



The Cat.6 connection module, from the R&M *freeenet* cabling system, is ideal for voice and fast data transmissions. It can be used for transmission frequencies of up to 250 MHz.

This high-performance Cat.6 module can also be used in the R&M *freeenet* Channel with 10 Gigabit Ethernet (10GBASE-T) applications to 500 MHz, with a limited length of maximum 55m.

Features of Cat.6 Module

- Attain the Cat.6 specification (mated) for the entire de-embedded plug range as specified by the standards (ISO/IEC 11801, EN 50173 TIA/EIA 568-C and component standard IEC 60603-7-4)
- Attains class E values together with Cat.6 patch cords and installation cables as specified in standard IEC 11801 Amd. 2
- Achieves best transmission characteristics with R&M *freeenet* Cat.6 patch cables (R302309 – R302319)
- NEXT values at 100 MHz are 11dB better than Cat.5e
- NEXT performance is tripled and bandwidth performance is doubled compared to Cat.5e in the channel
- 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
- Compatible with Cat.6 standard plugs
- Full mechanical and electrical backward compatibility with Cat.5e and 5
- RJ-11 compatible
- Fits into 3rd party Keystone outlets
- Tool-free connection of installation cables of AWG 22-24 plus stranded cables of AWG 22/7 – 26/7
- Allows connection of cables with larger or smaller AWG with the use of the Screw Clip (R35293)
- Wiring option according to TIA/EIA 568 A and B with parallel termination of the pairs without splitting of pair 3,6
- Label with color wiring chart and integrated production date for quality tracing
- Halogen-free materials
- PoE and PoE+ compatible
- Delta, GHMT, 3P certified

Standards

IEC 60603-7: Electrical Characteristics of the Telecommunication Components

ISO/IEC 11801, Ed. 2.2: June 2011

EN 50173-1: May 2011

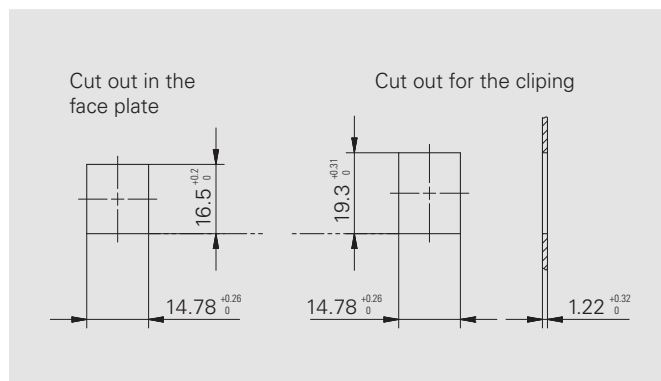
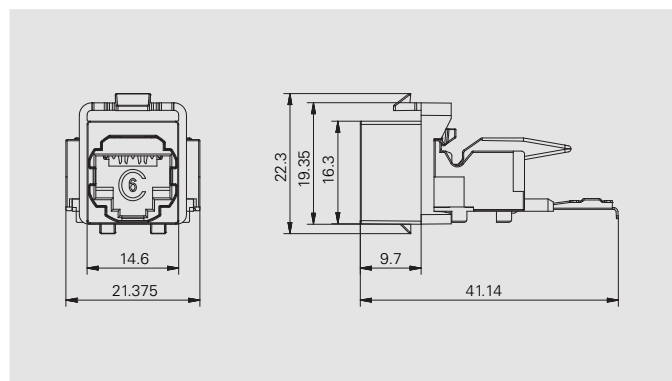
Technical Data

Criteria	Date / value
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	0.5 mm (AWG24) – 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

*IDC: Insulation Displacement Contact

Description	Standard value	Relevant Standard	Typical value (at 20°C)
Mating cycles min.	>750	ISO/IEC 11801	>1000
Insertion cycles min.Installation cables	>20	ISO/IEC 11801	>20

Dimensions



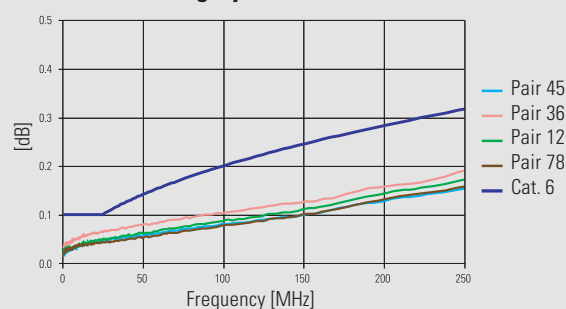
Electrical Data

Description	Standard value	Relevant standard	Typical value (at 20°)
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	<50mΩ

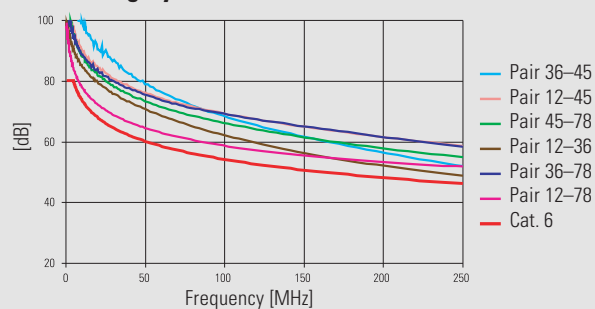
Frequency (MHz)	Attenuation (20°C) [dB]	NEXT (20°C) [dB]	Return Loss (20°C) [dB]
1.0	0.03	98.9	32.1
4.0	0.04	86.0	29.6
10.0	0.05	78.4	30.6
16.0	0.06	74.2	37.4
20.0	0.06	72.3	33.6
31.25	0.07	68.4	37.7
62.5	0.09	62.5	34.0
100.0	0.10	58.5	35.6
125.0	0.11	56.7	32.0
155.0	0.13	55.0	29.2
175.0	0.14	53.8	29.7
200.0	0.16	51.9	27.0
250.0	0.19	48.7	25.0

Measurements

Attenuation, Category 6 unshielded



NEXT, Category 6 unshielded



Return Loss, Category 6 unshielded

