R&M*freenet* U/UTP Cat.5e 200 MHz

Eca
CPR

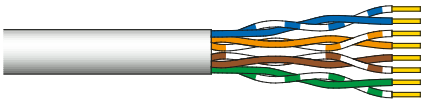
R&Mfreenet U/UTP Cat.5e 200MHz 4PxAWG24 PVC Eca NVP=68% ISO/IEC 11801 ANSI/TIA-568.2 R <batch no> <dd/mm/yy> <meter> m

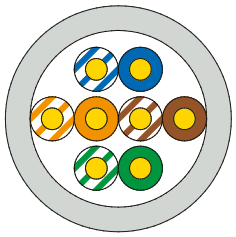
Cable reference

Part number	R35291
Source code	R
R&M positioning	Cat.5e, Level 1

Cable construction

Conductor	Bare solid copper wire AWG24 (≥ Ø 0.50 mm)
Insulation	Polyethylene ≤ Ø 0.90 mm
Twisting	2 wires to the pair
Cable lay up	4 pairs to the core
Pair screen	Non
Overall screen	Non
Sheath	PVC, grey RAL7035





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
Confirming to European regulation “CPR” EN 50575

Standards

ISO/IEC 11801 2nd ed.; EN 50173-1; ANSI/TIA-568.2
IEC 61156-5 2nd ed.; EN 50288-3-1
Power over Ethernet (PoE) / Type 1-4

Fire rating

IEC 60332-1; EN 50575;
EN50575; Eca; DOP E5039

Technical Data

Cable designation	U/UTP Cat.5e 200MHz 4PxAWG24
Packaging	Box 305 m
Outer diameter	Nominal 4.8 mm
Weight	30 kg / km
Thermal load	365 MJ / km
Segregation class	b
Tensile force	100 N

Mechanical Properties

Bending radius	≥ 20 mm during operation (without load)	
	≥ 40 mm during installation (with load)	
Temperature range	During operation	-20°C…+ 60°C
	During installation	0°C…+ 50°C

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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 nom.
Capacitance unbalance		≤ 1600 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	4	3.7	56.3	62	53.3	59	52	56	49	53	23	23
10	6.3	6	50.3	56	47.3	53	44	48	41	45	25	25
20	9	8.5	45.8	51	42.8	48	38	42	35	39	25	25
62.5	16.5	15.7	38.4	44	35.4	41	28.1	32	25.1	29	21.5	21.5
100	21.3	19.8	35.3	41	32.3	38	24	28	21	25	20.1	20.1
200	–	27.5	–	36	–	33	–	22	–	19	–	18

[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	✓	–	–	–	–