

R&M U/UTP Cat.6 250 MHz

Cable reference

Part number R195731

Source code R

R&M positioning Cat.6, Level 3

Cable construction

Conductor Bare solid copper wire AWG23 ($\geq \varnothing 0.55$ mm)

Insulation Polyethylene $\leq \varnothing 1.0$ mm

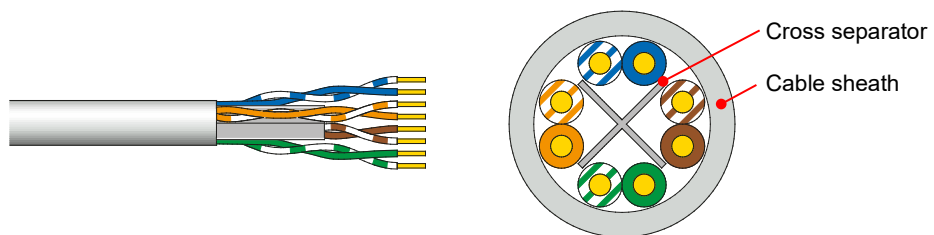
Twisting 2 wires to the pair

Cable lay up 4 pairs to the core with cross separator

Pair screen Non

Overall screen Non

Sheath LSZH, Grey RAL 7035



Application

Primary (Campus), Secondary (Riser), Tertiary (Horizontal)

IEEE 802.3an: 10Base-T; 100Base-TX; 1000Base-T

IEEE 802.5 16 MB; ISDN; TPDDI; ATM

IEEE 802.3af / IEEE 802.3at / IEEE 802.3bt

Standards

ISO/IEC 11801 2nd ed.; EN 50173-1; ANSI/TIA-568.2-D

IEC 61156-5 2nd ed.; IEC 61156-7; EN 50288-6-1; Power over Ethernet (PoE) / Type 1-4

Fire rating

LSZH

IEC 60332-1-2 ; IEC 60754-2; IEC 61034

Technical Data

Cable designation U/UTP Cat.6 250MHz 4PxAWG23

Packaging Drum 305 m

Outer diameter Nominal 5.9 mm

Mechanical Properties

Bending radius ≥ 25 mm during operation (without load)

≥ 50 mm during installation (with load)

Temperature range During operation $-20^{\circ}\text{C} \dots +60^{\circ}\text{C}$

During installation $0^{\circ}\text{C} \dots +50^{\circ}\text{C}$

Electrical Properties
(at 20°C ± 5°C)

DC loop resistance		≤ 9.38 Ω / 100 m
Resistance unbalance		≤ 2 %
Test voltage	DC, 1 min, core/core	1000 V
Insulation resistance	500 V	≥ 5000 MΩ * km
Capacitance		56 pF / m max.
Capacitance unbalance		≤ 1500 pF / km
Mean characteristic impedance @ 100 MHz		100 ± 5 Ω
Nominal velocity of propagation		Approx. 68 %
Propagation delay	At 1 MHz	≤ 538 ns / 100 m
Delay skew		≤ 45 ns / 100 m
Coupling attenuation		≥ 40 dB
Balance TCL	At 1 MHz	≥ 55 dB
	At 10 MHz	≥ 40 dB
	At 100 MHz	≥ 30 dB

Typical transmission characteristics (at 20°C)

f (MHz)	Attenuation (dB/100m)		NEXT (dB)		PS-NEXT (dB)		ACR-F ¹⁾ (dB/100m)		PS-ACR-F ¹⁾ (dB/100m)		Return loss (dB)	
	Max	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ
4	3.8	3.8	66.3	69	63.3	66	58	70	55	68	23	23
10	6.0	6.0	60.3	63	57.3	60	50	62	47	56	25	25
20	8.5	8.5	55.8	59	52.8	56	44	56	41	54	25	25
62.5	15.5	15.1	48.4	51	45.4	48	34.1	46	31.1	44	21.5	21.5
100	19.9	19.1	45.3	48	42.3	45	30	42	27	40	20.1	20.1
250	33	32	39.3	42	36.3	39	22	34	19	32	17.3	17.3

¹⁾ ACR-F was formerly known as ELFEXT.

Recommended connection technique

Module		Perm. Link Class D	Perm. Link Class E	Channel Class E _A	Perm. Link Class E _A	Short Link Class E _A
	Cat.5e/u	✓	–	–	–	–
	Cat.6/u	✓	✓	–	–	–
	Cat.6 Real10/u	✓	✓	–	–	–
	Cat.6 _A /u	✓	✓	–	–	–