

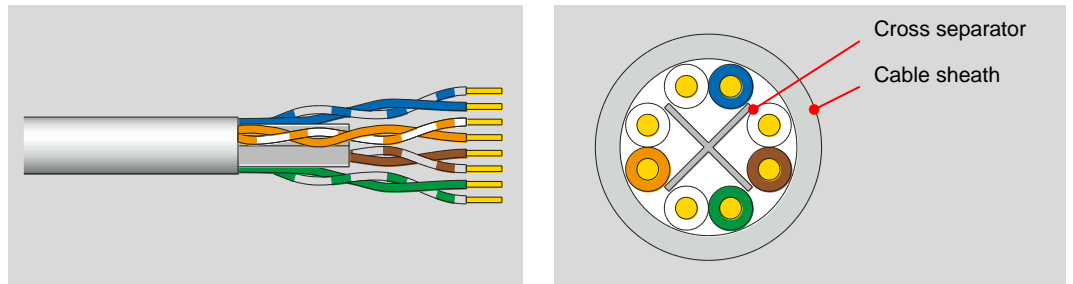
R&Mfreenet U/UTP Cat.6_A 650 MHz



R&Mfreenet U/UTP Cat.6A 650MHz 4PxAWG23 LSZH Eca NVP=65% ISO/IEC 11801 ANSI/TIA-568-C.2 J <batch no> <dd/mm/yy> <meter> m

Cable reference	Part number	R807392
	Source code	J
	R&M positioning	Cat.6 _A , Level 2

Cable construction	Conductor	Bare solid copper wire AWG23 (≥ Ø 0.58 mm)
	Insulation	Polyolefine ≤ Ø 1.09 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, 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 802.3af: POE+
 Confirming to European regulation "CPR" EN 50575

Standards

ISO/IEC 11801 2nd ed.; EN 50173-1; ANSI/TIA-568-C.2
 IEC 61156-5 2nd ed.; prEN 50288-11-1

Fire rating

LSZH
 IEC 60332-1; IEC 60754-2; IEC 61034
 EN50575; Eca; DOP E6554

Technical Data	Cable designation	U/UTP Cat.6A 650MHz 4PxAWG23
	Packaging	Drum 500 m
	Outer diameter	Nominal 8.2 mm
	Weight	60kg / km
	Thermal load	600MJ / km
	Segregation class	C
	Tensile force	100 N

Mechanical Properties	Bending radius	≥ 35 mm during operation (without load)
		≥ 70 mm during installation (with load)
	Temperature range	During operation -20°C...+ 60°C
	During installation 0°C...+ 50°C	



Convincing cabling solutions

Datasheets may change without prior notice

Electrical Properties
(at 20°C ± 5°C)





DC loop resistance		≤ 165 Ω/km
Resistance unbalance		≤ 2 %
Test voltage	DC, 1 min, core/core	1000 V
Insulation resistance	500 V	≥ 5000 MΩ * km
Capacitance		50 pF / m nom.
Capacitance unbalance		≤ 1.5 pF / m
Mean characteristic impedance @ 100 MHz		100 ± 5 Ω
Nominal velocity of propagation		Approx. 65 %
Propagation delay	At 100 MHz	≤ 538 ns / 100 m
Delay skew		≤ 45 ns / 100 m
Coupling attenuation		≥ 55 dB
Transfer impedance	At 1 MHz	N/A
	At 10 MHz	N/A
	At 100 MHz	N/A
Balance TCL	At 1 MHz	≥ 50 dB
	At 10 MHz	≥ 40 dB
	At 100 MHz	≥ 40 dB
PS-Alien NEXT	At 100 MHz	Min. 62.5 dB
		Typ. 69 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	3.4	66.3	70	63.3	73	56	60	53	63	23	26
10	5.9	5.5	60.3	64	57.3	67	48	52	45	55	25	28
20	8.4	7.7	55.8	60	52.8	63	42	46	39	49	25	28
62.5	15	14	48.4	52	45.4	55	32.1	36	29.1	39	21.5	24.5
100	19.1	18	45.3	49	42.3	52	28	32	25	35	20.1	23
250	31.1	29	39.3	43	36.3	47	20	24	17	27	17.3	20
500	45.3	42	34.8	39	31.8	42	14	18	11	21	17.3	20
600		48		36		39		17		20		18
650	-	50	-	35	-	38	-	16	-	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		✓	✓	✓	✓	✓