



### Cat 5e Connection Module

R&M's Cat 5e connection modules, from the R&Mfreenet cabling system, are ideal for voice and fast data transmissions. This high-performance Cat 5e module is perfect for use in 1 Gigabit Ethernet (1GBASE-T) applications to 100 MHz.

### Cat 5e Features

- Exceeds the Cat 5e specification (mated) for the entire de-embedded plug range as specified by the standards (ISO/IEC 11801, EN 50173 and TIA/EIA 568C)
- Attains Cat 5e values together with Cat 5e patch cables, as specified in standard IEC 11801 Ed. 2.2
- Achieves best transmission characteristics with R&Mfreenet Cat 5e patch cables
- Gold-plated contact area and tin-plated insulation displacement contact area
- Maximum reliability through special contact design that does not use internal transfer points such as printed circuit board
- Capacitive and inductive compensation
- RJ-11 compatible
- Fits into all R&Mfreenet patch panels and outlets, as well as in selected vendors' faceplates by using specific adapters
- Tool-free connection of installation cables of AWG 22-26 plus stranded cables of AWG 22/7 – 26/7
- Allows connection of cables with larger or smaller AWG with use of the Screw Clip (R35293)
- Wiring option according to TIA/EIA 568 A and B with parallel termination of the pairs without splitting pair 3,6
- Label with color wiring chart and integrated production date for quality tracing
- 360° shield coverage with shielded modules
- Simple and time-saving, patented shield contact with integrated cable strain relief
- Lead-free shield coating
- Halogen-free material
- Supports PoE (IEEE 802.3af), PoEP (IEEE 802.3at), 4Ppoe (IEEE 802.3bt) and is compatible to IEC 60512-99-001/002



## Standards

IEC 60603-7: Electrical Characteristics of the Telecommunication Components

ISO/IEC 11801, Ed. 2.2: June 2011

EN50173-1: May 2011

## Mechanical data

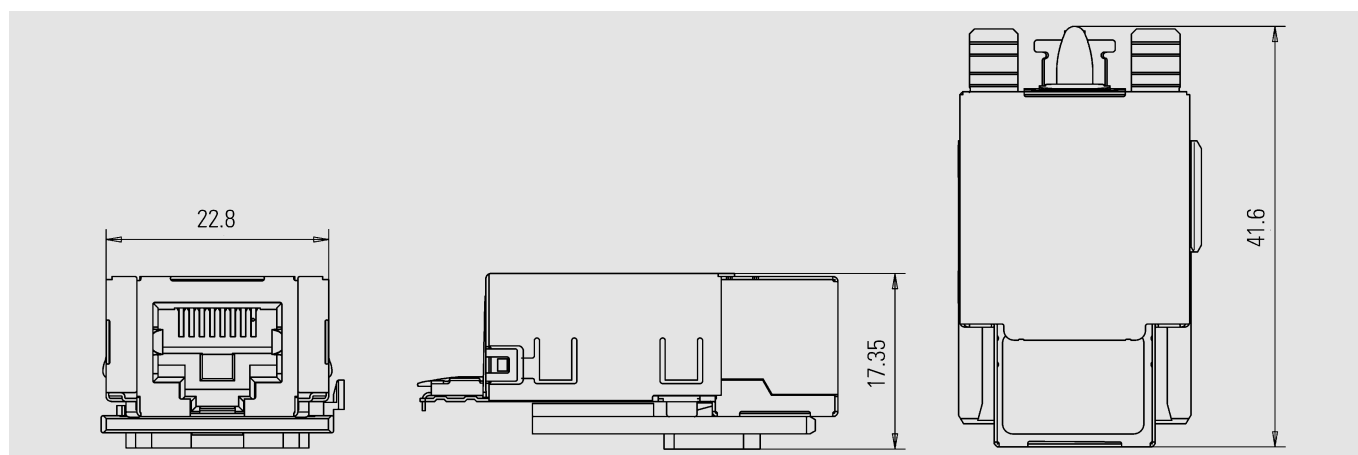
Criteria	Date / value
Number of RJ45 jacks	1
Operating temperature range	-10°C to +60°C
Storage temperature range	-40°C to +70°C
Humidity	95% (non-condensing)
Contact material	CuSn
Contact surface	>0,76 µm gold over >1,2 µm nickel
Housing material	Polycarbonate (UL-94-V0)
Number of IDC* connections	8 / jack
IDC contact material	CuSn, tin-plated
Admissible wire Ø	0,4 mm (AWG26) – 0,65 mm (AWG22)
Admissible strand Ø	AWG26/7 – AWG22/7
Admissible insulation Ø	0,8 mm – 1,6 mm
Wire strain relief	Through labyrinth in IDC block
Cable strain relief	Through cable tie
Shield contact on plug	Through contact springs (on plugs)
Shield contact on installation cable	Large surface with shield lance (on cable)
Earth contact	2 contact fingers for flat plug 4,8 x 0,5 mm
Shield material	CuSn, tin-plated 2-4 µm

\* IDC: Insulation Displacement Contact

Criteria	Standard value	Relevant standard	Typical value (at 20°C)
Mating cycles min.	> 750	ISO/IEC 11801 2 <sup>nd</sup> Ed.	> 1000
Insertion cycles installation cables*	> 20	ISO/IEC 11801 2 <sup>nd</sup> Ed.	> 20

\*Re-terminations may be performed with wire of either larger or equal size than originally terminated.

## Dimensions shielded



## Electrical data

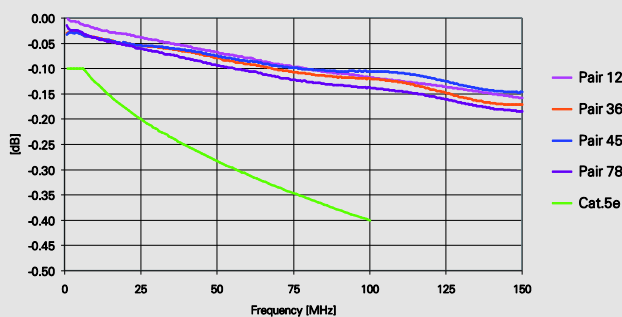
Criteria	Standard value	Relevant standard	Typical value (at 20°C)
Electric strength	1000V DC or AC peak	IEC 60603-7	> 1000V <sub>eff</sub>
Insulation resistance	> 500 MΩ (500V DC)	IEC 60603-7	> 500 MΩ (500V DC)
Contact resistance	< 200 mΩ	IEC 60603-7	< 50 mΩ

Transfer impedance	EN 50173 value	Typical value (at 20°C) (Standard-installation)	Typical value (at 20°C) (Deluxe-installation)
1 MHz	< 100 mΩ	< 75 mΩ	< 50 mΩ
10 MHz	< 200 mΩ	< 150 mΩ	< 100 mΩ
30 MHz	< 600 mΩ	< 450 mΩ	< 300 mΩ
80 MHz	< 1600 mΩ	< 1200 mΩ	< 800 mΩ
100 MHz	< (2000 mΩ)	< 1500 mΩ	< 1000 mΩ

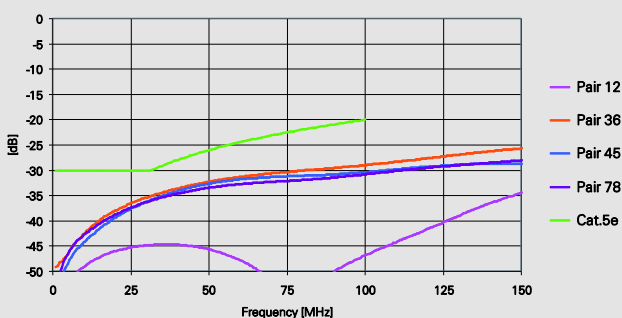
Frequency (MHz)	Insertion Loss (20°C) [dB]	Next (20°C) [dB]	Return Loss (20°C) [dB]
1.0	0.02	91.5	49.0
4.0	0.02	81.5	47.1
10.0	0.03	74.0	42.7
16.0	0.04	69.9	39.4
20.0	0.05	68.0	37.9
31.25	0.06	64.2	35.0
62.5	0.10	57.7	31.1
100.0	0.13	53.0	28.9
125.0	0.16	50.5	27.2
155.0	0.18	48.1	25.4

## Measured values

Cat. 5e shielded, Insertion Loss



Cat. 5e shielded, Return Loss



Cat. 5e shielded, NEXT

