

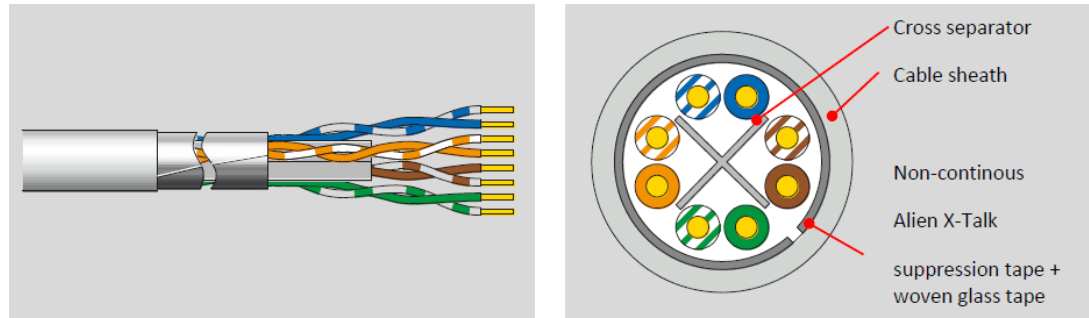
# R&Mfreenet U/UTP Cat.6A 650 MHz



R&Mfreenet U/UTP Cat.6A 650MHz 4PxAWG24 LSFRZH Cca NVP=69% ISO/IEC 11801 ANSI/TIA-568-C.2 >source code< <batch no> <dd/mm/yy> <meter> m

<b>Cable reference</b>	<b>Part number</b>	R833674
	<b>Source code</b>	B / C
	<b>R&amp;M positioning</b>	Cat.6A, Level 3

<b>Cable construction</b>	<b>Conductor</b>	Bare solid copper wire AWG24 (Ø 0.54mm)
	<b>Insulation</b>	Polyethylene Ø 1.12 mm(nom.)
	<b>Twisting</b>	2 wires to the pair
	<b>Cable lay up</b>	4 pairs to the core with cross separator
	<b>Pair screen</b>	Non
	<b>Overall Tape</b>	Non-continuous Alien X-Talk suppression tape + Woven Glass Tape
	<b>Sheath</b>	LSFRZH, gray RAL 7035



<b>Application</b>	<p>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 802.3bt: 4PPOE              Cisco Universal Power Over Ethernet (UPOE and U)              Power over HDBaseTTM (PoH)              Confirming to European regulation "CPR" EN 50575</p>
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<b>Standards</b>	<p>ISO/IEC 11801 2<sup>nd</sup> ed.; EN 50173-1; ANSI/TIA-568-C.2              IEC 61156-5 2<sup>nd</sup> ed., EN 50288-11-1; Power over Ethernet (PoE) / Type 1-4</p>
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<b>Fire rating</b>	<p>LSFRZH              IEC 60332-1 &amp; IEC 60332-3-25; IEC 60754-2; IEC 61034              EN50575; Cca- s1a,d1,a1; DOP C6536</p>
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<b>Technical Data</b>	<b>Cable designation</b>	U/UTP Cat.6A 650MHz 4PxAWG24
	<b>Packaging</b>	Drum 500 m
	<b>Outer diameter</b>	Nominal 8.5 mm
	<b>Weight</b>	73 kg / km
	<b>Thermal load</b>	878 MJ / km
	<b>Segregation class</b>	C
	<b>Tensile force</b>	100 N

<b>Mechanical Properties</b>	<b>Bending radius</b>	≥ 36 mm during operation (without load)
		≥ 72 mm during installation (with load)
	<b>Temperature range</b>	During operation -20°C...+ 60°C
	During installation 0°C...+ 60°C	

<b>Electrical Properties</b> (at 20°C ± 5°C)	<b>DC loop resistance</b>	≤ 15.8 Ω / 100 m
	<b>Resistance unbalance</b>	≤ 2 %
	<b>Test voltage</b>	DC, 1 min, core/core 1000 V



Convincing cabling solutions

Datasheets may change without prior notice

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<b>Insulation resistance</b>	500 V	≥ 2000 MΩ * km
<b>Capacitance</b>	At 800 Hz	43 pF / m nom.
<b>Capacitance unbalance</b>	(pair to ground)	≤ 1200 pF / km
<b>Mean characteristic impedance</b>	At 100 MHz	100 ± 5 Ω
<b>Nominal velocity of propagation</b>		Approx. 69 %
<b>Propagation delay</b>	At 1 MHz	≤ 427ns / 100 m
<b>Delay skew</b>		≤ 12 ns / 100 m
<b>Coupling attenuation</b>		55 dB
<b>Balance TCL</b>	At 1 MHz	≥ 40 dB
	At 10 MHz	≥ 40 dB
	At 100 MHz	≥ 30 dB
<b>PS-Alien NEXT</b>	At 100 MHz	Min. 67 dB
		Typ. 73 dB

### Typical transmission characteristics (at 20°C)

f (MHz)	Attenuation (dB/100 m)		NEXT (dB)		PS-NEXT (dB)		ACR-F <sup>1)</sup> (dB/100 m)		PS-ACR-F <sup>1)</sup> (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

<sup>1)</sup> ACR-F was formerly known as ELFEXT.

### Recommended connection technique

Module		Perm. Link Class D	Perm. Link Class E	Channel Class E <sub>A</sub>	Perm. Link Class E <sub>A</sub>	Short Link Class E <sub>A</sub>
 Cat.5e/u		✓	-	-	-	-
 Cat.6/u		✓	✓	-	-	-
 Cat.6 <sub>A</sub> /u		✓	✓	✓	✓	✓
 Cat.6 <sub>A</sub> /u ISO		✓	✓	✓	✓	✓

third party certificate

3P Third Party Testing



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