

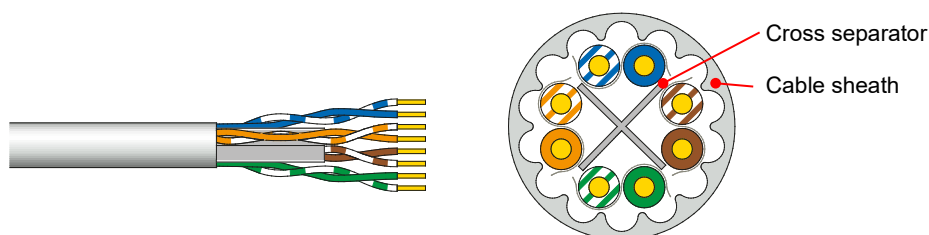
R&M U/UTP Cat.6_A 500 MHz

Cable reference

Part number	R195718
Source code	S
R&M positioning	Cat.6 _A , Level 2

Cable construction

Conductor	Bare solid copper wire AWG23
Insulation	Polyethylene
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



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 / IEEE 802.3at / IEEE 802.3bt

Standards

ISO/IEC 11801 2nd ed.; EN 50173-1; ANSI/TIA-568.2-D
 IEC 61156-5 2nd ed.; EN 50288-6-1 ; Power over Ethernet (PoE) / Type 1-4

Fire rating

LSZH
 IEC 60332-1; IEC 60754-2; IEC 61034

Technical Data

Cable designation	U/UTP Cat.6 _A 500MHz 4PxAWG23
Packaging	305 m
Outer diameter	Ø 7.0 mm +/-0.5mm

Segregation class	B
Tensile force	100 N

Mechanical Properties

Bending radius	≥ 35 mm during operation (without load)
	≥ 55 mm during installation (with load)
Temperature range	During operation -20°C...+ 60°C
	During installation 0°C...+ 50°C

R&M U/UTP Cat.6A 500 MHz

Electrical Properties

(at 20°C ± 5°C)

DC 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

Mutual Capacitance 6 nF / 100 m

Capacitance unbalance ≤ 1600 pF / km

Mean characteristic impedance 100 ± 15 Ω

Nominal velocity of propagation Approx. 69 %

Propagation delay At 1 MHz ≤ 535 ns / 100 m

Delay skew ≤ 45 ns / 100 m

Typical transmission characteristics (at 20°C)

f (MHz)	Attenuation (B/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	3.8		66.3		63.3		56.0		53.0		23.0	
10	5.9	5.5	60.3	80	57.3	77	48.0	70	45.0	67	25.0	30
20	8.4		55.8		52.8		42.0		39.0		25.0	
62.5	15.0	14.5	48.4	62	45.4	59	32.1	50	29.1	47	21.5	30
100	19.1	18.5	45.3	60	42.3	57	28.0	42	25.0	39	20.1	30
250	31.1	29.6	39.3	50	36.3	47	20.0	37	17.0	34	17.3	28
500	45.3	42.9	34.8	47	31.8	44	14.0	31	11.0	28	15.2	27

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/u	✓	✓	✓	–	–
	Cat.6A/u	✓	✓	✓	✓	✓