

R&Mfreenet U/FTP Cat.6A 650 MHz



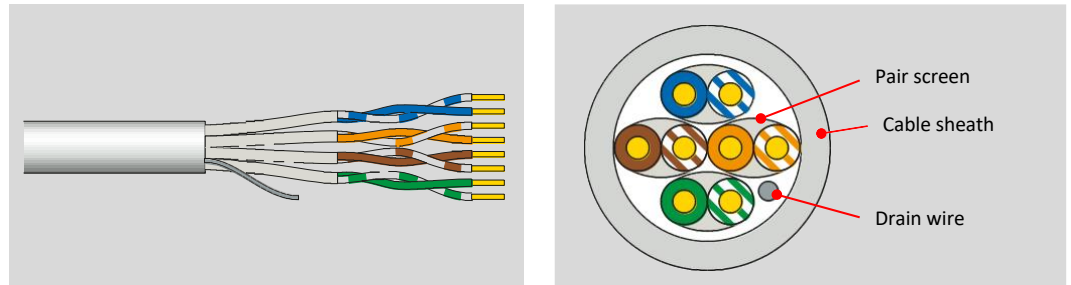
R&Mfreenet U/FTP Cat.6A 650MHz 4PxAWG23 LSRZH Cca NVP=76% ISO/IEC 11801 ANSI/TIA-568-C.2 <source code> <batch no.> <dd/mm/yy> <meter> m

Cable reference

Part number	R833675
Source code	B / V / H
R&M positioning	Cat.6A, Level 1

Cable construction

Conductor	Bare solid copper wire AWG23 ($\geq \varnothing 0.55$ mm)
Insulation	Polyethylene $\varnothing 1.32$ mm (Nom.)
Twisting	2 wires to the pair
Cable lay up	4 pairs to the core
Pair screen	Alu / polyester tape
Overall screen	Non, tin plated copper wire
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+; IEEE 302.3.bt: 4PPOE
 Cisco Universal Power Over Ethernet (UPOE and UPOE+)
 Power over HDBaseT™ (PoH)
 Confirming to European regulation "CPR" EN 50575

Standards

ISO/IEC 11801 2nd ed.; EN 50173-1
 IEC 61156-5 2nd ed.; EN 50288-10-1; Power over Ethernet (PoE) Type 1-4

Fire rating

LSFRZH
 IEC 60332-3-24; IEC 60754-2; IEC 61034
 EN50575; Cca-s1a,d1,a1; DOP C6583

Technical Data

Cable designation	U/FTP Cat.6A 650MHz 4PxAWG23
Packaging	Drum 500 m
Outer diameter	Nominal 7.6 mm
Weight	59 kg / km
Thermal load	591 MJ / 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

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Electrical Properties
(at 20°C ± 5°C)





DC loop resistance		≤ 16.5 Ω / 100 m
Resistance unbalance		≤ 2 %
Test voltage	DC, 1 min, core/core	1000 V
Insulation resistance	500 V	≥ 5000 MΩ * km
Capacitance		43 pF / m nom.
Capacitance unbalance		≤ 1500 pF / km
Mean characteristic impedance	At 100 MHz	100 ± 5 Ω
Nominal velocity of propagation		Approx. 76 %
Propagation delay	At 1 MHz	≤ 500 ns / 100 m
Delay skew		≤ 20 ns / 100 m
Coupling attenuation		≥ 55 dB
Transfer impedance	At 1 MHz	≤ 50 mΩ / m
	At 10 MHz	≤ 100 mΩ / m
	At 100 MHz	≤ 1000 mΩ / m
Balance TCL	At 1 MHz	≥ 40dB
	At 10 MHz	≥ 40 dB
	At 100 MHz	≥ 20 dB
PS-Alien NEXT	At 100 MHz	Min. 75 dB
		Typ. 80 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	3.5	66.3	100	63.3	97	56	84	53	81	23	24
10	5.9	5.6	60.3	100	57.3	97	48	83	45	80	25	30
20	8.4	7.9	55.8	100	52.8	97	42	81	39	78	25	30
62.5	15	14.2	48.4	100	45.4	97	32.1	67	29.1	64	21.5	30
100	19.1	18.5	45.3	100	42.3	97	28	63	25	60	20.1	30
250	31.1	29.1	39.3	90	36.3	87	20	55	17	52	17.3	25
500	45.3	44.8	34.8	83	31.8	80	14	52	11	49	17.3	21
600	-	49,6	-	82	-	79	-	47	-	44	-	20
650	-	51,8	-	82	-	79	-	45	-	42	-	20

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/s	✓	-	-	-	-
	Cat.6 Real10/s	✓	✓	-	-	-
	Cat.6A EL/s	✓	✓	✓	✓	✓
	Cat.6A/s	✓	✓	✓ Best in Class	✓ Best in Class	✓ Best in Class

Third party certificate

3P Third Party Testing