CONEC®

TECHNOLOGY IN CONNECTORS™

INDUSTRIAL ETHERNET RJ45 CONNECTOR SYSTEM – IP 67 RATED

QUALITY IN CONNECTION
Sealed Industrial Ethernet Circular IP

Well known and established in the field of data communication for office applications: The RJ45 connector. In today's Ethernet-networking structures, this reliable interface provides fast and secure communication between all devices arranged in networking structures.

With Industrial Ethernet a shift takes place where data networking technology from protected office applications – required IP class 20 (protection against middle sized particles, no protection against water) – is transferred into industrial production environments.

The transfer to industrial networks requires an adaption of the connection technology for the involved devices forced by different environmental demands.

An increased protection of the connection technology against dirt and humidity as described in protection class IP 67 (no dust entry, protection against temporarily submersion) is mandatory, often simultaneously in combination with higher demands regarding electromagnetical influences, vibration or temperature.

Another important aspect is the fast and secure handling of connection technology in harsh environments. Time consuming mounting and connecting activities result in a higher risk for the equipment during installation.

For the real time Ethernet in acc. to EtherNet/IP CONEC developed a circular RJ45-connector system with bayonet coupling mechanism conforming to IEC 61076-3-106 standards. This rugged version provides fast and reliable connections for class IP 67 rated applications.

67 RJ45 Connector System

As a result of its special design, the connector can be recommended for the use in a wide range of applications in the field of

- industrial machinery, CNC machines
- communication equipment
- food and chemical process equipment
- railway network systems
- oil exploration
- industrial process control
- diagnostic equipment
- printers, displays
- factory automation, robotics
- outdoor telecom systems

The connection system consists of a receptacle housing kit for assembly on a device with panel thicknesses up to 3,2 mm - front or rear mounting possible and a protective cover. Three versions of receptacle housings are available:

- RJ45 Cat. 5e Inline Coupler version, connection with standard IP 20 patch cord cable inside the device
- RJ45 Cat. 5e Jack IDC version, IDC connection inside the device
- RJ45 Cat. 5e Jack PCB version, solder connection inside the device

Applicable plug kit for cable mount, IP 67 rated RJ45 Cat. 5e plug in a bayonet coupling housing. For AWG 24 copper wire, stranded or solid cable.

Metalized and shielded versions are available for higher EMI requirements.
The product range is completed by RJ45 cat. 5e patch cords in various lengths and versions, assembly and test tools.

More information
and data sheets
see www.conec.com.
If you don't find your connector in
this overview: just inquire!

RJ45 Circular Connector - protection class IP 67

Technical Data	
Connector type	RJ45 Cat. 5e acc. EIA/TIA-568-B2
Connection mechanism	Bayonet coupling mechanism conforming to IEC 61076-3-106
IP protection class	IP 67
Temperature range	-40°C to + 85°C

Electrical Characteristics	
Current rating	1.2 A max. at 25°C
Working voltage	100 V_{DC}
Contact resistance	20 mΩ max.
Insulation resistance	500 MΩ min. at 100 V_{DC}
Dielectric withstanding voltage contact - contact	1000 V_{DC} / 60 s
Dielectric withstanding voltage contact - shell	1500 V_{DC} / 60 s

Parts And Materials	
Receptacle housing	PBT (black) or ABS metallized (nickel plated), rated UL 94-V0
Panel nut	brass, nickel plated
Panel gasket	silicone (white)
RJ45 Jack metal shell	copper alloy, nickel plated
RJ45 Jack housing	PBT (black), rated UL 94-V0
RJ45 Jack contact	phosphor bronze, 1.2 μm (50μ") gold plated
Plug housing	PBT (black) or ABS metallized (nickel plated), rated UL 94-V0
Plug coupling ring	PBT (black) or ABS metallized (nickel plated), rated UL 94-V0, or zinc, diecast (nickel plated)
cable gland body	PBT (black) rated UL 94-V0 or brass nickel plated
cable gland seal	NBR (black)
Interfacial seal	silicone (white)
RJ45 Plug metal shell	copper alloy, nickel plated
RJ45 Plug housing	polycarbonate (clear), rated UL 94-V0
RJ45 Plug contact	phosphor bronze, 1.2 μm (50μ") gold plated
Protective cover	PBT (black) or ABS metallized (nickel plated), rated UL 94-V0
Cover gasket	silicone (red)
Tether	PE (black)

Technical alterations are subject to change without prior notice.

Directive 2002 95 EC „RoHS" Compliant

CONEC

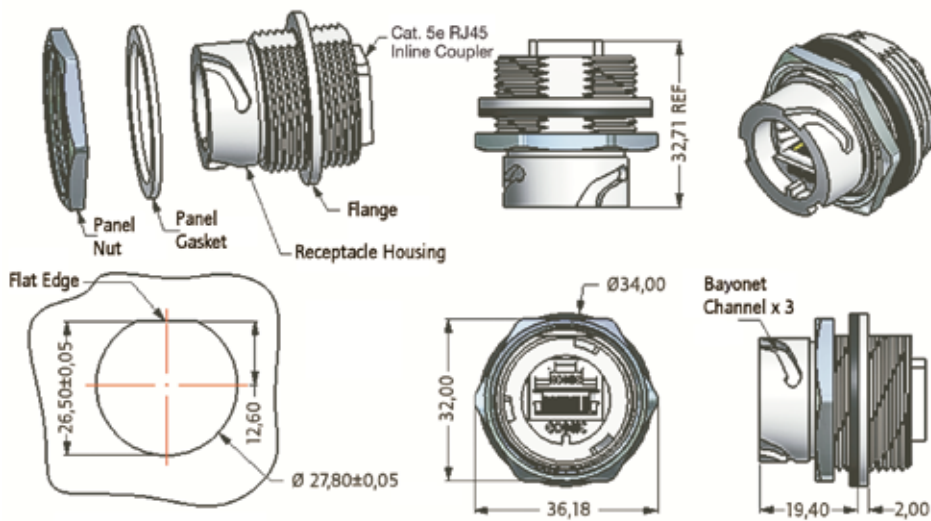# RJ45 RECEPTACLE HOUSING
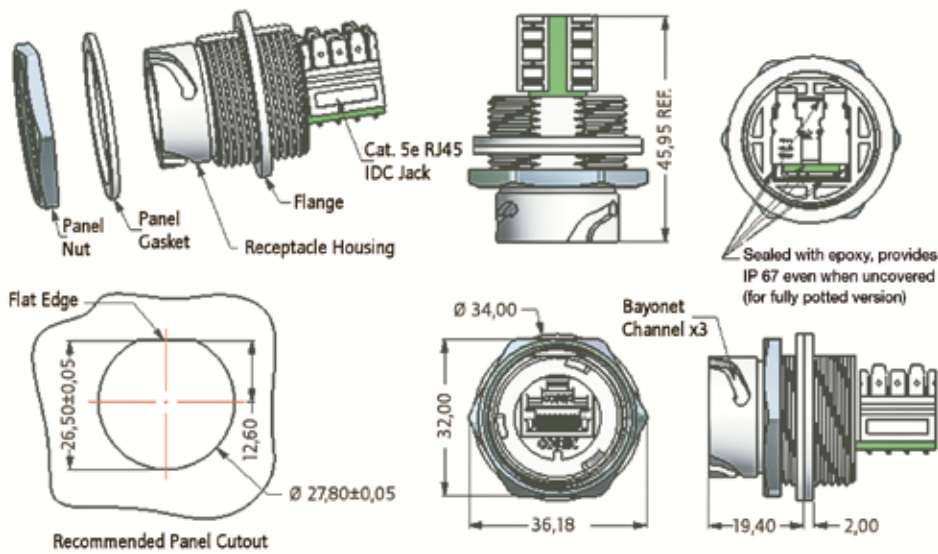
Coupler Version

PRODUCT FEATURES

Receptacle housing for front or rear panel mounting, panel thickness up to 3.2 mm.
The receptacle housing establishes a reliable IP 67 protected connection after coupling with the RJ45 Cat. 5e plug kit.
Inside the device, a standard patch cable with RJ45 Cat. 5e plug IP 20 will be applied into the inline coupler.

- Inline coupler version

- plastic or plastic metallized version

- unshielded or shielded coupler

PRODUCT DRAWING

ORDERING OPTIONS

Type	Material	RJ45 Cat.5e Version	Protective Cover	Part numbers
Receptacle housing	plastic black	Inline Coupler, shielded		17-10009
Receptacle housing	plastic black	Inline Coupler, unshielded		17-10019
Receptacle housing	plastic metallized	Inline Coupler, shielded		17-10012
Receptacle housing	plastic black	Inline Coupler, shielded	with cover	17-10000
Receptacle housing	plastic black	Inline Coupler, unshielded	with cover	17-10020
Receptacle housing	plastic metallized	Inline Coupler, shielded	with cover	17-10011

Detailed data sheets for the mentioned part numbers are available under www.conec.com

RJ45 Receptacle Housing

IDC Jack Version

Receptacle housing for front or rear panel mounting, panel thickness up to 3.2 mm.
The receptacle housing establishes a reliable IP 67 protected connection after coupling with the RJ45 Cat. 5e plug kit.
The RJ45 Cat. 5e jack offers an IDC connection for fast and easy cable mount inside the device.

- IDC jack version

- plastic or plastic metallized version

- shielded RJ45 Cat. 5e jack

Product Drawing

Ordering Options

Type	Material	RJ45 Cat.5e Version	Sealing	Protective Cover	Part numbers
Receptacle housing	plastic black	IDC jack, shielded			17-10015
Receptacle housing	plastic metallized	IDC jack, shielded			17-10016
Receptacle housing	plastic black	IDC jack, shielded	epoxy seal		17-10033
Receptacle housing	plastic metallized	IDC jack, shielded	epoxy seal		17-10034
Receptacle housing	plastic black	IDC jack, shielded		with cover	17-10021
Receptacle housing	plastic metallized	IDC jack, shielded		with cover	17-10022
Receptacle housing	plastic black	IDC jack, shielded	epoxy seal	with cover	17-10037
Receptacle housing	plastic metallized	IDC jack, shielded	epoxy seal	with cover	17-10038

Detailed data sheets for the mentioned part numbers are available under www.conec.com

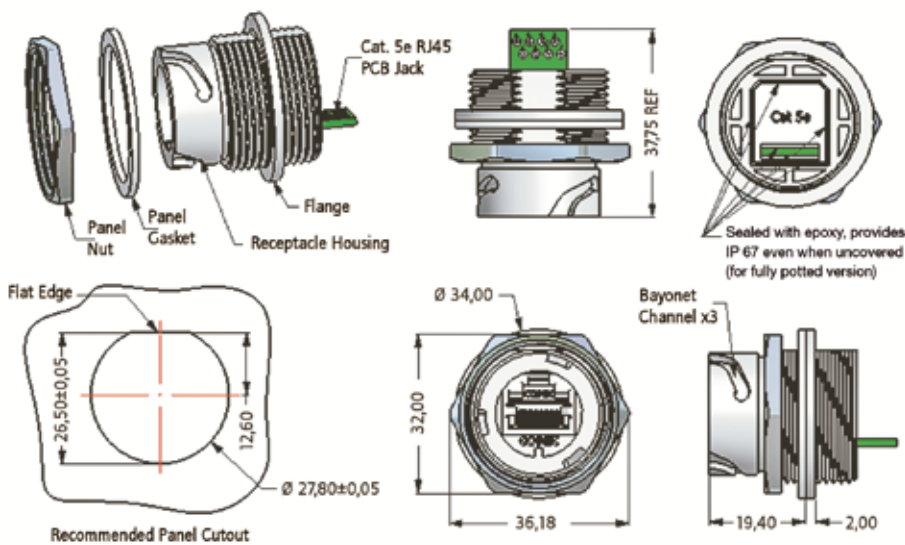# RJ45 Receptacle Housing

PCB Jack Version

Product Features

Receptacle housing for front or rear panel mounting, panel thickness up to 3.2 mm.
The receptacle housing establishes a reliable IP 67 protected connection after coupling with the RJ45 Cat. 5e plug kit.
Solder assembly of the cable inside the device on a special PCB.

- solder termination

- plastic or plastic metallized version

- shielded RJ45 Cat. 5e jack

Product Drawing

Ordering Options

Type	Material	RJ45 Cat.5e Version	Sealing	Protective Cover	Part numbers
Receptacle housing	plastic black	PCB jack, shielded			17-10017
Receptacle housing	plastic metallized	PCB jack, shielded			17-10018
Receptacle housing	plastic black	PCB jack, shielded	expoxy seal		17-10035
Receptacle housing	plastic metallized	PCB jack, shielded	expoxy seal		17-10036
Receptacle housing	plastic black	PCB jack, shielded		with cover	17-10023
Receptacle housing	plastic metallized	PCB jack, shielded		with cover	17-10024
Receptacle housing	plastic black	PCB jack, shielded	expoxy seal	with cover	17-10039
Receptacle housing	plastic metallized	PCB jack, shielded	expoxy seal	with cover	17-10040

Detailed data sheets for the mentioned part numbers are available under www.conec.com

RJ45 PLUG KIT
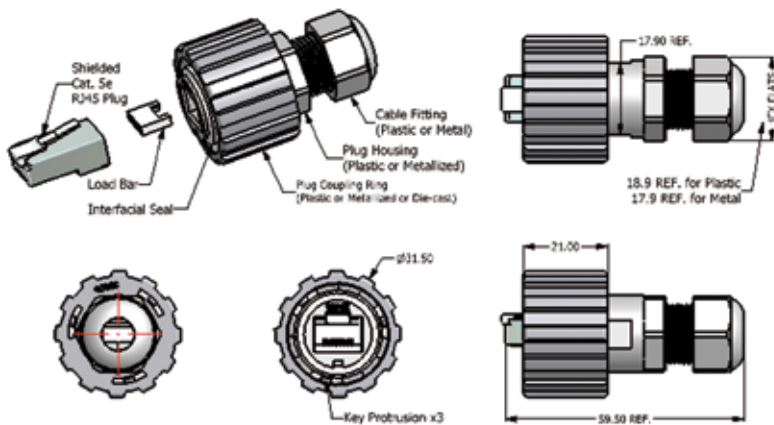
Standard Version

PRODUCT FEATURES

Applicable RJ45 Cat. 5e plug in a bayonet mechanism housing. The shielded RJ45 Cat. 5e plug connector is precisely aligned in the housing by its locking tab after assembling the cable and allows an easy and fast connection of both halves of the system. The bayonet mechanism interlocks with an audible "click" and provides a reliable IP 67 protection.

- for AWG 24 copper wire, stranded or solid cables

- plastic or plastic metallized version

- shielded RJ45 Cat. 5e plug connector
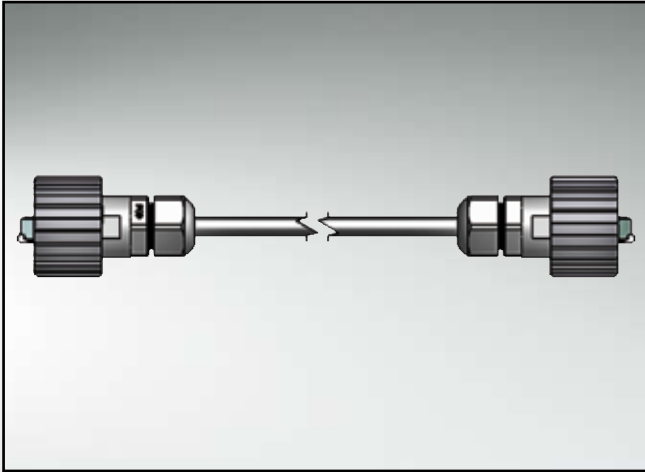
PRODUCT DRAWING

BESTELLOPTIONEN

Type	Material	RJ45 Cat.5e Version	Part numbers
Plug kit	plastic black	plug, shielded	17-10001
Plug kit	plastic metallized	plug, shielded	17-10013
Plug kit	zinc diecast	plug, shielded	17-10044

Detailed data sheets for the mentioned part numbers are available under www.conec.com
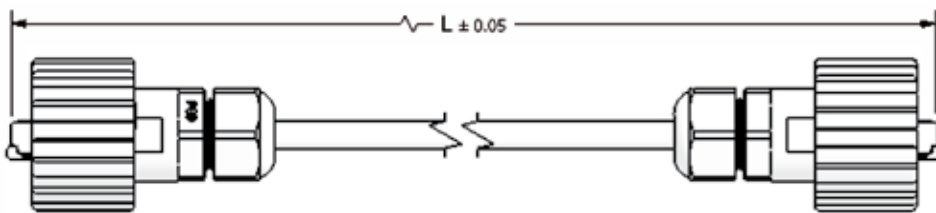
PATCH CORD

IP 67 – IP 67

PRODUCT FEATURES

- assembled patch cord in different lengths
- both sides CONEC RJ45 plug connectors IP 67 protected
- plastic or plastic metallized version
- shielded (STP) or unshielded (UTP) twisted pair cable
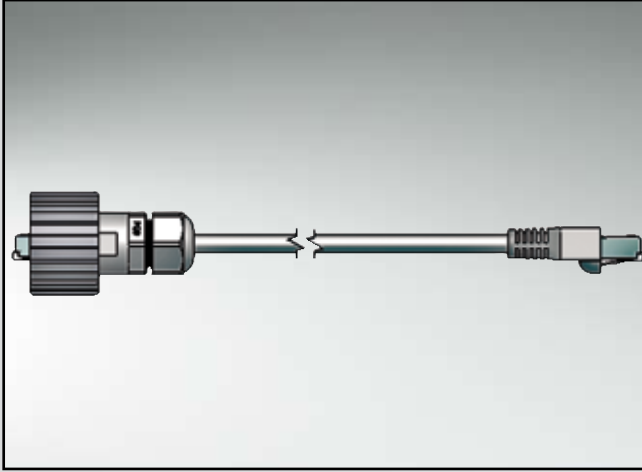
PRODUCT DRAWING

ORDERING OPTIONS

Type	IP protection class	Material	Cable	Total length	Part numbers
Patch cord	IP 67 / IP 67	plastic black	UTP, unshielded	2 m	17-10003
Patch cord	IP 67 / IP 67	plastic black	UTP, unshielded	4 m	17-10004
Patch cord	IP 67 / IP 67	plastic black	UTP, unshielded	5 m	17-10005
Patch cord	IP 67 / IP 67	plastic metallized	STP, shielded	2 m	17-10025
Patch cord	IP 67 / IP 67	plastic metallized	STP, shielded	4 m	17-10026
Patch cord	IP 67 / IP 67	plastic metallized	STP, shielded	5 m	17-10027

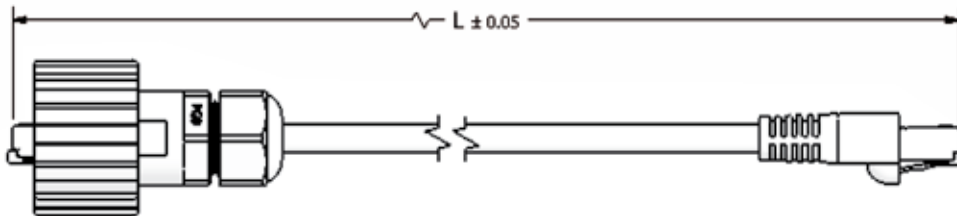Detailed data sheets for the mentioned part numbers are available under www.conec.com

Patch Cord

IP 67 – IP 20

- assembled patch cord in different lengths
- RJ45 Plug connector IP 67 to RJ45 plug connector IP 20
- plastic or plastic metallized version
- shielded (STP) or unshielded (UTP) twisted pair cable

Product Drawing

Type	IP protection class	Material	Cable	Total length	Part numbers
Patch cord	IP 67/IP 20	plastic black	UTP, unshielded	2 m	17-10006
Patch cord	IP 67/IP 20	plastic black	UTP, unshielded	4 m	17-10007
Patch cord	IP 67/IP 20	plastic black	UTP, unshielded	5 m	17-10008
Patch cord	IP 67/IP 20	plastic metallized	STP, shielded	2 m	17-10028
Patch cord	IP 67/IP 20	plastic metallized	STP, shielded	4 m	17-10029
Patch cord	IP 67/IP 20	plastic metallized	STP, shielded	5 m	17-10030

Detailed data sheets for the mentioned part numbers are available under www.conec.com
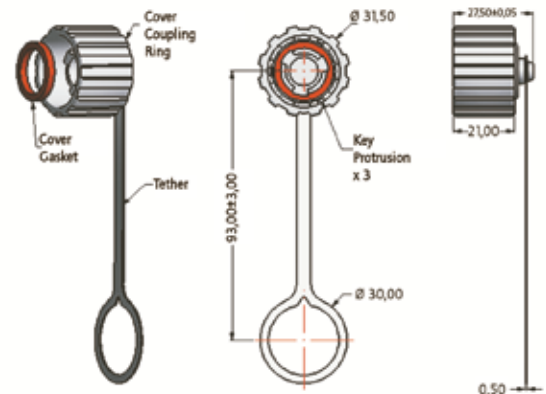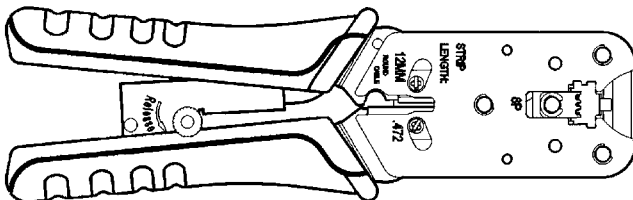
Accessories and Tools

for RJ45 Connectors

PRODUCTS

- Spare protective cover
- RJ45 modular plug termination tool
- Punch down tool for IDC RJ45 jack version
- RJ45 Cat. 5e plug connector, shielded
- RJ45 modular boot
- "Network" multi-modular cable tester

PRODUCT DETAILS FOR TERMINATION TOOL AND PROTECTIVE COVER

ORDERING OPTIONS

Type	Part numbers
Spare protective cover-plastic black	17-10002
Spare protective cover-plastic metallized	17-10014
Modular plug termination tool	360X30029X
Punch down tool for RJ45 Jack-IDC version	360X30049X
Shielded Cat. 5e RJ45 plug	391J00039X
RJ45 modular boot	795-601302
Multi-modular cable tester	360X30039X

Detailed data sheets for the mentioned part numbers are available under www.conec.com

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THE COMPANY

CONEC Elektronische Bauelemente GmbH was founded 1978 in Lippstadt, Germany. Currently more than 400 employees work at the company production sites. Precision connectors for high-end applications are produced at production plants in Lippstadt (Germany), Brampton (Canada), Garner (USA) and Loucka (Czech Republic).

THE COMPETENCE

CONEC is an ISO/TS 16949:2002 certified company and is a qualified vendor to many well-known telecommunications, automotive, avionics and industrial electronics manufacturers. The company maintains a very high degree of vertical integration to ensure that it can react quickly to customer expectations and changes in the market. In-house tool making capability gives CONEC ample flexibility to quickly build or modify tools to accommodate customer-specific solutions.

THE QUALITY

The company is one of the world market leaders in filter connectors, combination D-SUB connectors and water resistant connectors.

THE FLEXIBILITY

The company also produces standard D-SUB, DIN/EN, coax, fiber optics and RJ45 connectors as well as PICMG-compliant connectors and M12 and M8 circular connectors. Besides the broad product range, customers also value the company's ability to provide customer-specific solutions.

www.conec.com