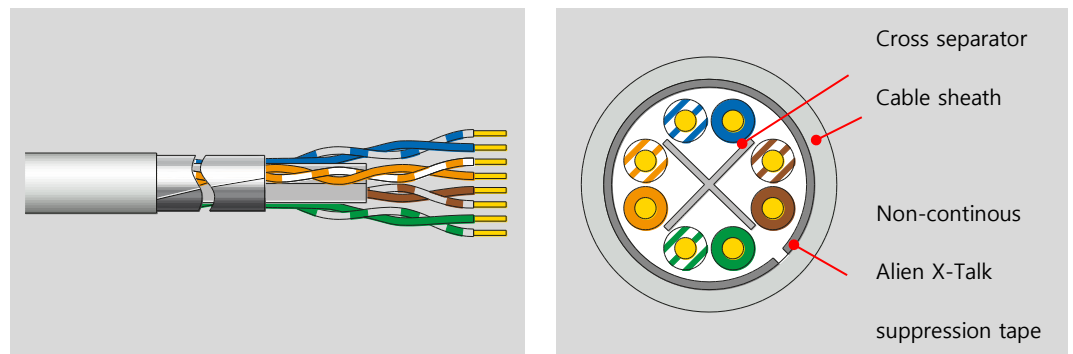


R&Mfreenet Real10 U/UTP Cat.6_A 650 MHz

28.01.2016 / V1.0 / Ri

Cable reference	Part number	R824373
	Source code	B/C
	R&M positioning	Cat.6 _A , Level 3

Cable construction	Conductor	Bare solid copper wire AWG23 (Ø 0.56mm)
	Insulation	Polyethylene Ø 1.18 mm(nom.)
	Twisting	2 wires to the pair
	Cable lay up	4 pairs to the core with cross separator
	Pair screen	Non
	Overall Tape	Non-continous Alien X-Talk suppression tape
	Sheath	LSFRZH, gray RAL 7035



Application	Primary (Campus), Secondary (Riser), Tertiary (Horizontal)
	IEEE 802.3an: 10Base-T; 100Base-TX; 1000Base-T; 10GBase-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., EN 50288-11-1

Fire rating	LSZH-3
	IEC 60332-1 & IEC 60332-3-25; IEC 60754-2; IEC 61034

Technical Data	Cable designation	Real10 U/UTP Cat.6A 650MHz 4PxAWG23
	Packaging	Drum 500 m
	Outer diameter	Nominal 7.7 mm
	Weight	59 kg / km

Thermal load	585 MJ / km
Segregation class	C
Tensile force	100 N

Mechanical Properties

Bending radius	≥ 32 mm during operation (without load)
	≥ 64 mm during installation (with load)
Temperature range	During operation -20°C...+ 60°C
	During installation 0°C...+ 60°C

Electrical Properties (at 20°C ± 5°C)

DC loop resistance		≤ 15.8 Ω / 100 m
Resistance unbalance		≤ 2 %
Test voltage	DC, 1 min, core/core	1000 V
Insulation resistance	500 V	≥ 2000 MΩ * km
Capacitance	At 800 Hz	43 pF / m nom.
Capacitance unbalance	(pair to ground)	≤ 1200 pF / km
Mean characteristic impedance	At 100 MHz	100 ± 5 Ω
Nominal velocity of propagation		Approx. 66 %
Propagation delay	At 1 MHz	≤ 427ns / 100 m
Delay skew		≤ 12 ns / 100 m
Coupling attenuation		55 dB
Balance TCL	At 1 MHz	≥ 40 dB
	At 10 MHz	≥ 40 dB
	At 100 MHz	≥ 30 dB
PS-Alien NEXT	At 100 MHz	Min. 67 dB
		Typ. 73 dB



Convincing cabling solutions

Reichle & De-Massari AG

Binzstrasse 32

CHE – 8620 Wetzikon

Telephone HQ: +41 (0)44 933 81 11

Telefax HQ: +41 (0)44 930 49 41





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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	3.6	66.3	71	63.3	68	56	75	53	72	23	25
10	5.9	5.7	60.3	65	57.3	62	48	63	45	60	25	27
20	8.4	8.1	55.8	60	52.8	57	42	57	39	54	25	27
62.5	15	14.5	48.4	53	45.4	50	32.1	47	29.1	44	21.5	24
100	19.1	18.5	45.3	50	42.3	47	28	43	25	40	20.1	23
250	31.1	29.6	39.3	44	36.3	41	20	35	17	32	17.3	20
500	45.3	42.3	34.8	39	31.8	36	14	29	11	26	17.3	19
600	–	46.3	–	34	–	31	–	23	–	20	–	17
650	–	48.0	–	32	–	29	–	20	–	17	–	16

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 _A /u	✓	✓	✓	✓	✓
	Cat.6 _A /u ISO	✓	✓	✓	✓	✓

Third party certificate 3P Third Party Testing