



The R&Mfreenet Cat.6A EL connection modules, part of the Freenet cabling system, are ideal for voice, fast data transmissions and high bandwidth applications. This high-performance Cat.6A module is perfect for use in 10 Gigabit Ethernet (10GBASE-T) and future high-speed applications to 500MHz.

## Features of Cat.6A EL Modules

- Meets the Cat.6A ISO component specification (for the entire re-embedded plug range as specified by the standards ISO/IEC 11801, EN 50173, TIA 568.2-D, IEC 60603-7-41/51 and 60603-7)
- Exceeding the IEEE 802.3an minimum requirements for 10GBASE-T performance
- Achieves best transmission characteristics with R&Mfreenet Cat.6A patch cables
- Gold-plated contact area and tin-plated insulation displacement contact area
- Capacitive and inductive compensation
- Compatible with Cat.6A standard patch cords and cables
- Full mechanical and electrical backward compatibility with Cat 5e/6
- RJ-11/12/14 compatible
- Fits into 3<sup>rd</sup> party outlets and patchpanel with 4 different adapter
- Tool-free (w/o special tools) connection of installation cables of AWG 22-26 plus stranded cables of AWG 22/7 – 26/7
- Wiring option according to TIA 568 A and B with parallel termination of the pairs without splitting of pair 3,6
- Label with color wiring chart, integrated production date and serialnumber (each module) for quality tracing
- Halogen-free materials, ROHS II
- Supports PoE (IEEE 802.3af), PoEP (IEEE 802.3at), 4Ppoe (IEEE 802.3bt) and is compatible to IEC 60512-99-001/002
- 3P, UL and DNV-GL certified
- Shielded version GHMT certified



## Standards

IEC 60603-7

ISO/IEC 11801

EN50173-1

## 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) unshielded / die-cast (shielded)
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
Admissible cable Ø	4.5 mm – 9.0 mm
Wire strain relief	Through termination block
Cable strain relief	Through integrated strain relief

## IDC Insulation Displacement Contact

Description	Standard value	Relevant Standard	Typical value (at 20°C)
Mating cycles min.	> 750	ISO/IEC 11801	> 1000
IEC 60352-3*	≥ 4		

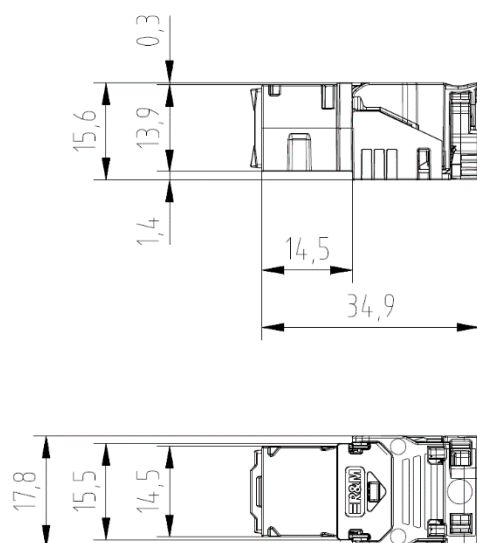
\*Re-terminations may be performed with wire of either same or larger size than originally terminated.

## Electrical Data

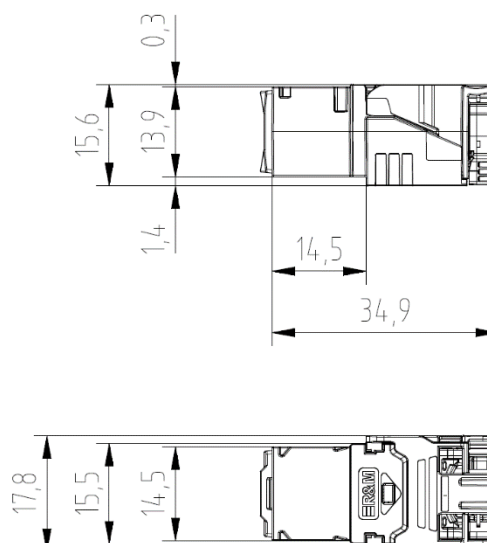
Description	Standard value	Relevant standard	Typical value (at 20°)
Electric strength			
Contacts	1000V DC or AC peak	IEC 60603-7	1200V DC
Contact to shield	1500V DC	IEC 60603-7	1700V DC
Insulation resistance	> 500MΩ (100V DC)	IEC 60603-7	5GΩ (100V DC)
Contact resistance	< 20mΩ	IEC 60603-7	< 5mΩ
I/O resistance	< 200mΩ	IEC 60603-7	30mΩ
I/O resistance unbalance	< 50mΩ	IEC 60603-7	20mΩ
Current carrying capacity	1A @ 60°C	IEC 60603-7	Pass

## Dimensions






### Unshielded



### Shielded



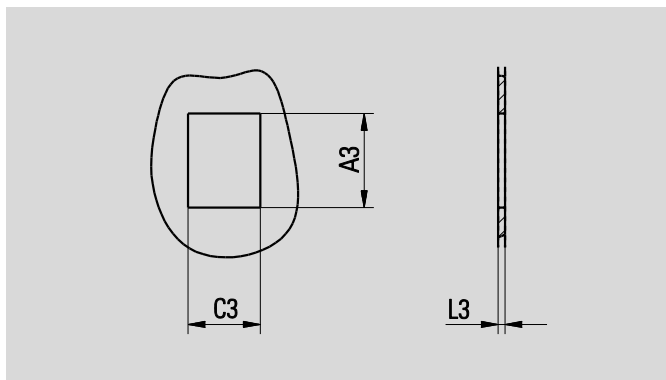
## Available Adapters

Freenet	Keystone IEC	Adapter No.1 (UTP only)	Snap-In
	A3/L3: see below, STP/UTP different 		
	Keystone LARGE 20.3mm (UTP only) A3: 20.1 – 20.9mm L3: 1.20 – 1.95mm 		

## IEC Keystone cut-out

The keystone adapter ensures that the module will fit in keystone cut-outs as defined in IEC60603-7 ed. 3 Annex D.

## Dimensions IEC Keystone



Letter	IEC standard values		Adapter capabilities	
	Maximum (mm)	Minimum (mm)	STP (mm)	UTP (mm)
A3	19.61	19.30	19.3 - 19.6	19.3 - 19.7
C3	15.04	14.78	n.a.	n.a.
L3	1.54	1.22	1.22 – 1.80	1.20 – 1.95