

**RJF**

Ethernet Connection System for Harsh Environment – Industrial Ethernet



#### 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

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!**

#### MAIN CHARACTERISTICS

- Compliant with IEC 60603-7 variant 11
- Bayonet coupling ("Audible & Visual" coupling signal)
- Robust metallic shells based on MIL-DTL-26482 H
- 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 5,5 mm [0.216 in] to 13 mm [0.512 in]

#### Environmental Protection

- Sealing: IP68
- Salt Spray: 48 h with Nickel plating  
> 96 h with black coating  
> 500 h with Oliv Drab Cadmium
- Fire Retardant/Low Smoke: UL94 V0 and NF F 16 101 & 16 102
- Vibrations: 10 – 500 Hz, 10 g, 3 axes: no discontinuity > 10 nano s.
- Shocks: IK06: weight of 250 g drop from 40 cm [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

#### Part Number Code

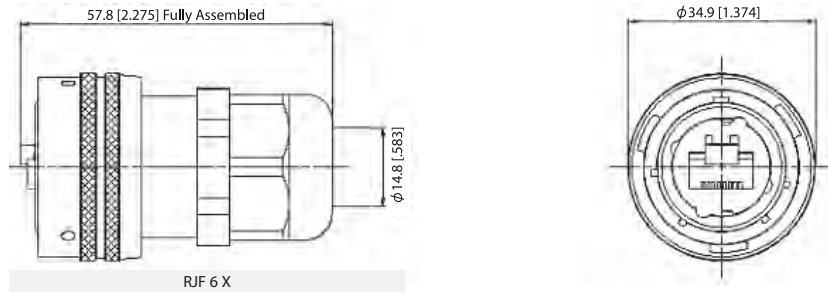
| Series   | RJF  | 2 | 2 | B | 03 100BTX |
|--|--|---|---|---|-----------|
| <b>RJField</b>   |  |   |   |   |           |
| <b>Shell Type</b>  |  |   |   |   |           |
| <b>6:</b>  | Plug, Plastic Gland  |   |   |   |           |
| <b>6M:</b>   | Plug, Metal Gland  |   |   |   |           |
| <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  |   |   |   |           |
| <b>2SA, 7SA:</b>   | Transversally sealed receptacle (unmated) see page 22                                  |   |   |   |           |
| <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 ( <i>Note: with this version, the inserts are metallized</i> ) - ROHS compliant |   |   |   |           |
| <b>G:</b>  | Olive Drab Cadmium ( <i>Note: with this version, the inserts are metallized</i> )      |   |   |   |           |
| <b>Cordset Length (For Receptacles with "2" Back Termination only)</b> |  |   |   |   |           |
| <b>03 100 BTX:</b>   | 0.3m [11.81 inches]  |   |   |   |           |
| <b>05 100 BTX:</b>   | 0.5m [19.68 inches]  |   |   |   |           |
| <b>10 100 BTX:</b>   | 1m [39.37 inches]  |   |   |   |           |
| <b>15 100 BTX:</b>   | 1.5m [59.05 inches]  |   |   |   |           |
| <b>00:</b>   | 8 tinned holes at the rear of the PCB to solder the cable                              |   |   |   |           |

**Remark: Cabling configuration: 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

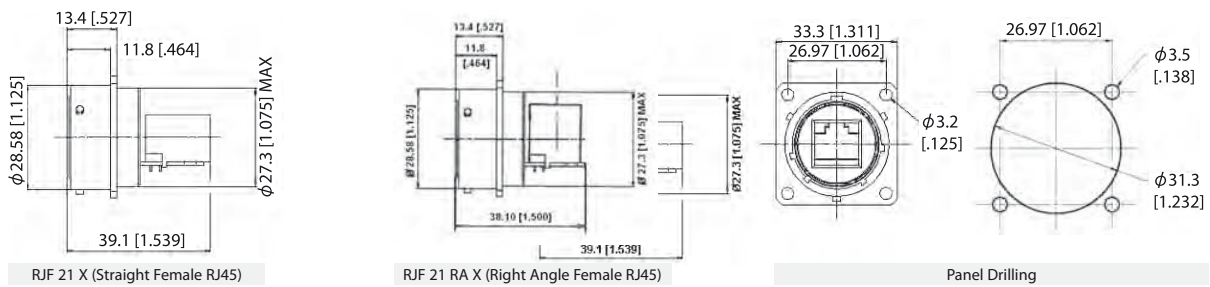
### Plug:

- Shell type 6 with Plastic or Metal Gland

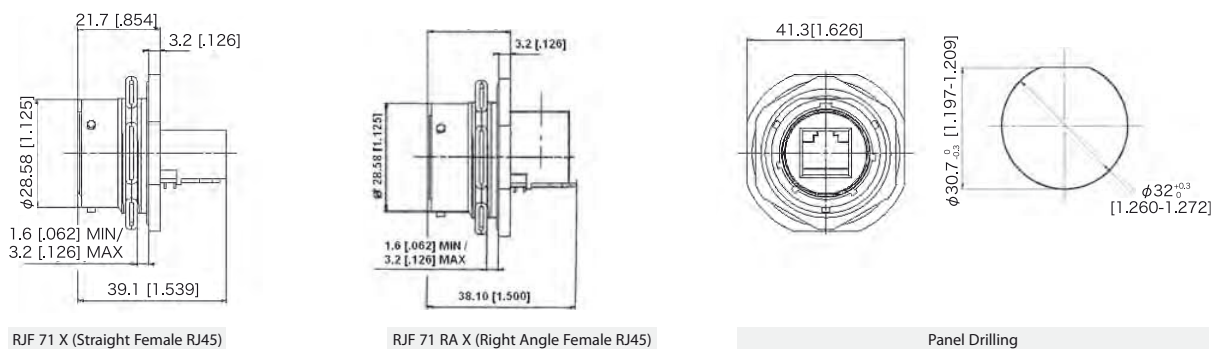


### Receptacles:

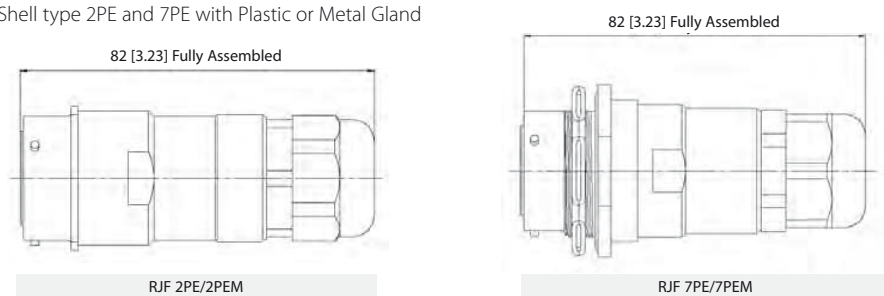
- Square flange receptacle • 4 mounting holes: Shell type 2



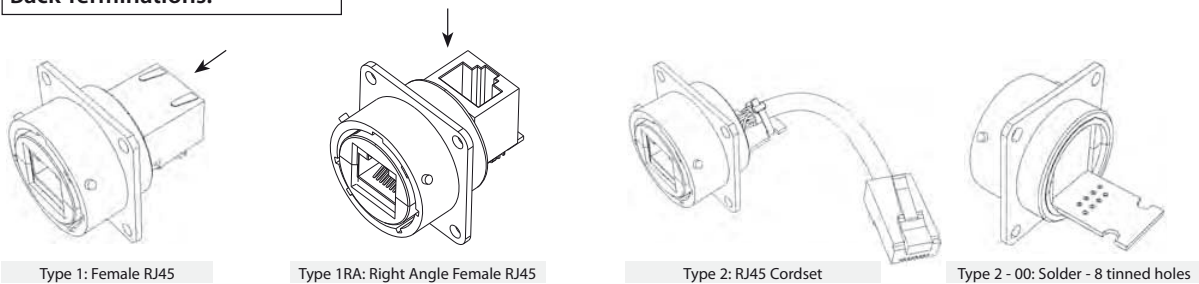
- Jam nut receptacle • Hexagonal Nut mounting: Shell type 7



- Receptacles with IP68 backshell: • Shell type 2PE and 7PE with Plastic or Metal Gland



### Back Terminations:

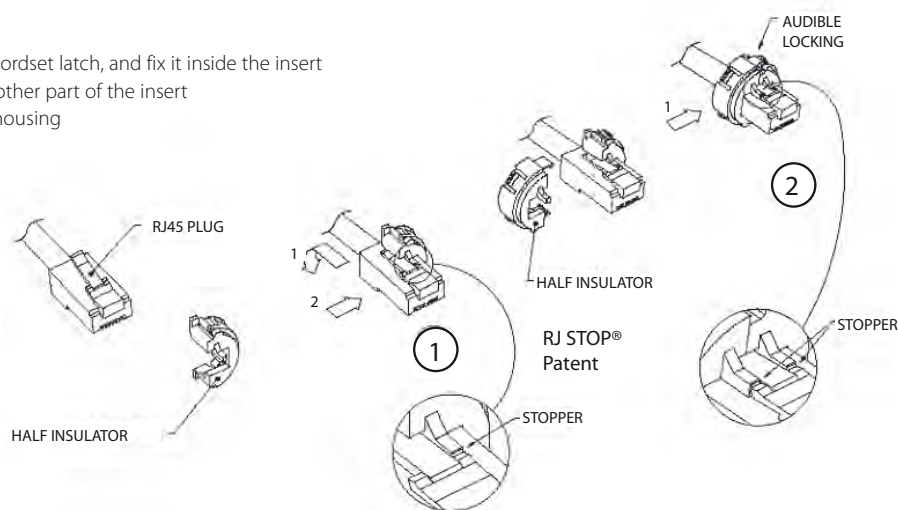


**Notes:** • Type 2 without RJ45 plug at the end of the cable is also available: consult factory

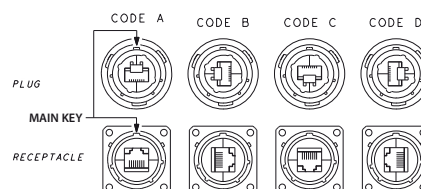
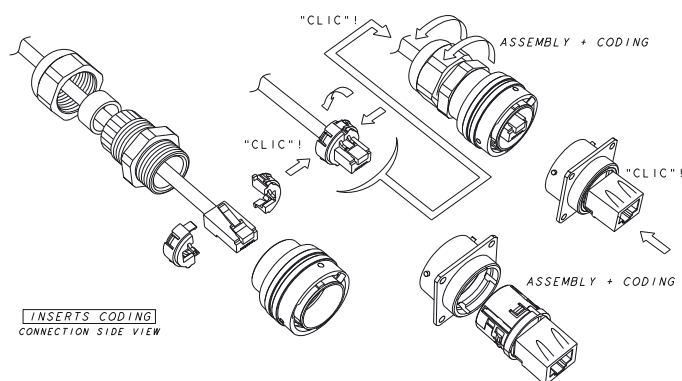
Universal: Can be used with all standard RJ45 Cat.5e cordset brands

#### Assembly instructions

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



#### Accessories:

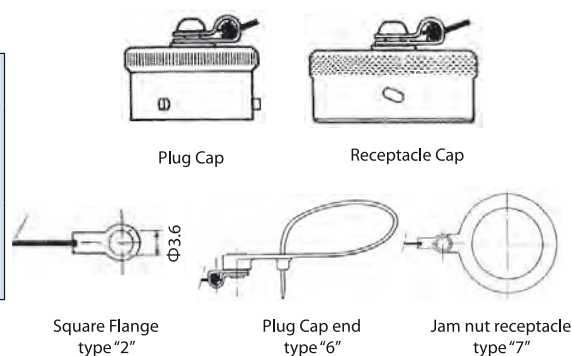
##### ■ Metallic cap

|                       | RJFC                           | 2 | B |
|-----------------------|--------------------------------|---|---|
| <b>Connector Type</b> |                                |   |   |
| 6:                    | Plug                           |   |   |
| 2:                    | Square Flange Receptacle       |   |   |
| 7:                    | Jam Nut Receptacle             |   |   |
| <b>Finishes</b>       |                                |   |   |
| B:                    | Black Coating - ROHS compliant |   |   |
| N:                    | Nickel - ROHS compliant        |   |   |
| G:                    | Olive Drab Cadmium             |   |   |

- Panel gasket for square flange « 2 » thickness: 0,6 mm – P/N: JE 18



- Insert removal tool for receptacle and plug  
P/N = RJF ODE



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