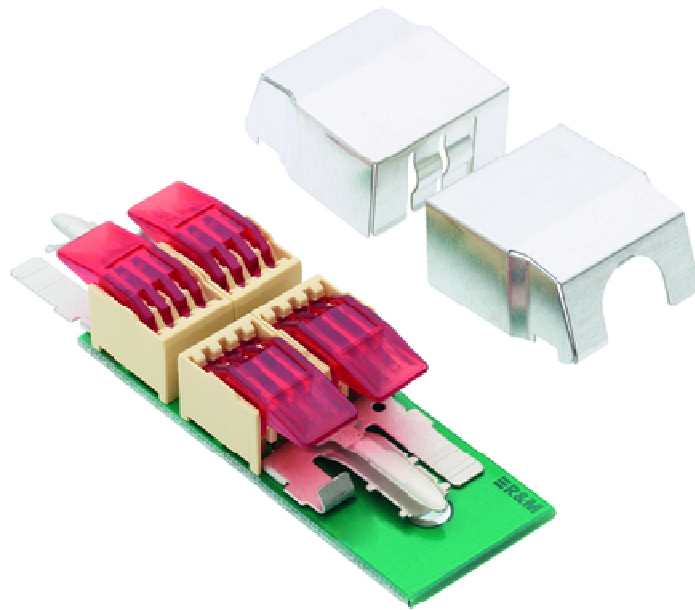


Technical Datasheet



R&M Cable Coupler Kat.6_A Shielded

Cable Coupler, Cat.6A

The Cable Coupler, from the R&Mfreenet cabling system, is ideal for extending or moving a cable or terminal outlet with a minimum of effort and cost. Other applications include cable sharing or removing a section of damaged cable. The well-known and proven technology ensures smooth and fast termination of the cable – without the need for any special tools. The Cable Coupler can be used for transmission frequencies of up to 500 MHz.

Cable Coupler Features

Exceeds the Cat 6A specification as specified by the standards ISO/IEC 11801, EN 50173 and TIA/EIA 568B

Achieves best transmission characteristics with R&Mfreenet Cat 6A cables and better

Tool-free connection of installation cables of AWG 22-30, plus stranded cables of AWG 24/7 – 26/7

Fast and easy shield termination with patented shield contact and integrated cable strain relief

360° shield coverage

Tin-plated insulation displacement contact area

IDC block labyrinth holds wires securely providing vibration resistance

Fits into R&Mfreenet patch panels which use the R&M mounting plate footprint, e.g. Global Patch Panel, 16-Port Patch Panel, etc., the Compact Box 6x1 port, the DESKbox using the Module Holder, or in applications using the universal module holder

Straight-through wiring

Halogen-free materials

Standards

IEC 60603-7: Electrical Characteristics of the Telecommunication Outlets

ISO/IEC 11801 ed. 2.2(2011) PL2 Class EA

EN50173-1: May 2011

Mechanical Data

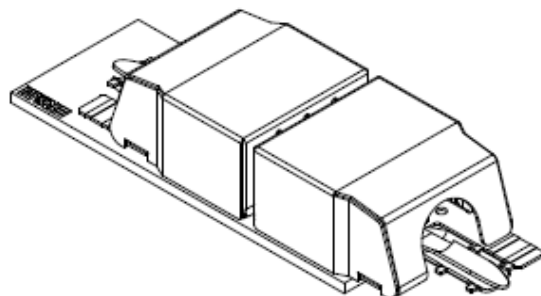
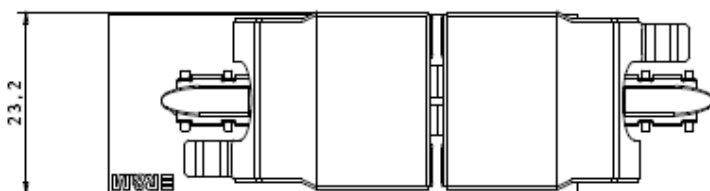
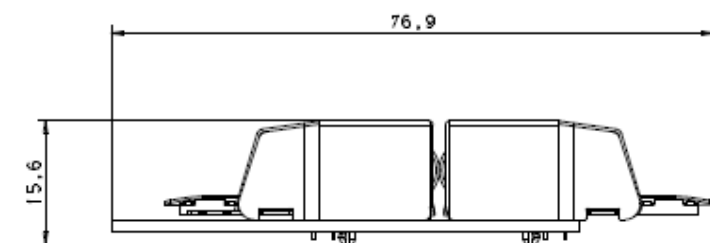
Number of terminal blocks	4
Number of IDC* connections	4/terminal block, 8/side
Operating temperature range	-10°C to 60°C
Storage temperature range	-40°C to 70°C
Humidity	95% (non-condensing)
Housing material	Polycarbonate (UL-94-V0)
IDC contact material	CuSn, tin-plated
Admissible wire Ø	0.25 mm (AWG30) – 0.65 mm (AWG22)
Admissible strand Ø	AWG26/7 – AWG24/7
Admissible insulation Ø	0.7 mm – 1.5 mm
Wire strain relief	Through labyrinth in IDC block
Cable strain relief	Through cable tie

*IDC: Insulation Displacement Contact

Description	Standard value	Relevant Standard	Typical value (at 20°C)
Insertion cycles installation cables**	> 20	ISO/IEC 11801 2 nd Ed.	> 20

** Wire diameter for subsequent insertions must be the same or larger than previous insertion.

Dimensions



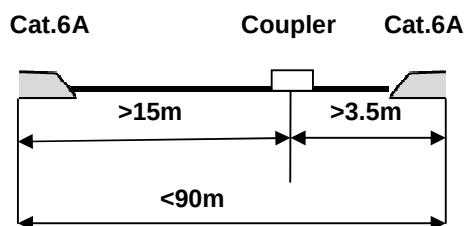
Electrical Data

Description	Standard value	Relevant standard	Typical value (at 20°C)
Electric strength	1000 V DC or AC peak	IEC 60603-7	> 1000 V _{eff}
Insulation resistance	> 500 MΩ (500 V DC)	IEC 60603-7	> 500 MΩ (500 V DC)
Contact resistance	< 200 mΩ	IEC 60603-7	< 50 mΩ

Transfer impedance	EN-51073 value	Typical value (at 20°C)
1 MHz	< 100 mΩ	< 18 mΩ
10 MHz	< 200 mΩ	< 115 mΩ
30 MHz	< 600 mΩ	< 318 mΩ
80 MHz	< 1600 mΩ	< 903 mΩ
100 MHz	< (2000 mΩ)	< 1100 mΩ

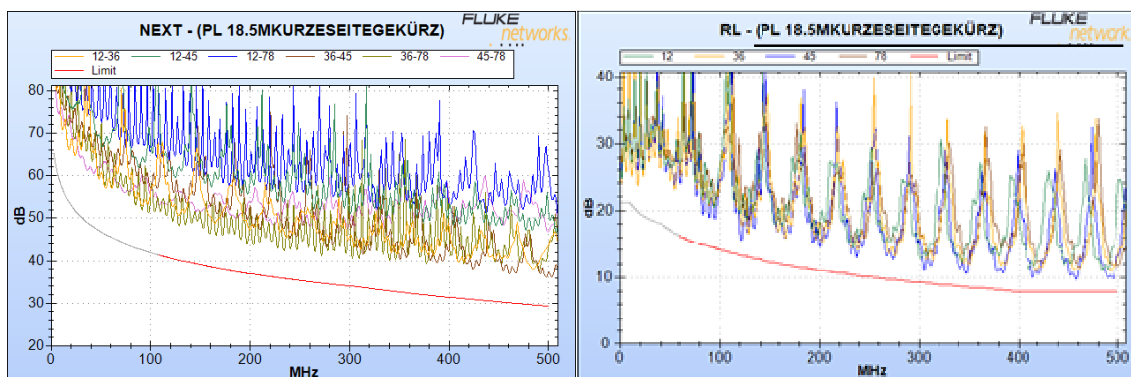
f (MHz)	Attenuation (20°C) [dB]	NEXT (20°C) [dB]	Return Loss (20°C) [dB]
1,0	0,03	97,6	37,7
4,0	0,02	86,1	37,9
10,0	0,02	77,8	37,2
16,0	0,02	73,7	36,2
20,0	0,02	71,8	35,6
31,25	0,03	67,9	33,7
62,5	0,04	61,8	29,5
100,0	0,05	57,8	26,3
125,0	0,07	55,9	24,6
155,0	0,08	54,2	22,5
175,0	0,08	53,2	21,4
200,0	0,09	52,2	20,6
250	0,10	50,8	18,5
300	0,11	48,9	17,6
350	0,13	45,10	15,7
400	0,14	43,11	13,8
450	0,16	41,12	11,9
500	0,17	39,13	9,10

Measure Permanent Link according to Class E_A for twisted pair



Transmission measurements

		With Coupler			
Measurements	PL2	PL2	PL2	PL2	PL2
Length	31m	31m	20.5m	19.5m	18.5m
IL	26.2	26.0	30.6	30.2	31.2
NEXT	9.9	7.3	5.9	5.5	5.1
PS NEXT	9.1	7.4	7.2	7.1	6.6
ACR-F	17.1	17.3	16.8	16.3	16.3
PS ACR-F	18.5	18.5	17.6	18.3	18.8
RL	5.8	2.1	2.2	2.3	1.7
Delay[ns]	139	139	92	88	83
Skew[ns]	3	3	2	2	2
Resistance[Ω]	4.7	4.7	3.1	3.0	2.8



The Permanent Link passes all requirements if the short end is longer than 2.5m.