



The R&Mfreenet Cat.6 EL connection modules, part of the Freenet cabling system, are ideal for voice, fast data transmissions and high bandwidth applications. This high-performance Cat.6 module is perfect for use in 1 Gigabit Ethernet (1GBASE-T) and future high-speed applications up to 250MHz.

Features of Cat. 6 EL Modules

- Meets the Cat.6 TIA and ISO component specification for the entire re-embedded plug range as specified by the standards TIA/EIA 568-C.2, ISO/IEC 11801, EN 50173, IEC 60603-7-5 and 60603-7
- Meets the IEEE 802.3 requirements for 1GBASE-T performance
- Achieves best transmission characteristics with R&Mfreenet Cat. 6 patch cables
- Gold-plated contact area and tin-plated insulation displacement contact area
- Capacitive and inductive compensation
- Compatible with Cat. 6 standard patch cords and cables
- Full mechanical and electrical backward compatibility with Cat. 5e
- RJ-11/12/14 compatible
- Fits into 3rd party outlets and patch panels by using 4 different adapters
- 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/EIA 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
- UL registered component



Standards

TIA/EIA 568-C.2

IEC 60603-7

ISO/IEC 11801

EN50173-1

Technical Data

Criteria	Date / value
Operating temperature range	-10°C to 60°C (14°F to 140°F)
Storage temperature range	-40°C to 70°C (-40°F to 158°F)
Humidity	95% (non-condensing)
Contact material	CuSn
Contact surface	> 0.76 µm (0.029 mil) gold over >1.2 µm (0.047 mil) nickel
Housing material	Polycarbonate (UL-94-V0)
Number of IDC* connections	8 / jack
IDC contact material	CuSn, tin-plated
Admissible wire Ø	0.4mm (0.016 inch) (AWG26) – 0.65mm (0.026 inch) (AWG22)
Admissible strand Ø	AWG26/7 – AWG22/7
Admissible insulation Ø	0.8 mm – 1.6 mm (0.032 inch – 0.063 inch)
Admissible cable Ø	4.5 mm - 9.0mm (0.18 inch - 0.35 inch)
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		

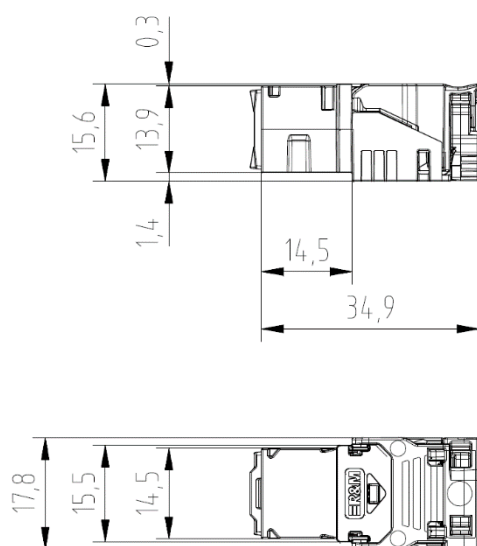
*Re-terminations may be performed with wire of either same or larger size than originally terminated.

Electrical Data

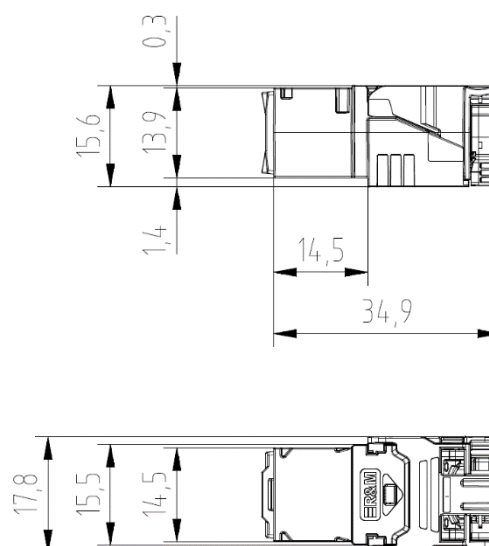
Description	Standard value	Relevant standard	Typical value (at 20°)
Electric strength			
Contacts	1000V DC or AC peak	IEC 60603-7	1200V DC
Contact to shield	1500V DC	IEC 60603-7	1700V DC
Insulation resistance	> 500MΩ (100V DC)	IEC 60603-7	5GΩ (100V DC)
Contact resistance	< 20mΩ	IEC 60603-7	< 5mΩ
I/O resistance	< 200mΩ	IEC 60603-7	30mΩ
I/O resistance unbalance	< 50mΩ	IEC 60603-7	20mΩ
Current carrying capacity	1A @ 60°C (140°F)	IEC 60603-7	Pass

Dimensions (mm)

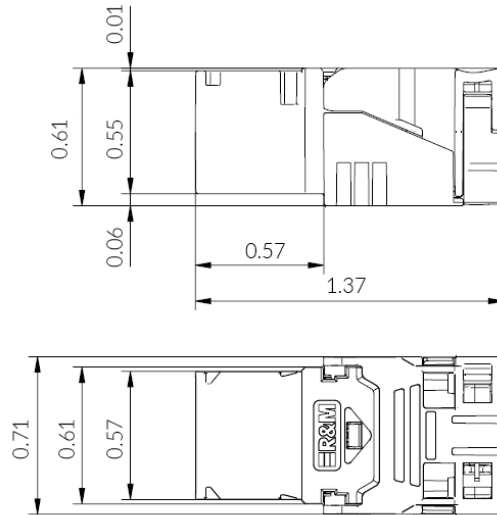
Unshielded








Shielded



Dimensions (inch)



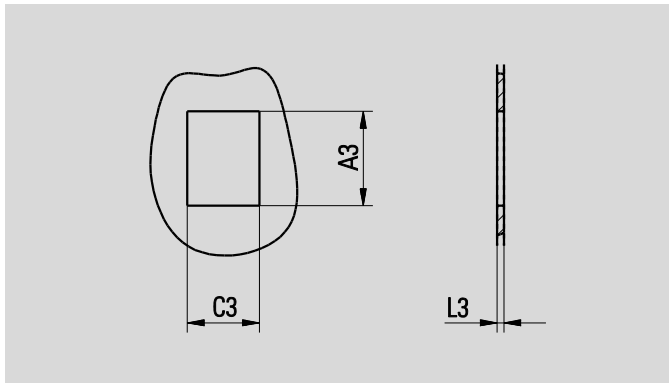
Available Adapters

Freenet	Keystone IEC	Adapter No.1 (UTP only)	Snap-In
	Keystone IEC 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



IEC standard values			Adapter capabilities	
Letter	Maximum (mm/in)	Minimum (mm/in)	STP (mm/in)	UTP (mm/in)
A3	19.61 / 0.772	19.30 / 0.759	19.3 - 19.6 / 0.759 – 0.772	19.3 - 19.7 / 0.759 – 0.776
C3	15.04 / 0.592	14.78 / 0.582	n.a.	n.a.
L3	1.54 / 0.061	1.22 / 0.048	1.22 – 1.80 / 0.048 – 0.071	1.20 – 1.95 / 0.047 – 0.077