



APPLICATION :

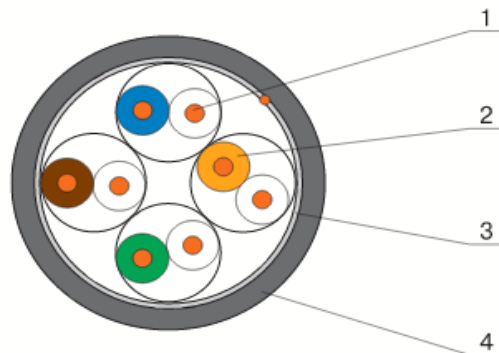
PBX, V.11, X.21, ISDN, Ethernet (10Base-T), ATM-25/52/155 Mbit/s, 100VG-AnyLAN, Fast Ethernet (100BASE-TX), Token Ring 16/100 Mbit/s, Gigabit Ethernet (1000BASE-T), Firewire 100 Mbit/s

COMPLIANCE WITH THE REQUIREMENTS

- ISO/IEC 11801:2002
- EN 50173-1:2002
- ANSI/TIA/EIA-568-B.2-2001
- IEC 61156-5:2002
- TUU 31.3-05758730-020-200

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 Core: 4 pairs twisted together with a string
- 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 ≤ 96 Ohm/km
Insulation resistance ≥ 5 Gohm/km
Capacitance ≤ 56 pF/m
Signal propagation velocity ≥ 0.68 s
Propagation delay $\leq 534+36/\sqrt{f}$ ns/100 m
Delay shift on 100 MHz ≤ 45 ns/100 m
Characteristic impedance in the frequency range of 1 to 100 MHz 100 ± 10 Ohm
Screening attenuation in the frequency range of 30-100 MHz ≤ 40 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 °C ... +60 °C
After installation -50 °C ... +60 °C
Bending radius: During installation ≥ 10 cable diameters
After installation ≥ 4 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, kg/km
(new 49330)	FTP cat.5e (100) 4x2x0,51	PE	Box 305 m	46