



MULTILAN CAT.5e U/UTP 24AWGx4P - RoHS COMPLIANT

Product Type LAN Cable

Product Family MultiLan

Construction	RoHS Compliant
	Category 5e
	U/UTP (not shielded)
	PVC - CM, CMR

General Characteristics

Features	4 pairs twisted cable, using solid bare copper, 24 AWG, insulated with a special compound. External jacket using a PVC flame retardant material.
Installation Environment	Internal
Operation Environment	Non heavy
Compatibility	FCS products

Applications

1. Exceeds physical and electrical requirements of EIA/TIA -568-c.2
2. Cable according with RoHS directive (Restriction of Hazardous Substances)
3. Can be used with all of the following protocols.
 - a) GIGABIT ETHERNET, IEEE 802.3z, 1000 Mbps;
 - b) 100BASE-TX, IEEE 802.3u, 100 Mbps;
 - c) 100BASE-T4, IEEE 802.3u, 100 Mbps;
 - d) 100vg-AnyLAN, IEEE802.12, 100 Mbps;
 - e) ATM -155 (UTP), AF-PHY-0015.000 y AF-PHY-0018.000, 155/51/25 Mbps;
 - f) TP-PMD, ANSI X3T9.5, 100 Mbps;
 - g) 10BASE-T, IEEE802.3, 10 Mbps;
 - h) TOKEN RING, IEEE802.5, 4/16 Mbps;
 - i) 3X-AS400, IBM, 10 Mbps;
 - j) POWER OVER ETHERNET, IEEE 802.3af
4. Solutions: Data Center, Commercial Building, Government, Financial, Health, Education.

Standards Compliance TIA-568-C.2, ANSI/TIA/EIA-569, ISO/IEC DIS 11801, UL 444

Certifications

UL Listed and Verified	E1 60837
ETL Verified	J99029130
ETL Listed	3031273
ETL 4 connections	3075278-003
ISO9001/ISO14001	A1969/A10659
Anatel	0036-08-0256

Constructive characteristic

Conductor 24AWG

Insulation Resistance 10000 MΩ.km

Number of Pairs 4 pairs 24 AWG

Pair All pairs are twisted in such way to reduce Crosstalk effects. Each conductor is identified according with the following color sequence.

Color Codes	Pair	Insulation Color "A"	Insulation Color "B"
	1	Blue	White / Blue Stripe
	2	Orange	White / Orange Stripe
	3	Green	White / Green Stripe
	4	Brown	White / Brown Stripe

Cabling All four pairs are cabled together in such way to reduce electromagnetic interferences making the cable lay-up.

Shield Unshielded (U/UTP).

Sheath Made of flame retardant PVC compound.

Nominal Diameter 4,8mm

Color Blue, Grey, Yellow, Light Brown, White, Orange, Brown, Black, Red, Green.

Cable Weight 26 kg/km

Physical Characteristics

Flame Standards CM: standard UL 1581-Vertical tray Section 1160 (UL1685)
CMR: standard UL 1666 (Riser)

Installation Temperature 0°C up to 50°C

Storage Temperature -20 °C up to 70 °C

Operation Temperature -20°C up to 60°C

Electrical Characteristics

Maximum Unbalance Resistance 5%

Conductor Max. DC Resistance at 20°C 93.8 Ω/km

Maximum Mutual Capacitance 1kHz 56 pF/m

Max. Unbalance Capacitance Pair x Ground 3,3 pF/m

Characteristic Impedance 100±15% Ω

Maximum Propagation Delay 545ns/100m

Maximum Delay Skew 45ns/100m

Dielectric strength	Between two pairs	Between a pair and shield
	1000 VDC/3s	500 VDC/3s

NVP 68%

Transmission Performance

Freq. (MHz)	IL (dB/100m)		NEXT (dB)		PSNEXT (dB)		ACR (dB)	
	TIA/EIA Max.	TYPICAL	TIA/EIA MIN.	TYPICAL	TIA/EIA MIN.	TYPICAL	TIA/EIA MIN.	TYPICAL
1	2,0	1,7	65,3	83,1	62,3	76,8	63,3	75,3
4	4,1	3,6	56,3	74,8	53,3	67,8	52,2	64,4
8	5,8	5,1	51,8	70,0	48,8	63,4	46,0	57,9
10	6,5	5,7	50,3	68,6	47,3	61,7	43,8	55,7
16	8,2	7,3	47,3	63,4	44,3	57,4	39,0	50,8
20	9,3	8,3	45,8	63,7	42,8	57,6	36,5	49,9
25	10,4	9,3	44,3	61,0	41,3	54,3	33,9	44,5
31,25	11,7	11,1	42,9	60,7	39,9	53,7	31,2	43,6
62,5	17,0	15,0	38,4	55,4	35,4	49,3	21,4	34,7
100	22,0	19,3	35,3	51,9	32,3	45,2	13,3	25,8
155	-	23,7	-	50,0	-	43,0	-	20,0
200	-	27,5	-	47,0	-	40,0	-	13,0
250	-	31,1	-	44,0	-	37,0	-	7,0
350	-	37,4	-	41,0	-	34,0	-	6,0

Freq. (MHz)	PSACR (dB)		ELFEXT (dB)		PSELFEXT (dB)		RL (dB)	
	TIA/EIA MIN.	TYPICAL	TIA/EIA MIN.	TYPICAL	TIA/EIA MIN.	TYPICAL	TIA/EIA MIN.	TYPICAL
1	60,3	75,1	63,8	84,8	60,8	76,5	20,0	35,7
4	49,2	64,3	51,7	74,2	48,7	65,3	23,1	39,1
8	43,0	58,3	45,7	68,1	42,7	59,2	24,5	36,3
10	40,8	56,0	43,8	66,5	40,8	57,4	25,0	35,1
16	36,0	50,1	39,7	61,4	36,7	53,2	25,0	36,0
20	33,5	49,4	37,7	59,7	34,7	51,3	25,0	37,5
25	30,9	45,1	35,8	56,8	32,8	48,9	24,3	37,7
31,25	28,8	42,9	33,9	53,3	30,9	45,6	23,6	34,8
62,5	18,4	34,4	27,8	47,9	24,8	40,2	21,5	34,1
100	13,3	26,1	23,8	43,3	20,8	35,7	20,1	32,3
155	-	19,0	-	40,0	-	31,0	-	
200	-	13,0	-	37,0	-	29,0	-	
250	-	6,0	-	35,0	-	27,0	-	
350	-	3,0	-	31,0	-	24,0	-	

Cable measurements are made at 20°C in 100 meters cables, pulled out of their packages and released on a non-conductive surface as described in ANSI/TIA-568-C.2.

Marking

Cables type CM:
 FURUKAWA MULTILAN U/UTP 24AWGx4P ROHS COMPLIANT NBR 14703
 ANATEL 0036-08-0256 --- E160837 CM C(UL)US ETL VERIFIED TO TIA-568-C.2
 CATEGORY 5E --- **YAAMMDDHHmm {1}**

Cables type CMR:
 FURUKAWA MULTILAN U/UTP 24AWGx4P ROHS COMPLIANT NBR 14703 ANATEL
 0036-08-0256 --- E160837 CMR C(UL)US ETL VERIFIED TO TIA-568-C.2 CATEGORY 5E ---
YAAMMDDHHmm {1}

Where:

{1} - Sequential decreasing length marking from 305 to 001 m (when pull out from POB package)

Y- Traceability

YMMDDHHmm: YY-Year, MM-Month, DD - Day, HH - Hour, mm - minute

Marking Color: blue or white

Package

Package Type

Reelex pull box package

Standard Length

305 meters

Dimension

363x363x220mm (WHD)

Observations

Voltage Rating: 300V per NEC Article 800
