	61,0	67,0	20,0	25,00
4	4,1	3,8	56,3	76,0	53,3	73,0	52,0	58,0	49,0	55,0	23,0	30,00
10	6,5	6,0	50,3	74,0	47,3	71,0	44,0	52,0	41,0	49,0	25,0	37,00
16	8,3	7,7	47,2	70,0	44,2	67,0	39,9	48,0	36,9	45,0	25,0	34,00
20	9,3	8,6	45,8	69,0	42,8	66,0	38,0	46,0	35,0	43,0	25,0	34,00
31,25	11,7	10,9	42,9	63,0	39,9	60,0	34,1	40,0	31,1	37,0	23,6	33,00
62,50	17,0	15,8	38,4	60,0	35,4	57,0	28,1	36,0	25,1	33,0	21,5	28,00
100	22,0	20,5	35,3	58,0	32,3	55,0	24,0	32,0	21,0	29,0	20,1	24,00

*IEC 61156-5:2002

**Values lower than 4 MHz are given for information only

ORDER INFORMATION

Code	Cable type	Sheath	Packing	Weight,	
49330	F/UTP cat.5e	(100) 4x2x0,51	PE	Box 305 m	46