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!

ROHS COMPLIANT
"N": nickel plating
"B": black coating

MAIN CHARACTERISTICS

- **Compliant with IEC 60603-7 variant 11**
- **Bayonet coupling** ("Audible & Visual" coupling signal)
- **Robust metallic shells based on MIL-C-26482**
- RJ45 cordset retention in the plug: 100 N in the axis
- Mating cycles: 500 min
- Sealed against fluids and dust (IP67)
- Shock, Vibration and Traction resistant
- No cabling operation in field and no tools required
- Mechanical Coding / Polarization (4 positions)

Applications

- Robotics
- Industrial Process Control
- CNC Machines
- Special Machines
- Oil & Gas
- Motion Control
- Data Acquisition and Transmission in Harsh Environment
- Tele-maintenance

Environmental Protection

Sealing:	IP67
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

Data Transmission

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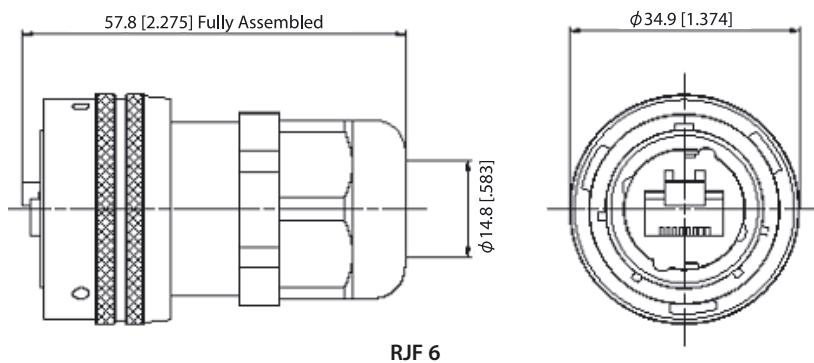Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

Part Number Code

Series RJField				RJF	2	2	B	03	100 BTX

Shell Type
6:	Plug, Plastic Gland
6M:	Plug, Metal Gland
2:	Square Flange Receptacle
2PE:	IP67 In line square flange Receptacle
2PEM:	IP67 In line square flange Receptacle, Metal Gland
7:	Jam Nut Receptacle
7PE:	IP67 In line Jam Nut Receptacle
7PEM:	IP67 In line Jam Nut Receptacle, Metal Gland

Back Terminations (For Receptacles only)
1:	Female RJ45
2:	RJ45 Cordset

Shell Finishes
B:	Black Coating - ROHS compliant
N:	Nickel (Note: with this version, the inserts are metallized) - ROHS compliant
G:	Olive Drab Cadmium (Note: with this version, the inserts are metallized)

Cordset Length (For Receptacles with "2" Back Termination only)
03:	0.3m [11.81 inches]
05:	0.5m [19.68 inches]
10:	1m [39.37 inches]
15:	1.5m [59.05 inches]
00:	8 tinned holes at the rear of the PCB to solder the cable

Cabling Configuration (For "2" Receptacles only)
100BTX:	(=568B)
568A	

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
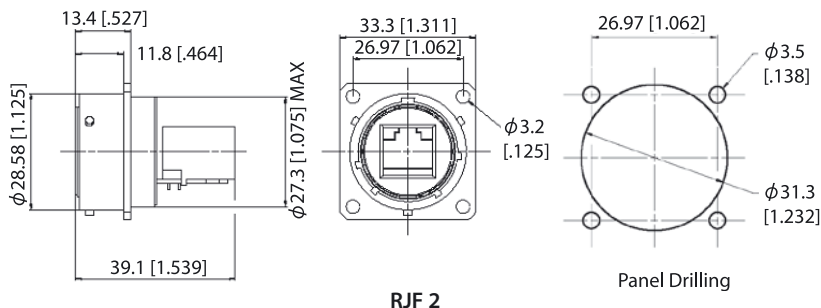- Nickel jam nut receptacle, solder termination: RJF 72 N 00

Plug:
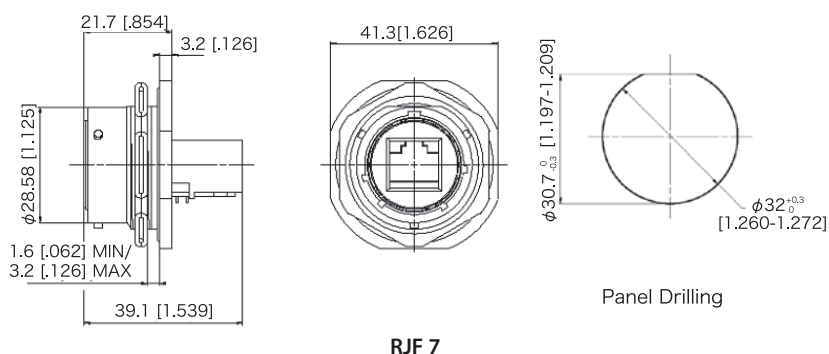
■ Shell type 6 With Plastic or Metal Gland

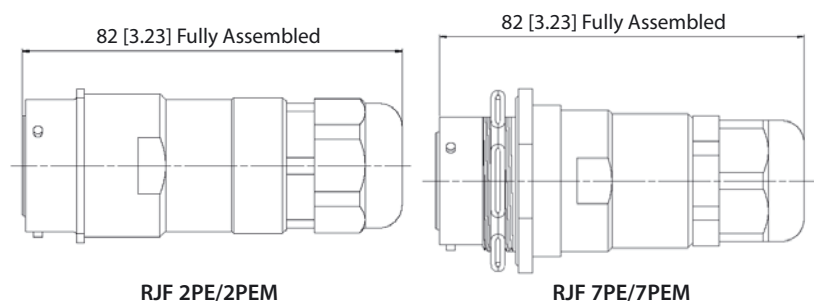57.8 [2.275] Fully Assembled

φ34.9 [1.374]

φ14.8 [.583]

RJF 6

Receptacles:

■ Square flange receptacle
4 mounting holes: Shell type 2

13.4 [.527]

11.8 [.464]

φ28.58 [1.125]

φ27.3 [1.075] MAX

33.3 [1.311]
26.97 [1.062]

φ3.2 [.125]

39.1 [1.539]

RJF 2

26.97 [1.062]

φ3.5 [.138]

φ31.3 [1.232]

Panel Drilling

■ Jam nut receptacle
Hexagonal Nut mounting:
Shell type 7

21.7 [.854]

3.2 [.126]

φ28.58 [1.125]

1.6 [.062] MIN/
3.2 [.126] MAX

39.1 [1.539]

41.3 [1.626]

RJF 7

φ30.7 $^{0}_{-0.3}$ [1.197-1.209]

φ32 $^{+0.3}_{0}$ [1.260-1.272]

Panel Drilling

■ IP67 In line receptacles:
Shell type 2PE and 7PE with Plastic or Metal Gland

82 [3.23] Fully Assembled

82 [3.23] Fully Assembled
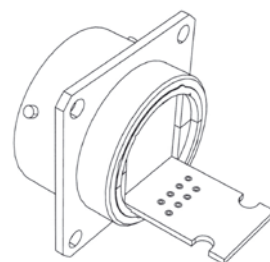
RJF 2PE/2PEM

RJF 7PE/7PEM

Back Terminations:

Type 1: Female RJ45
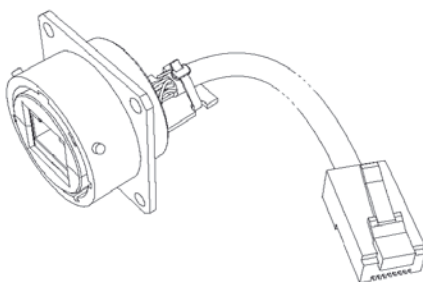
Type 2: RJ45 Cordset

Type 2 - 00: Solder - 8 tinned holes

**Notes:** • Type 2 without RJ45 plug at the end of the cable are also available: consult factory   • Type 1 also available with 90° female RJ45
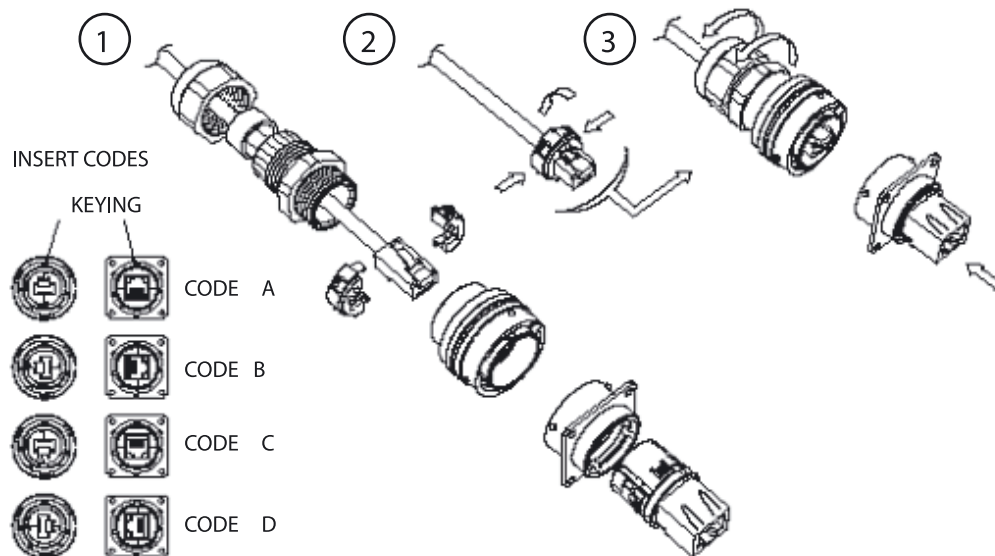
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Assembly instructions

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

AUDIBLE LOCKING

RJ45 PLUG

HALF INSULATOR

HALF INSULATOR

RJ STOP®
Patent

STOPPER

STOPPER
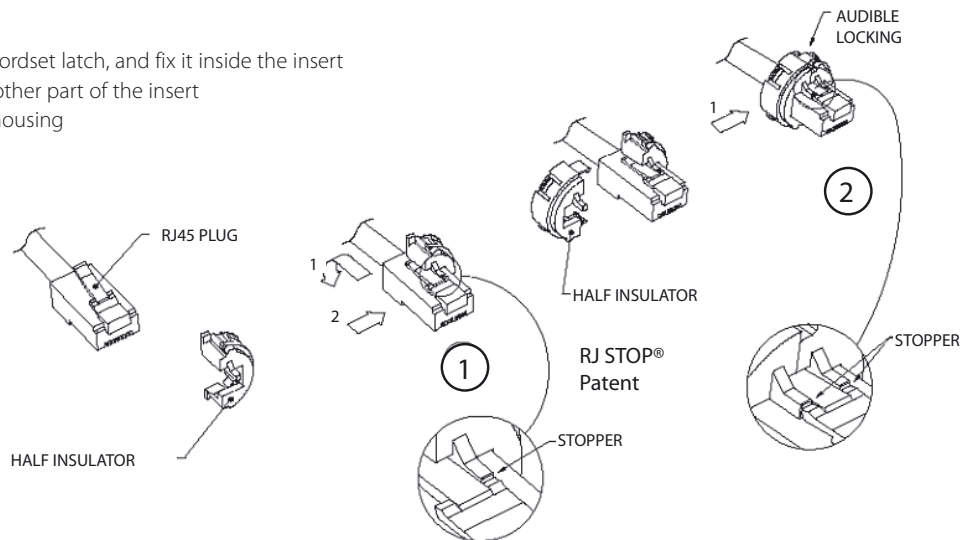
Easy and Safe: No field cabling tools required

INSERT CODES

KEYING

CODE A

CODE B

CODE C

CODE D

Accessories:

■ **Metallic cap**

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

Plug Cap

Receptacle Cap

Square Flange
type "2"

$\phi 3.6$

Plug Cap end
type "6"

Jam nut receptacle
type "7"
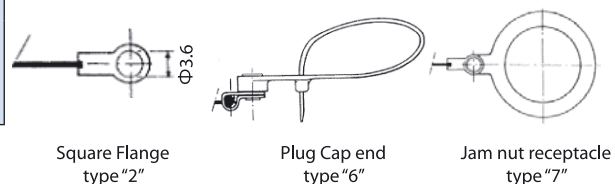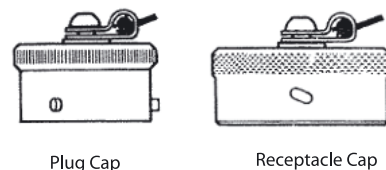
■ **Panel gasket for**
square flange « 2 »thickness:
0,6 mm – P/N: JE 18
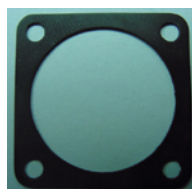
■ **Insert removal tool for**
receptacle and plug
P/N = RJF ODE

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SELF CLOSING CAP

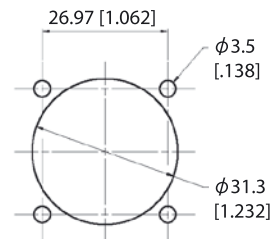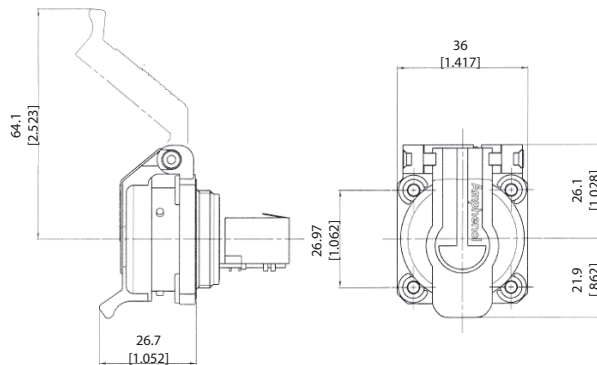For RJ Field, USB and IEEE1394 receptacles

This Self Closing Cap automatically protects the RJ Field square flange receptacles (MIL-C-26482 type), protecting your system from dust and water projections. The same cap can be used to protect USB and IEEE1394 receptacles. A spring automatically closes the upper part of the cap when either the RJ Field plug, RJ45 cordset, USB or IEEE1394 cordset, or USB key are removed from the receptacle.
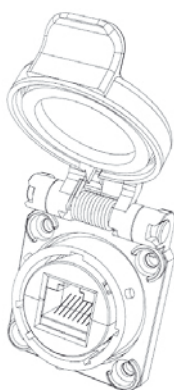
ROHS COMPLIANT
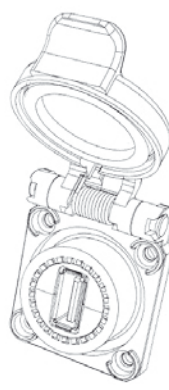"N": nickel plating
"B": black coating

64.1 [2.523]
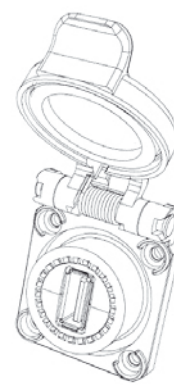
26.7 [1.052]

36 [1.417]

26.97 [1.062]

26.1 [1.028]

21.9 [.862]

26.97 [1.062]

ϕ3.5 [.138]

ϕ31.3 [1.232]

Panel Drilling

Version: RJ45
RJF 21N SCC
Nickel and metallized
inserts (EMI)

RJF 21B SCC
Black and blank insert

Version: USB
USBF 21N SCC
Nickel and metallized
inserts (EMI)

USBF 21B SCC
Black and blank insert

Version: IEEE1394
FWF 21N SCC
Nickel and metallized
inserts (EMI)

FWF 21B SCC
Black and blank insert

■ Note: Panel gasket for square
flange receptacles: JE18