R&M*freenet* S/FTP Cat.7$_A$ 1300 MHz

25G READY ISO/IEC TR 11801-9906

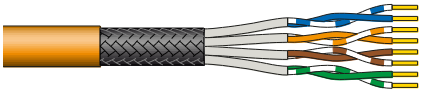
Cca CPR

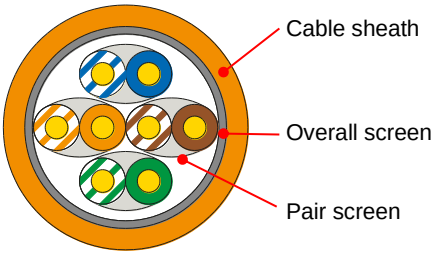
Cable reference

Part number	R888893
Source code	Z
R&M positioning	Cat.7$_A$,

Cable construction

Conductor	Bare solid copper wire AWG22
Insulation	Polyethylene ≤ Ø 1.6 mm
Twisting	2 wires to the pair
Cable lay up	4 pairs to the core
Pair screen	Alu / polyester tape
Overall screen	Tin plated copper braid (>30% coverage)
Sheath	LSFRZH, orange RAL 2003





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
Confirming to European regulation “CPR” EN 50575

Standards

ISO/IEC 11801 2nd ed.; EN 50173-1
IEC 61156-5; EN 50288-4-1; EN 50288-9-1
Power over Ethernet (PoE) / Type 1-4

Fire rating

LSFRZH

IEC 60332-3-24; IEC 60754-2; IEC 61034
EN50575; Cca-s1,d1,a1; DOP C7585

Technical Data

Cable designation	S/FTP Cat.7$_A$ 1300MHz 4PxAWG22
Packaging	Drum 1000 m
Outer diameter	Nominal 7.9 mm
Weight	66 kg / km
Thermal load	623 MJ / km
Segregation class	D
Tensile force	160 N

Mechanical Properties

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

R&M

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R&Mfreenet S/FTP Cat.7A 1300MHz 4PxAWG22 LSFRZH Cca NVP=76% ISO/IEC 11801 Z <batch no.> <dd/mm/yy> <meter> m

Electrical Properties (at 20°C ± 5°C)

DC loop resistance		≤ 12.8 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		≤ 25 ns / 100 m
Coupling attenuation		≥ 70 dB
Transfer impedance	At 1 MHz	≤ 10 mΩ / m
	At 10 MHz	≤ 6 mΩ / m
	At 100 MHz	≤ 50 mΩ / m
Balance TCL	At 1 MHz	≥ 40 dB
	At 10 MHz	≥ 30 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/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	3.7	3.3	78.0	100	75.0	97	78.0	97	75.0	94	23	27
10	5.8	5.1	78.0	100	75.0	97	78.0	95	75.0	92	25	30
20	8.2	7.3	78.0	93	75.0	90	78.0	90	75.0	87	25	30
62.5	14.6	13.2	78.0	93	75.0	90	69.4	85	66.4	82	21.5	30
100	18.5	16.7	75.4	90	72.4	87	65.3	80	62.3	77	20.1	30
250	29.7	26.8	69.4	90	66.4	87	57.3	69	54.3	66	17.3	25
500	42.8	38.9	64.9	86	61.9	83	51.3	63	48.3	60	17.3	25
600	47.1	41.8	63.7	85	60.7	82	49.7	45	46.7	42	17.3	20
1000	61.9	54.3	60.4	83	57.4	80	45.5	40	42.3	37	15.1	17
1200	-	61.6	-	83	-	80	-	35	-	32	-	16
1300	-	60.0	-	80	-	77	-	32	-	29	-	15

[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/s	✓	✓	✓	–	–
	Cat.6$_A$/s	✓	✓	✓	✓	✓
	Cat.6$_A$ EL/s	✓	✓	✓	✓	✓