

# RJF

Ethernet connection system for harsh environment – Industrial Ethernet



RJF allows you to use an Ethernet Class D / Cat. 5e connection for 10 BaseT, 100 BaseTX or 1000 BaseT networks in harsh environments. With the patented RJStop® system you can use a standard RJ45 cordset in a **metallic** plug which will protect it from shocks, dust and fluids.  
**No hazardous on-field cabling and grounding!**

### Applications

- Robotics
- Industrial process control
- CNC machines
- Special machines
- Oil & Gas
- Motion control
- Data acquisition and transmission in harsh environment
- Tele-maintenance

### Data transmission

10 BaseT, 100 BaseTX and 1000 BaseT networks  
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

### Main characteristics

- Compliant with IEC 60603-7 variante 11
- **Bayonet coupling** ("Audible & Visual" coupling signal)
- **Robust metallic shells based on MIL-DTL-26482 H - Shell size 18**
- RJ45 cordset retention in the plug: 100 N in the axis
- Mating cycles: 500 min
- Sealed against fluids and dust (IP68)
- Shock, vibration and traction resistant
- No cabling operation in field and no tools required
- Mechanical coding / polarization (4 positions)
- Compatible with cable diameter from 6 mm [0.236 in] to 13 mm [0.512 in]  
For smaller diameters, please consult us.

### Environmental protection

- Sealing: IP68
- Salt spray: 48 h with nickel plating  
> 96 h with black coating  
< 500 h with olive drab cadmium
- Fire retardant/Low smoke: UL94 V0 and NF F 16 101 & 16 102
- Vibrations: 10-500Hz, 10g, 3 axes: no discontinuity >10 nano s
- Shocks: IK06 ► weight of 250 g drop from 40cm [15.75 in] onto connectors (mated pair)
- Humidity: 21 days, 43°C, 98% humidity
- Thermal shock: 5 cycles at -40°C / +100°C
- Temperature range: -40°C / +85°C
- Storage temperature:

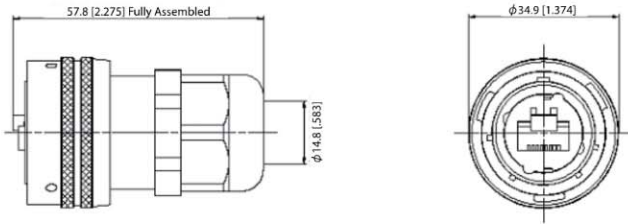
### Part number code

	RJF	2	2	B	03 100BTX
<b>Shell type</b>					
<b>6:</b> plug, plastic gland					
<b>6M:</b> plug, metal gland					
<b>2:</b> square flange receptacle					
<b>2PE:</b> square flange receptacle, IP68 backshell, plastic gland					
<b>2PEM:</b> square flange receptacle, IP68 backshell, metal gland					
<b>7:</b> jam nut receptacle					
<b>7PE:</b> jam nut receptacle, IP68 backshell, plastic gland					
<b>7PEM:</b> jam nut receptacle, IP68 backshell, metal gland					
<i>Note: also available a transversally sealed receptacle (unmated) ► see page 22</i>					
<b>Back terminations (for receptacles only)</b>					
<b>1:</b> female RJ45					
<b>1RA:</b> right angle female RJ45					
<b>2:</b> RJ45 cordset					
<b>Shell finishes</b>					
<b>B:</b> black Coating - ROHS compliant					
<b>N:</b> nickel (note: with this version, the inserts are metallized) - ROHS compliant					
<b>G:</b> olive drab cadmium (note: with this version, the inserts are metallized)					
<b>BZC:</b> aluminium shell - black zinc cobalt plating					
<b>ZC:</b> aluminium shell - green zinc cobalt plating - ROHS compliant					
<b>Cordset length (for receptacles with "2" back termination only) - Other lengths are available on demand</b>					
<b>03 100 BTX:</b> 0.3m [11.81 inches]					<b>00:</b> 8 tinned holes at the rear of the PCB to solder the cable
<b>05 100 BTX:</b> 0.5m [19.68 inches]					<b>OPEN:</b> open cable - with no plug at the end
<b>10 100 BTX:</b> 1m [39.37 inches]					
<b>15 100 BTX:</b> 1.5m [59.05 inches]					
<b>Remark: Cabling configuration</b> → 100 BTX = 568B (Ethernet specification)					

- Examples:**
- Nickel plug: RJF 6 N
  - Black square flange receptacle, female RJ45 back termination: RJF 2 1 B
  - Olive drab cadmium jam nut receptacle, 1.5m [59.05"] 100 BTX cordset termination: RJF 7 2 G 15 100BTX
  - Black in line square flange receptacle, 30cm [11.81"] 100BTX cordset termination: RJF 2PE 2 B 03 100BTX
  - Nickel jam nut receptacle, solder termination: RJF 72 N 00

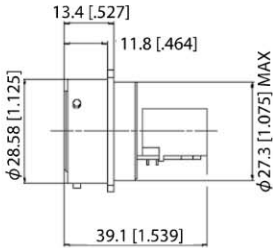
## Plug

- Shell type 6 with plastic or metal gland

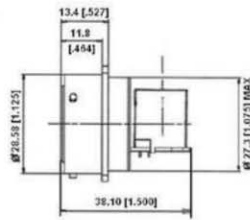


## Receptacles

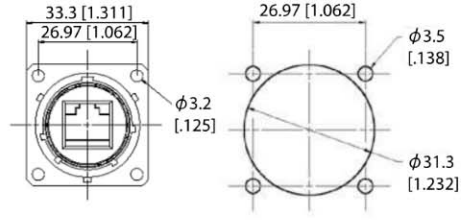
- Square flange receptacle • 4 mounting holes: shell type 2



RJF 21 X (Straight Female RJ45)

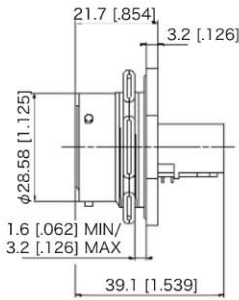


RJF 21 RA X (Right Angle Female RJ45)

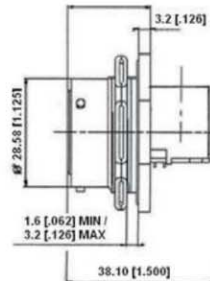


Panel Drilling

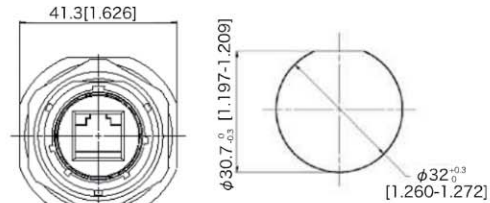
- Jam nut receptacle • Hexagonal nut mounting: shell type 7



RJF 71 X (straight female RJ45)

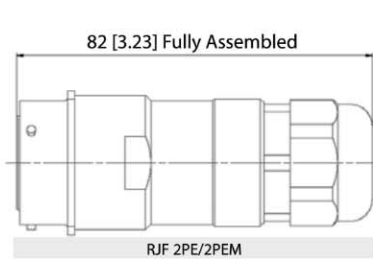


RJF 71 RA X (right angle female RJ45)

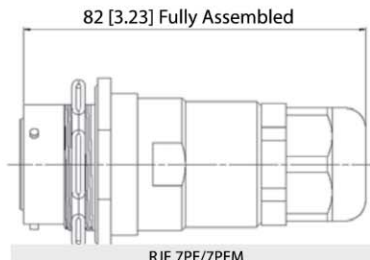


Panel drilling

- Receptacles with IP68 backshell : shell type 2PE and 7PE with plastic or metal gland



RJF 2PE/2PEM



RJF 7PE/7PEM

## Back terminations



Type 1  
Female RJ45

Type 1RA  
Right angle female RJ45

Type 2  
RJ45 cordset

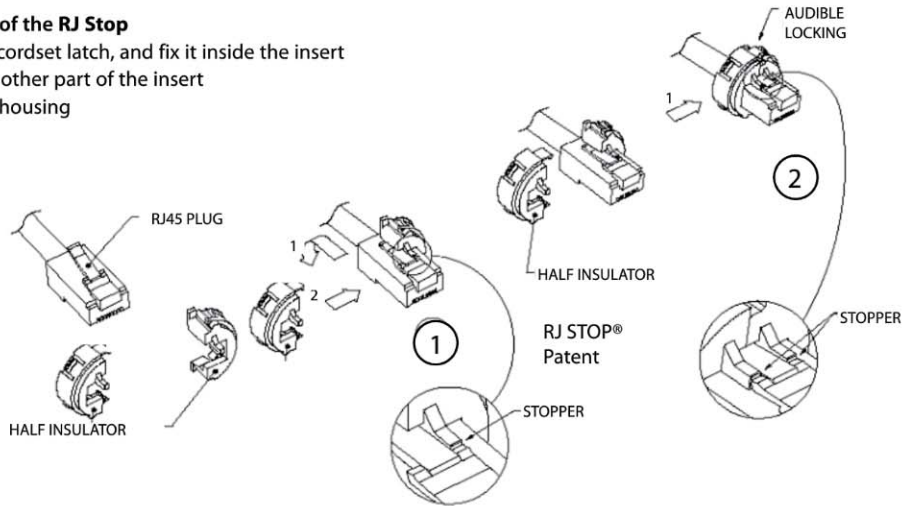
Type OPEN  
No plug at the end

Type 2-00  
Solder - 8 tinned holes

Universal: can be used with all standard RJ45 Cat.5e cordset brands.

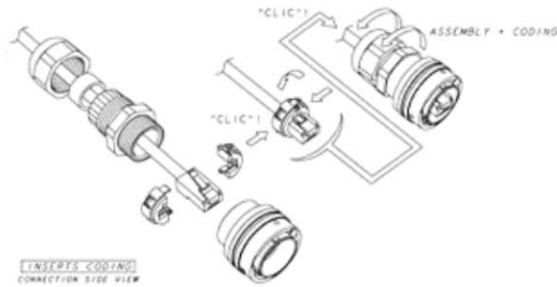
**Assembly instructions of the RJ Stop**

1. Push down the RJ45 cordset latch, and fix it inside the insert
2. Press in and click the other part of the insert
3. Insert in the metallic housing

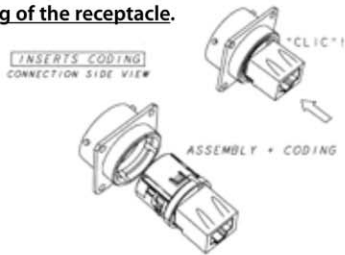


Easy and safe - No field cabling tools required for cabling

**Assembling of the plug.**

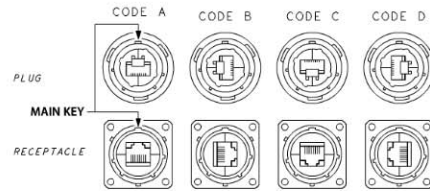


**Assembling of the receptacle.**



**4 codings possibilities**

(defined by the customer during the assembling).



**IMPORTANT NOTE:** to remove the insert, use the

- Insert removal tool for receptacle and plug

P/N: RJF ODE



**Accessories**

■ **Metallic cap**

	RJFC	2	G
<b>Connector type</b>			
6: plug			
2: square Flange Receptacle			
7: jam Nut Receptacle			
<b>Shell material &amp; finish</b>			
B: black coating - ROHS compliant			
N: aluminium shell - nickel plating - ROHS compliant			
G: aluminium shell - olive drab cadmium plating			

■ **Panel gasket for square flange 2 »thickness - 0,6 mm**

P/N: JE 18

