R&M*freenet* S/FTP Cat.8.2/8.1 2000 MHz

B2ca CPR

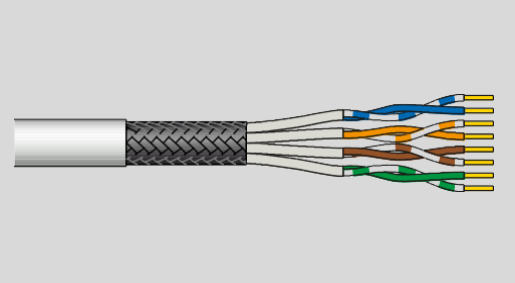
R&Mfreenet S/FTP Cat. 8.2/8.1 2000MHz 4PxAWG22 LSFRZH B2CA NVP=73% ISO/IEC 11801 B <batch no.> <dd/mm/yy> <meter> m

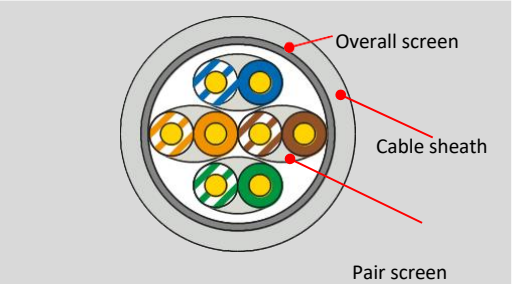
Cable reference

Part number	R833682
Source code	B
R&M positioning	Cat.8.2

Cable construction

Conductor	Bare solid copper wire AWG22 (≥ Ø 0.64 mm)
Insulation	Polyethylene ≤ Ø 1.7 mm
Twisting	2 wires to the pair
Cable lay up	4 pairs to the core
Pair screen	Alu / polyester tape
Overall screen	Copper braid (nom. 55% coverage)
Sheath	LSFRZH, gray RAL 7035; acc. EN50289-2-27





Application

Primary (Campus), Secondary (Riser), Tertiary (Horizontal)
IEEE 802.3an: 10Base-T; 100Base-TX; 1000Base-T;
IEEE 802.3bq: 10GBASE-T over Class-EA 100 m channel; 25GBASE-T over Class-FA 30 m channel; 40GBASE-T over Class-I 30 m channel
IEEE 802.5 16 MB; ISDN; TPDDI; ATM; CATV; SOHO-Cabling 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 ; ISO/IEC TR 11801-99-1
IEC 61156-5; EN50288-12-1 ; IEC 61156-9 (46C/1037E/FDIS)
Power over Ethernet (PoE) Type 1-4

Fire rating

LSFRZH-B2 IEC 60332-1;IEC 60332-3-24; IEC 60754-2; IEC 61034
EN50575; B2ca-s1a,d1,a1; DOP B8001

Technical Data

Cable designation	**S/FTP Cat8.2/Cat.8 2000MHz 4PxAWG22**
Packaging	**Drum 500 m**
Outer diameter	Nominal 8.5mm
Weight	80 kg / km
Thermal load	768 MJ / km
Segregation class	D
Tensile force	180 N

Mechanical Properties

Bending radius	≥ 34 mm during operation (without load)	
	≥ 68 mm during installation (with load)	
Temperature range	During operation	-20°C…+ 60°C
	During installation	0°C…+ 50°C

Electrical Properties (at 20°C ± 5°C)			
	DC loop residence		≤ 13 Ω / 100 m
	Resistance unbalance		≤ 1 %
	Test voltage	DC, 1 min, core/core	1000 V
	Insulation resistance	500 V	≥ 5000 MΩ * km
	Capacitance	At 800 Hz	43 pF / m nom.
	Capacitance unbalance		≤ 1.2 pF / m
	Mean characteristic impedance @ 100 MHz		100 ± 5 Ω
	Nominal velocity of propagation		Approx. 73 %
	Propagation delay	At 1 MHz	≤ 500 ns / 100 m
	Delay skew		≤ 20 ns / 100 m
	Coupling attenuation		≥ 85 dB
	Transfer impedance	At 1 MHz	≤ 5 mΩ / m
		At 10 MHz	≤ 5 mΩ / m
		At 100 MHz	≤ 20 mΩ / m
	Balance TCL	At 1 MHz	≥ 40 dB
		At 10 MHz	≥ 40 dB
		At 100 MHz	≥ 28 dB
		At 1000 MHz	≥ 13 dB
	PS-Alien NEXT	At 1 MHz	≥ 80 dB
		At 10 MHz	≥ 80 dB
		At 100 MHz	≥ 80 dB
		At 1000 MHz	≥ 72,5 dB

Typical transmission characteristics (at 20°C)

f	Attenuation		NEXT		PS-NEXT		ACR-F 1)		PS-ACR-F 1)		Return loss	
(MHz)	(dB/100 m)		(dB)		(dB)		(dB/100 m)		(dB/100 m)		(dB)	
	Max	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ
4	3.7	3.5	78	95	75,0	92,0	78	98	75	95	17	30
10	5.8	5.4	78	95	75,0	92,0	78	97	75	94	25	35
20	8.2	7.6	78	95	75,0	92,0	74.6	96	71.6	93	25	32
62.5	14.5	13.5	78	95	75,0	92,0	64.7	94	61.7	91	23.6	30
100	18.5	17.1	75.4	95	72,4	92,0	60.6	90	57.6	87	22.2	27
250	29.7	27.6	69.4	90	66,4	87,0	52.6	83	49.6	83	19.4	23
600	47.1	44.0	63.7	85	60,7	82,0	45	80	42	77	16.8	20
1000	61.9	58.2	60.4	78	57,4	75,0	40.6	75	37.6	72	15.2	18
1500	77.2	72.9	57.8	75	54,8	72,0	37.1	66	34.1	63	14.0	17
2000	90.5	85.8	55.9	72	52,9	69,0	34.6	59	31.6	56	13.1	16
1) ACR-F was formerly known as ELFEXT.												

Recommended connection technique

Module		Channel Class E_{A-}	Perm. Link Class E_A	Channel TR11801-9905	Channel Class I
	Cat.6$_A$ EL/s	✓	✓	-	-
	Cat.6A/s	✓	✓	25G READY	-
	Cat.8.1/s	✓	✓	25G READY	✓

(*): see installation guide / **Third party certificate: No(Pending)**

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