

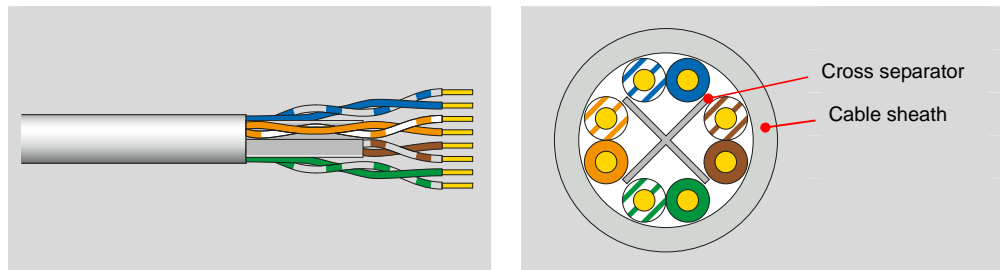
R&Mfreenet U/UTP Cat.6 250 MHz Blue

31.12.2019 / V1 / Mng

R&Mfreenet U/UTP Cat.6 250MHz 4PxAWG24 PVC NVP=67% ISO/IEC 11801 ANSI/TIA-568-C.2 K <batch no.> <dd/mm/yy> <meter> m

Cable reference	Part number	R863217
	Source code	K
	R&M positioning	Cat.6, Level 2

Cable construction	Conductor	Bare solid copper wire AWG24 ($\geq \varnothing 0.52$ mm)
	Insulation	Polyethylene
	Twisting	2 wires to the pair
	Cable lay up	4 paires to the core with cross separator
	Pair screen	Non
	Overall screen	Non
	Sheath	PVC, blue RAL 5012



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-2002: POE; IEEE 802.3at: POE+
--------------------	--

Standards	ISO/IEC 11801 2 nd ed.; EN 50173-1; ANSI/TIA-568-C.2 IEC 61156-5 2 nd ed.; IEC 61156-7; EN 50288-6-1
------------------	---

Fire rating	PVC IEC 60332-1
--------------------	--------------------

Technical Data	Cable designation	U/UTP Cat.6 250MHz 4PxAWG24
	Packaging	Box 305 m
	Outer diameter	Nominal 6.2 mm
	Weight	36.87 kg / km
	Segregation class	B
	Tensile force	100 N

Mechanical Properties	Bending radius	≥ 35 mm during operation (without load) ≥ 55 mm during installation (with load)
	Temperature range	During operation -20°C...+ 60°C During installation 0°C...+ 50°C

Electrical Properties
(at 20°C ± 5°C)





DC loop resistance		≤ 19 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 ± 5 Ω
Nominal velocity of propagation		Approx. 67 %
Propagation delay	At 1 MHz	≤ 570 ns / 100 m
Delay skew		≤ 40 ns / 100 m
TCL	At 1 MHz	≥ 50 dB
	At 10 MHz	≥ 40 dB
	At 100 MHz	≥ 30 dB

Typical transmission characteristics (at 20°C)

f (MHz)	Attenuation (dB/100 m)		NEXT (dB)		PS-NEXT (dB)		ACR-F ¹⁾ (dB/100 m)		PS-ACR-F ¹⁾ (dB/100 m)		Return loss (dB)	
	Max	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ
4	3.8	3.8	66.3	66.3	63.3	63.3	56	56	53	53	23	23
10	6.0	6.0	60.3	60.3	57.3	57.3	48	48	45	45	25	25
20	8.5	8.5	55.8	55.8	52.8	52.8	42	42	39	39	25	25
62.5	15.5	15.5	48.4	48.4	45.4	45.4	32.1	32.1	29.1	29.1	21.5	21.5
100	19.9	19.9	45.3	45.3	42.3	42.3	28	28	25	25	20.1	20.1
250	33	33	39.3	39.3	36.3	36.3	20	20	17	17	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	✓	✓	–	–	–