

Technical Datasheet



R&M Cat 5e Unshielded Connection Module



Cat. 5e Connection Modules

R&M's Cat.5e connection modules, part of the R&Mfreenet cabling system are ideal for voice and data transmissions. They are designed for transmission frequencies of up 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 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
- 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 Outlets

ISO/IEC 11801, Ed. 2.2: June 2011

EN50173-1: May 2011

Mechanical Data

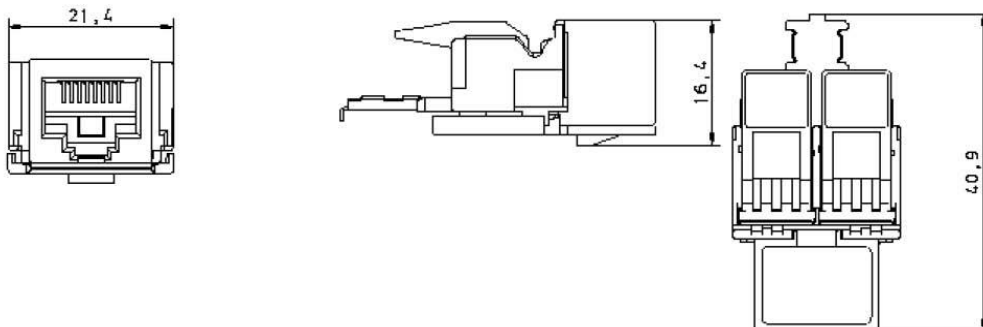
| | |
|-----------------------------|-----------------------------------|
| Number of RJ45 jacks | 1 |
| Operating temperature range | -10°C to 60°C |
| Storage temperature range | -40°C to 70°C |
| Humidity | 95% (non-condensing) |
| Contact material | CuSn |
| Contact surface | >0.76 µm gold over >1.2 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 |

*IDC: Insulation Displacement Contact

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

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

Dimensions, unshielded



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 |

| Frequency (MHz) | Attenuation (20°C) [dB] | NEXT (20°C) [dB] | Return Loss (20°C) [dB] |
|-----------------|-------------------------|------------------|-------------------------|
| 1.0 | 0.02 | 93.9 | 46.6 |
| 4.0 | 0.02 | 82.5 | 45.6 |
| 10.0 | 0.03 | 72.2 | 42.3 |
| 16.0 | 0.04 | 68.3 | 39.5 |
| 20.0 | 0.05 | 66.1 | 38.2 |
| 31.25 | 0.06 | 62.2 | 35.9 |
| 62.5 | 0.10 | 56.2 | 32.7 |
| 100.0 | 0.13 | 52.0 | 30.7 |
| 125.0 | 0.15 | 49.8 | 28.9 |
| 155.0 | 0.17 | 47.7 | 27.6 |

