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# Amphenol



RJ Field



RJF TV



Self Closing Cap  
(RJ 45/USB/IEEE 1394)



RJF RB (RJ Fast)



RJF 544



RJF EZ



USB-A Field



Rugged USB memory  
key



FW Field (IEEE 1394)



RJ11 Field



MTRJ Field - LC Field



RJ Switch

## FIELD Series - catalog

Reinforced Infocom Connectors for Harsh Environment

RJ45 Field - RJ11 Field - RJ Switch - USB Field - FireWire Field - LC Field - MTRJ field



Electronica 2004

**Amphenol**

*RJF Series  
Awarded*

*"Component  
product of the  
year"*



## TABLE OF CONTENTS

### Rugged RJ45 Solutions

<b>NEW CAT6</b>	RJFRB: plastic circular shell - reverse bayonet coupling, IDC & PCB Tails receptacles .....	3
	RJF544: plastic circular shell - push pull coupling .....	6
	RJFEZ: plastic rectangular shell - lever coupling .....	8
	RJF: metallic circular shell based on MIL-C-26482 - bayonet coupling .....	10
	RJF - special receptacles: right angle, cable mount inline and PCB tails receptacles .....	13
	RJFTV: metallic circular shell based on MIL-DTL-38999 series III - thread coupling with anti-decoupling device .....	15
<b>NEW</b>	Self Closing Cap for square flange RJFTV receptacles .....	18
	RJFTV - receptacles and plugs with 360° EMI backshells .....	19
	RJFTV - special receptacles: right angle, through bulkhead and PC tails receptacles .....	21
	RJF-RJFTV Sealed: transversally sealed RJF and RJFTV receptacles .....	24
	High Reliability Cat5E cable and cordsets .....	25

### Rugged USB-A and USB-B solutions (USB2.0)

	USBFTV: rugged USB-A - metallic circular shell based on MIL-DTL-38999 series III - thread coupling with anti-decoupling device .....	26
	USBFTV: special versions: receptacles with 360° EMI backshells - PC tails receptacles .....	29
<b>NEW</b>	USBFTV memory key .....	30
<b>NEW</b>	USBF memory key .....	31
<b>NEW</b>	High Reliability USB2.0 cordsets .....	32
	USBBF: rugged USB-B - plastic circular shell - thread coupling .....	33

### Rugged IEEE1394 solutions

	FWFTV: metallic circular shell based on MIL-DTL-38999 series III - thread coupling with anti-decoupling device .....	34
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### Rugged RJ45 / USB-A / IEEE1394 receptacles with self closing cap

	Self Closing Cap .....	37
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### Rugged RJ11/RJ12 solutions

<b>NEW</b>	RJ11F: metallic circular shell based on MIL-C-26482 - bayonet coupling .....	38
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### Rugged MTRJ and LC (fiber optic) solutions

	MTRJF: metallic circular shell based on MIL-DTL-38999 series III - thread coupling with anti-decoupling device .....	40
	LCF: metallic circular shell based on MIL-DTL-38999 series III - thread coupling with anti-decoupling device .....	42

### Rugged Ethernet Switches

	5 or 9 ports IP30 Switch - Unmanaged, Ring or managed .....	44
	5 ports IP67 Switch - Fiber glass reinforced Polyester enclosure - Unmanaged or Ring .....	47
<b>NEW</b>	9 ports IP67 Switch - Aluminum enclosure with olive drab cadmium plating - Unmanaged or managed - Gigabit .....	51

## APPLICATIONS

Commercial  
Avionics and Rail  
Mass Transit



Factory  
Automation



Video  
and CCTV



Wireless  
Systems



C4ISR  
Military  
Communications

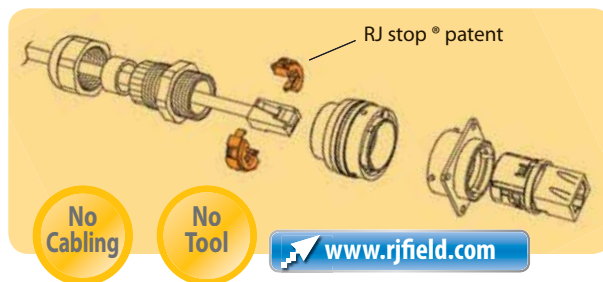


## RJFIELD CONCEPT

The Amphenol Field Series allows you to transform a standard infocom cordset into a rugged waterproof connector for harsh environments.

RJ field allows you to use Ethernet Class D / Cat. 5e connections for 10 Base T, 100 Base TX or 1000 Base T networks in extreme environments.

### EXAMPLE FOR RJ 45 CORDSET






- A full range of versions depending upon the application
- No cabling operation nor measurement required after installation
- Sealing: IP67 (1 meter immersion for up to 30 minutes)
- Shock, vibration and traction resistant
- Inline extension
- Mechanical coding/polarization
- EMI protection



## RJFIELD SELECTION GUIDE

CONNECTORS	Series	Industrial Ethernet Specification	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page
	RJF RB		Reverse Bayonet	Circular	Plastic	N/A	Industrial & Telecom	3
	RJF544	IEC 60603-7 variant 12	Push Pull	Circular	Plastic	N/A	Industrial & Telecom	6
	RJF EZ	IEC 60603-7 variant 13	Lever	Rectangular	Plastic	N/A	Industrial & Telecom	8
	RJF	IEC 60603-7 variant 11	Bayonet	Circular	Metal	MIL-C-26482	MIL/Aero & Industrial	10
	RJF TV		Thread	Circular	Metal	MIL-DTL-38999 (Series III)	MIL/Aero & Rail Mass Transit	15
	USBFTV		Thread	Circular	Metal	MIL-DTL-38999 (Series III)	Mil/Aero & Rail Mass Transit	26
	Rugged USB Key			Circular	Metal	N/A	MIL/Aero & Industrial	31
	USB BF		Thread	Circular	Plastic	N/A	Industrial & Telecom	33
	FWFTV		Thread	Circular	Metal	MIL-DTL-38999 (Series III)	Mil/Aero & Video	34
	Self Closing Cap		Bayonet (for RJ45) N/A (for USB-A and IEEE1394)	Circular	Metal	N/A	Industrial & Telecom	37
	RJ11F		Bayonet	Circular	Metal	MIL-C-26482	MIL/Aero & Industrial	38
	MTRJFTV		Thread	Circular	Metal	MIL-DTL-38999 (Series III)	Mil/Aero & Rail Mass Transit	40
	LC/LX5F		Thread	Circular	Metal	MIL-DTL-38999 (Series III)	Mil/Aero & Rail Mass Transit	42

## RJFIELD SELECTION GUIDE

ETHERNET SWITCHES	Series	Sealing	Material	Number of ports	Unmanaged	Ring	Managed	Prime Market	Page
	RJS	IP30	Metal & Plastic	5 or 9	x	x	x	Factory Automation / Video	44
	RJSPC	IP67	Plastic	5	x	x		Factory Automation	47
	RJSML	IP67	Metal	9	x	x	x	MIL/Aero	51

## RJFIELD SELECTION GUIDE

CABLE & CORDSET	Reels	Cordsets	Prime Market	Page
	(without RJ45) 100 m (around 238 ft) 300 m (around 984 ft)	(with RJ45 overmolded at each end) Available lengths see page 25	Mil/Aero & Rail Mass Transit	25
	Available in Cordset	Available Length see page 32	Mil/Aero / Rail Mass Transit & Industrial	32



RJFRB allows you to use an Ethernet Class D / Cat. 5e and Class E/Cat 6 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 protective composite plug which will protect it from shocks, dust and fluids.

**No hazardous on-field cabling and grounding!**

### MAIN CHARACTERISTICS

- Sealed against fluids and dust (IP67)
- Shock, Vibration and Traction resistant
- No cabling operation in field, no tools required
- **Reverse bayonet coupling**
- RJ45 cordset retention in the plug: 70 N in the axis
- Mating cycles: 500 min
- Compatible with cable diameter from 5,5 mm [0.216 in] to 7 mm [0.275 in]



IDC Receptacle



PCB Receptacle

**ROHS COMPLIANT**

### Applications

- Telecom Equipments
- Video Control
- Robotics
- Industrial Process Control
- CNC Machines
- Special Machines
- Motion Control

### Environmental Protection

- Sealing: IP67
- Salt Spray > 1000 h
- Fire Retardant / Low Smoke: UL94 V0 and NFF 16102, DIN 5510-2
- Thermal Shock: 5 cycles at - 40°C / +100°C
- Operating Temperature: - 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  
Cat6 per TIA/EIA 568B and ClassE per ISO/IEC 11801

### Part Number Code

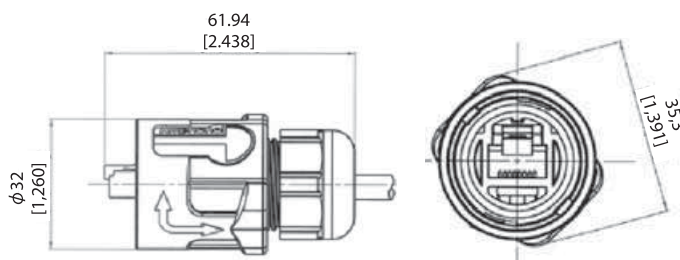
Series	RJF RB	7	1RA		
<b>RJF RB</b>					
<b>Shell Type</b>					
6:	Composite reverse bayonet Plug, Plastic Gland				
7:	Composite jam nut Receptacle				
<b>Back Terminations (For Receptacles only)</b>					
1:	Female RJ45				
1RA:	Right angle female RJ45				
2:	RJ45 Cordset				
3U:	IDC cat6 - unshielded				
3F:	IDC cat6 - partial shielding				
3S:	IDC cat6 - 100% shielded				
5:	Straight PCB				
<b>Cordset Length (For Receptacles with "2" back termination only)</b>					
03:	0.3m [11.81 inches]				
05:	0.5m [19.68 inches]				
10:	1m [39.37 inches]				
15:	1.5m [59.05 inches]				
<b>Cabling Configuration (For "7" Receptacles and with type "2" back termination only)</b>					
100BTX:	(=568B)				

Examples:

- Plug: RJF RB 6
- Receptacle, female RJ45 Back termination: RJF RB 71
- Receptacle, right angle female RJ45 Back termination: RJF RB 71RA
- Receptacle, 1,5m [59.05"] RJ45 cordset termination: RJF RB 72 15 100BTX

## Plug

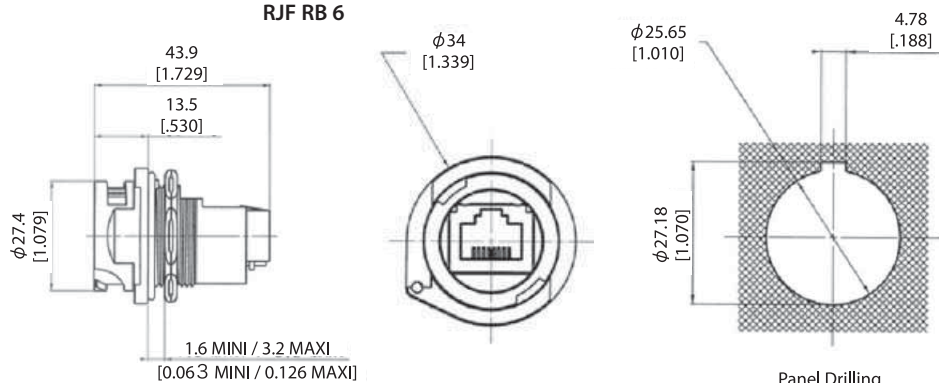
- Type 6 Shell with Plastic Gland



**RJF RB 6**

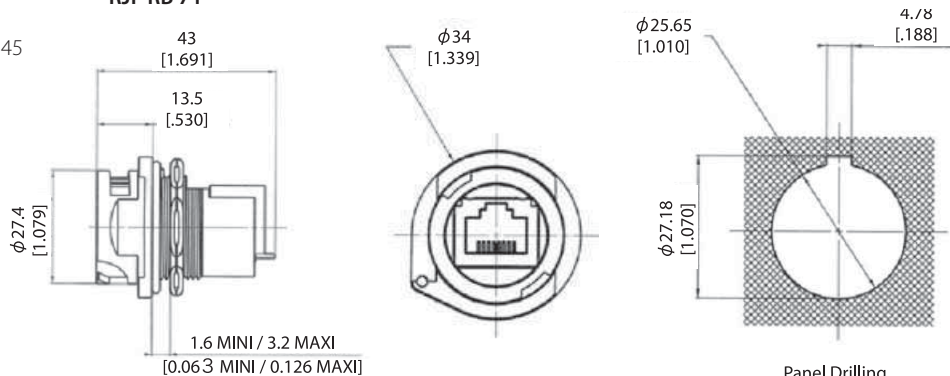
## Receptacle

- Type 1: Female RJ45 (front mounting)



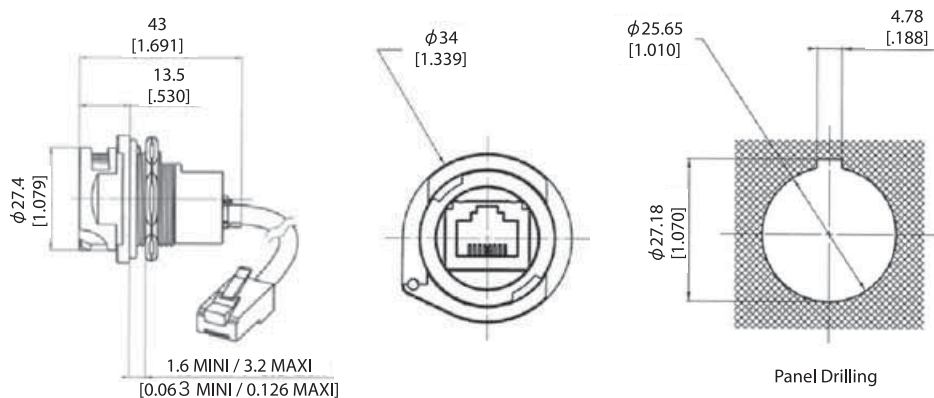
**RJF RB 71**

- Type 1RA: Right Angle Female RJ45 (front mounting)



**RJFRB71RA**

- Type 2: RJ45 Cordset (front mounting)

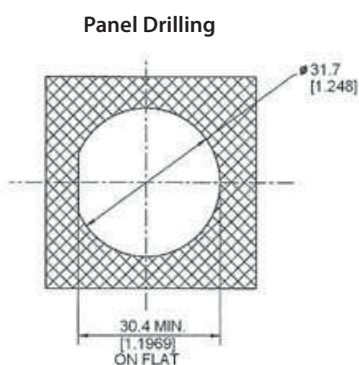


**RJFRB72XX 100BTX (XX=03, 05, 10 or 15 - see part number code page 3)**

- Type 3: IDC Cat6 termination (rear mounting)



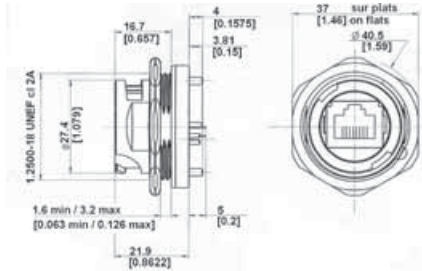
Unshielded: **RJFRB73U**  
Partial shielding **RJFRB73F**



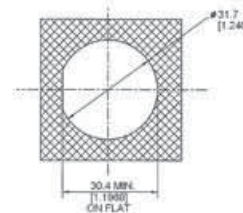
Shielded: **RJFRB73S**



■ Straight PCB termination receptacle:  
(rear mounting)



#### Panel Drilling

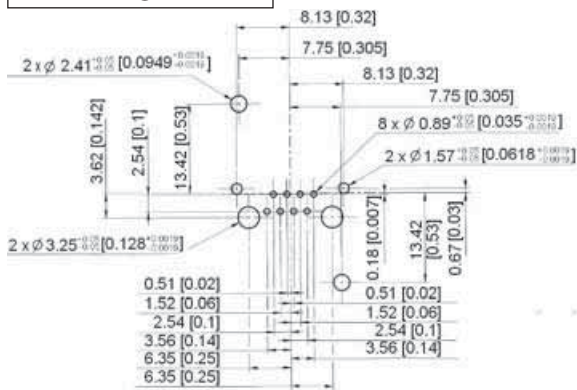


Part number: RJF RB 75

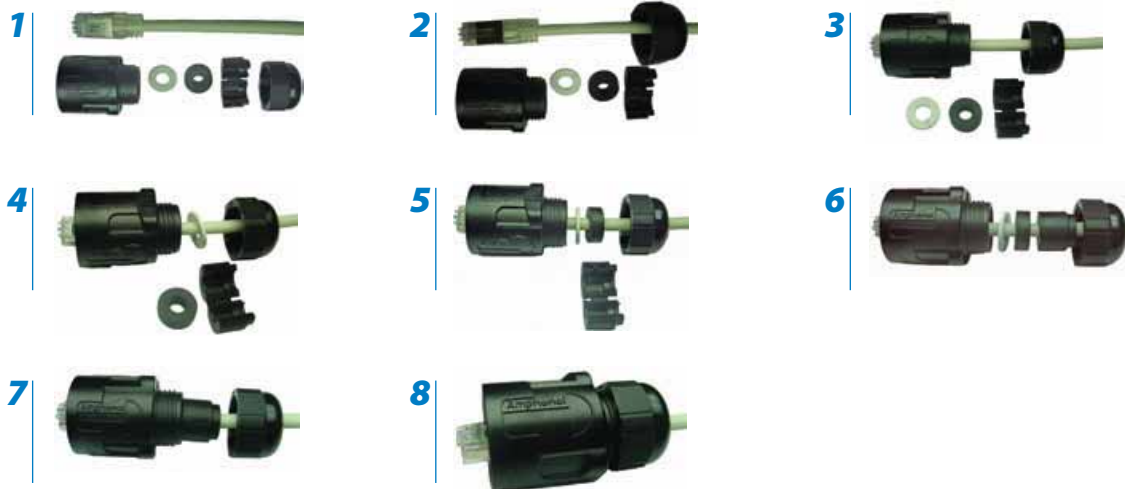
#### IMPORTANT NOTE

The customer's PCB design will determine the receptacle category.

#### PCB Drilling RJFRB

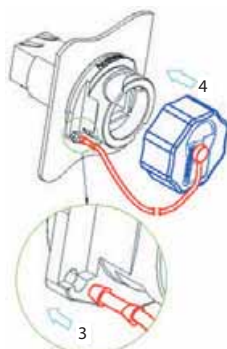


#### Assembly Instructions



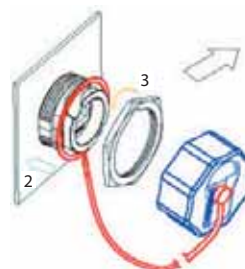
#### Accessories

■ IP67 Dust Caps



RJFRB C7

Cap for receptacles RJFRB71 / 71RA / 72xxx



RJFRB C75

Cap for receptacles RJFRB75 and RJFRB73x



# RJF 544

## Ethernet Connection System for Harsh Environment – Industrial Ethernet



RJF544 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 protective composite plug which will protect it from shocks, dust and fluids.  
**No hazardous on-field cabling and grounding!**

**ROHS COMPLIANT**

### MAIN CHARACTERISTICS

- Compliant with IEC 60603-7 variant 12
- Shock, Vibration and Traction resistant
- No cabling operation in field and no tools required
- Sealed against fluids and dust (IP67)
- Quick Push Pull coupling
- RJ45 cordset retention in the plug: 100 N in the axis
- Mating cycles: 500 min
- Improved EMI Protection
- Compatible with cable diameter from 5,5 mm [0.216 in] to 13 mm [0.512 in]

### Applications

- Telecom Equipment
- Video Control
- Robotics
- Industrial Process Control
- CNC Machines
- Special Machines
- Motion Control
- Tele-maintenance

### Environmental Protection

- Sealing: IP67
- Salt Spray > 1000 h
- Fire Retardant / Low Smoke: UL94 V0 and NFF 16102, DIN 5510-2
- Vibrations: 10 – 500 Hz, 10 g, 3 axes: no discontinuity > 10 nano s.
- Thermal Shock: 5 cycles at - 40°C / +100°C
- Operating Temperature: - 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

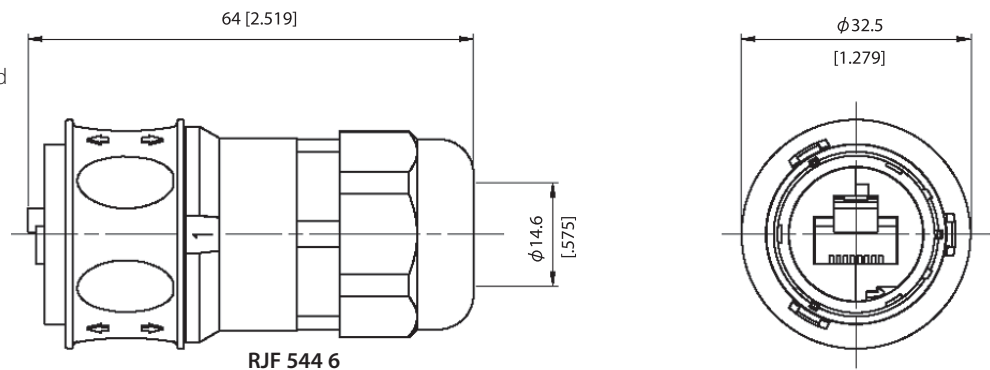
Series	RJF 544	2	2	03	100 BTX
RJField 544 - Push Pull					
Shell Type					
6:	Composite Push Pull Plug, Plastic Gland				
2:	Composite Square Flange Receptacle				
2M:	Metallized (Ni) Composite Square Flange Receptacle				
Back Terminations <i>(For Receptacles only)</i>					
1:	Female RJ45				
2:	RJ45 Cordset				
Cordset Length <i>(For Receptacles with "2" Back Termination only)</i>					
03:	0.3 meters [11.81 inches]				
05:	0.5 meters [19.68 inches]				
10:	1 meter [39.37 inches]				
15:	1.5 meters [59.05 inches]				
00:	8 tinned holes at the rear of the PCB to solder the cable				
Cabling Configuration <i>(For "2" Receptacles only)</i>					
100BTX:	(=568B)				

Examples:

- Plug: RJF 544 6
- Square flange receptacle, Female RJ45 Back termination: RJF 544 21
- Metallized Square flange receptacle, Female RJ45 Back termination: RJF 544 2M 1
- Square flange receptacle, 1,5m [59.05"] 100 BTX cordset termination: RJF 544 22 15 100BTX
- Square flange receptacle, solder termination: RJF 544 22 00

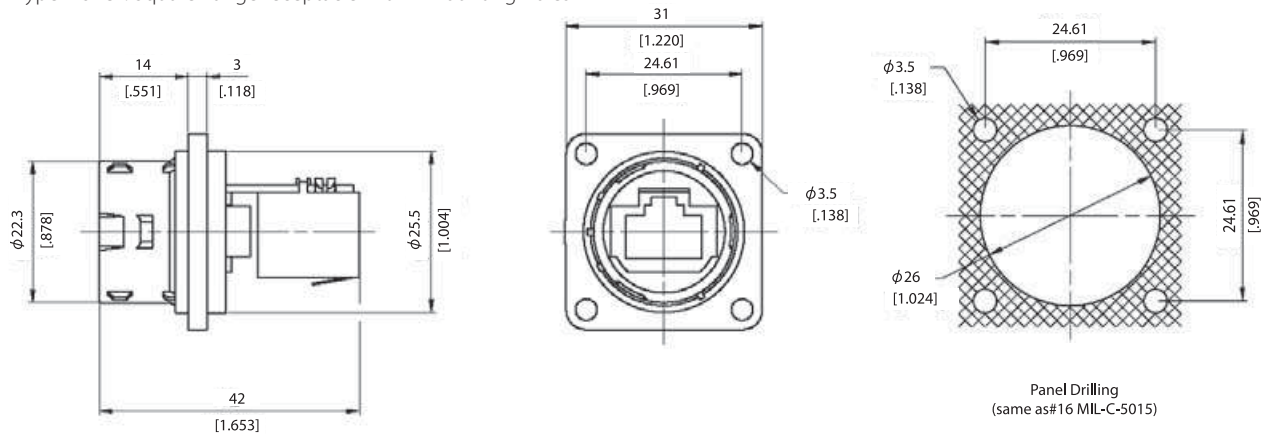
## Plug

- Type 6 Shell with Plastic Gland

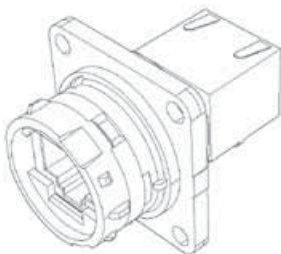


## Receptacle

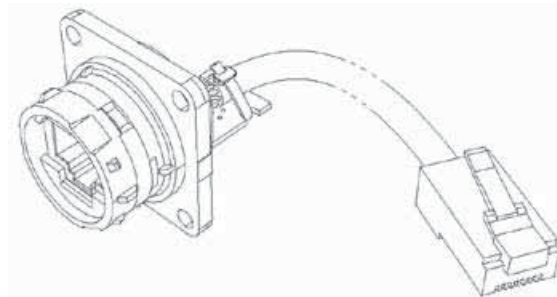
- Type 2 Shell: Square flange receptacle with 4 mounting holes



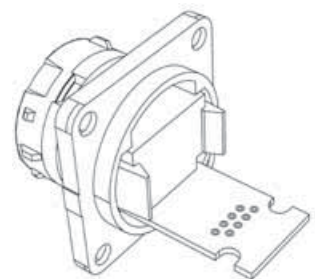
## Back Terminations



Type 1: Female RJ45



Type 2: RJ45 Cordset



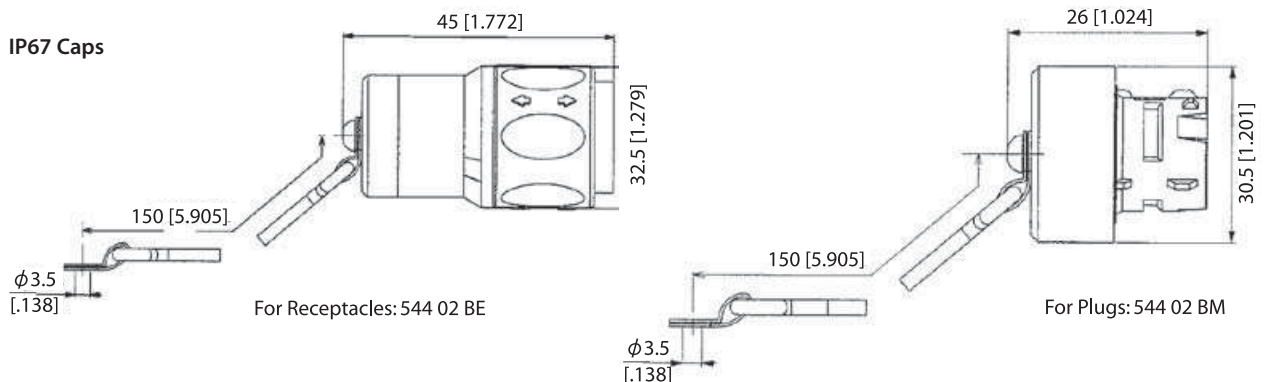
Type 2 - 00: Solder – 8 tinned holes

**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

## Accessories

- IP67 Caps



- Panel Gasket (Thickness: 1 mm [0.039]): Part No. 544 02 JE
- Plug Insert removal tool: Part No. 5440 OT 02



RJFEZ 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 protective composite 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 13**
- Sealed against fluids and dust (IP67)
- Shock, Vibration and Traction resistant
- No cabling operation in field and no tools required
- **Quick lever coupling**
- RJ45 cordset retention in the plug: 70 N in the axis
- Mating cycles: 500 min
- Compatible with cable diameter from 5,5 mm [0.216 in] to 7 mm [0.275 in]

### Applications

- Telecom Equipment
- Video Control
- Robotics
- Industrial Process Control
- CNC Machines
- Special Machines
- Motion Control
- Tele-maintenance

### Environmental Protection

- Sealing: IP67
- Salt Spray > 1000 h
- Fire Retardant / Low Smoke: UL94 V0 and NFF 16102, DIN 5510-2
- Thermal Shock: 5 cycles at - 40°C / +100°C
- Operating Temperature: - 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

**ROHS COMPLIANT**

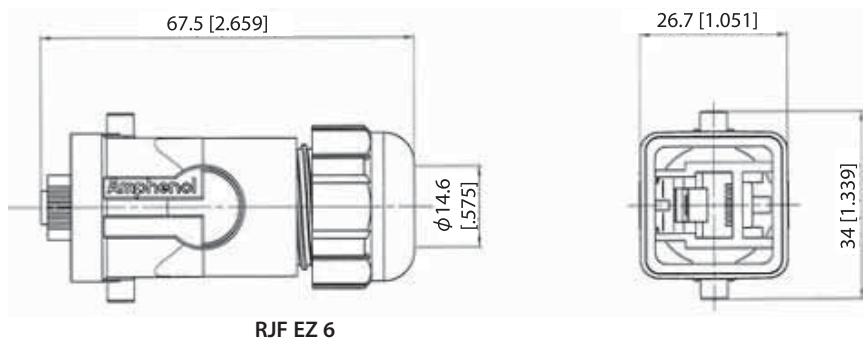
### Part Number Code

<b>Series</b> RJField EZ - Lever	<b>RJF EZ</b>	<b>2</b>	<b>2</b>	<b>03</b>	<b>100 BTX</b>
<b>Shell Type</b> <b>6:</b> Composite Lever Plug, Plastic Gland <b>2:</b> Composite Square Flange Receptacle					
<b>Back Terminations (For Receptacles only)</b> <b>1:</b> Female RJ45 <b>2:</b> RJ45 Cordset					
<b>Cordset Length (For Receptacles with "2" Back Termination only)</b> <b>03:</b> 0.3m [11.81 inches] <b>05:</b> 0.5m [19.68 inches] <b>10:</b> 1m [39.37 inches] <b>15:</b> 1.5m [59.05 inches]					
<b>Cabling Configuration (For "2" Receptacles only)</b> <b>100BTX:</b> (=568B)					

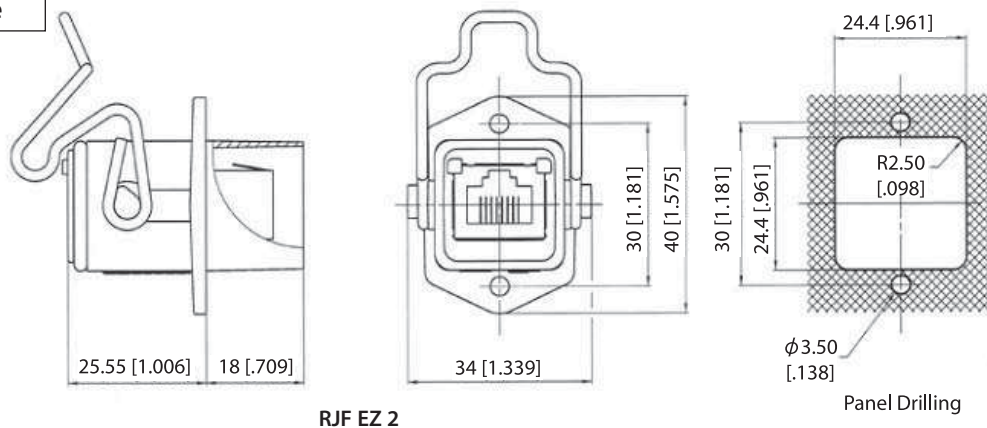
Examples:

- Plug: RJF EZ 6
- Receptacle, Female RJ45 Back termination: RJF EZ 21
- Receptacle, 1,5m [59.05"] 100 BTX cordset termination: RJF EZ 22 15 100BTX

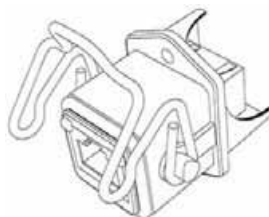
## Plug



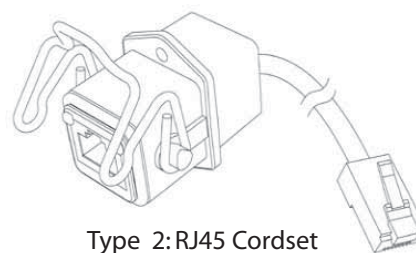
## Receptacle



## Back Terminations



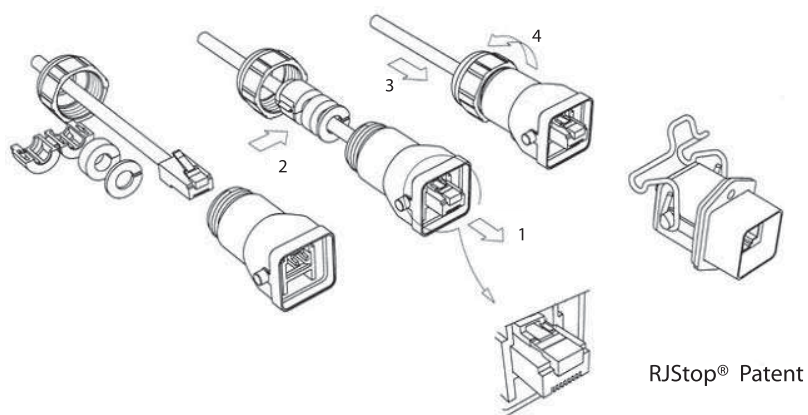
Type 1: Female RJ45



Type 2: RJ45 Cordset

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

## Assembly Instructions



## Accessories

- **IP67 Dust Caps**  
For Plugs: **Not available**  
For Receptacles: **RJF EZ BE**



- **Panel Gasket**  
Thickness: 1 mm [0.039]  
Part No. RJF EZ JE







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)
- Compatible with cable diameter from 5,5 mm [0.216 in] to 13 mm [0.512 in]

### 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

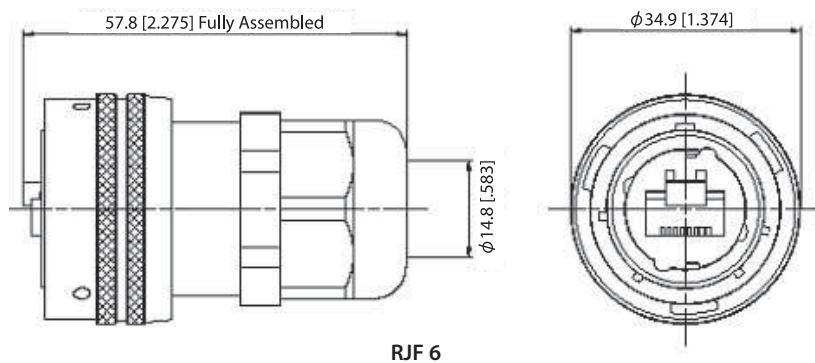
Series	RJF	2	2	B	03	100 BTX
<b>RJField</b>						
<b>Shell Type</b>						
<b>6:</b>	Plug, Plastic Gland					
<b>6M:</b>	Plug, Metal Gland					
<b>2:</b>	Square Flange Receptacle					
<b>2PE:</b>	Square Flange Receptacle, IP67 backshell, Plastic gland					
<b>2PEM:</b>	Square Flange Receptacle, IP67 backshell, Metal gland					
<b>7:</b>	Jam Nut Receptacle					
<b>7PE:</b>	Jam Nut Receptacle, IP67 backshell, Plastic gland					
<b>7PEM:</b>	Jam Nut Receptacle, IP67 backshell, Metal gland					
<b>Back Terminations (For Receptacles only)</b>						
<b>1:</b>	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>Cordset Length (For Receptacles with "2" Back Termination only)</b>						
<b>03:</b>	0.3m [11.81 inches]					
<b>05:</b>	0.5m [19.68 inches]					
<b>10:</b>	1m [39.37 inches]					
<b>15:</b>	1.5m [59.05 inches]					
<b>00:</b>	8 tinned holes at the rear of the PCB to solder the cable					
<b>Cabling Configuration (For "2" Receptacles only)</b>						
<b>100BTX:</b>	(=568B)					

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:

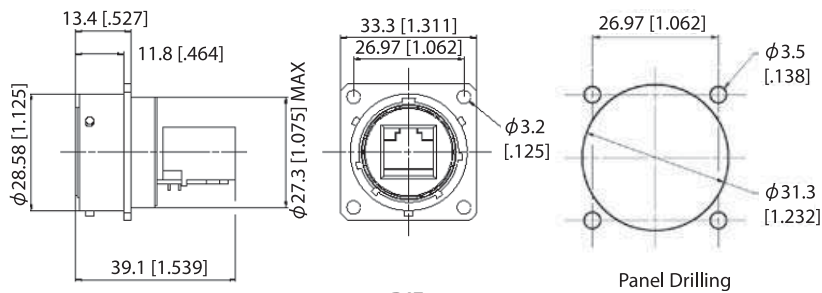
- Shell type 6 with Plastic or Metal Gland



RJF 6

## Receptacles:

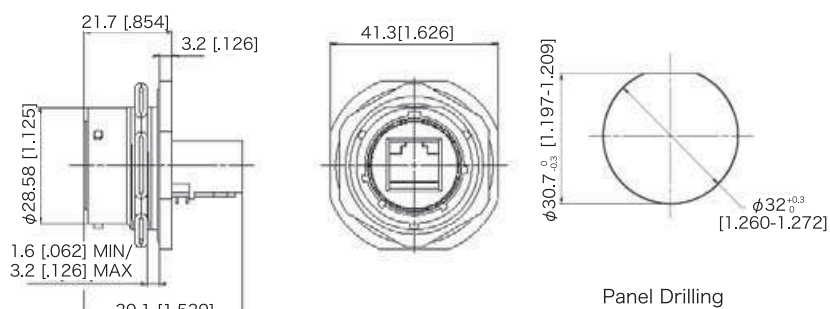
- Square flange receptacle  
4 mounting holes: Shell type 2



RJF 2

Panel Drilling

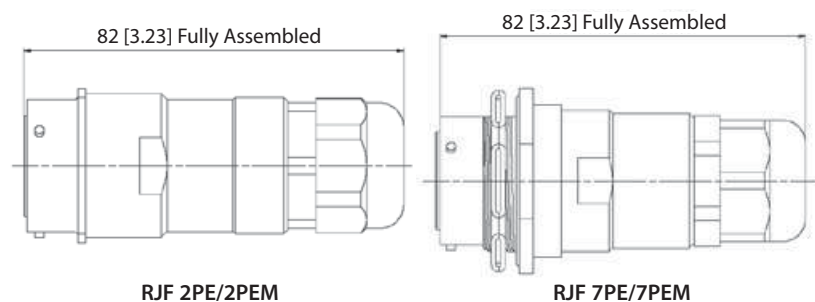
- Jam nut receptacle  
Hexagonal Nut mounting:  
Shell type 7



RJF 7

Panel Drilling

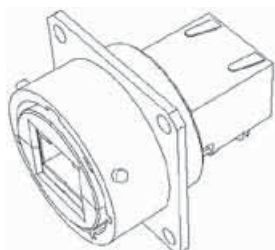
- Receptacles with IP67 backshell:  
Shell type 2PE and 7PE with Plastic or Metal Gland



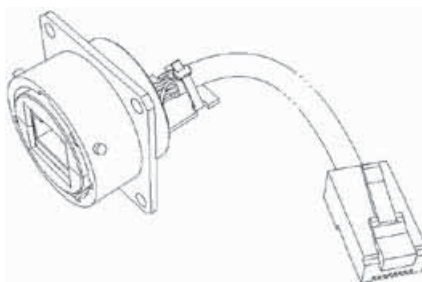
RJF 2PE/2PEM

RJF 7PE/7PEM

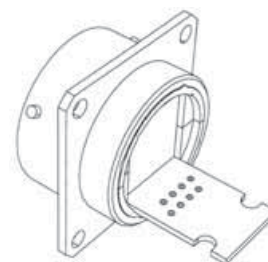
## Back Terminations:



Type 1: Female RJ45



Type 2: RJ45 Cordset



Type 2 - 00: Solder - 8 tinned holes

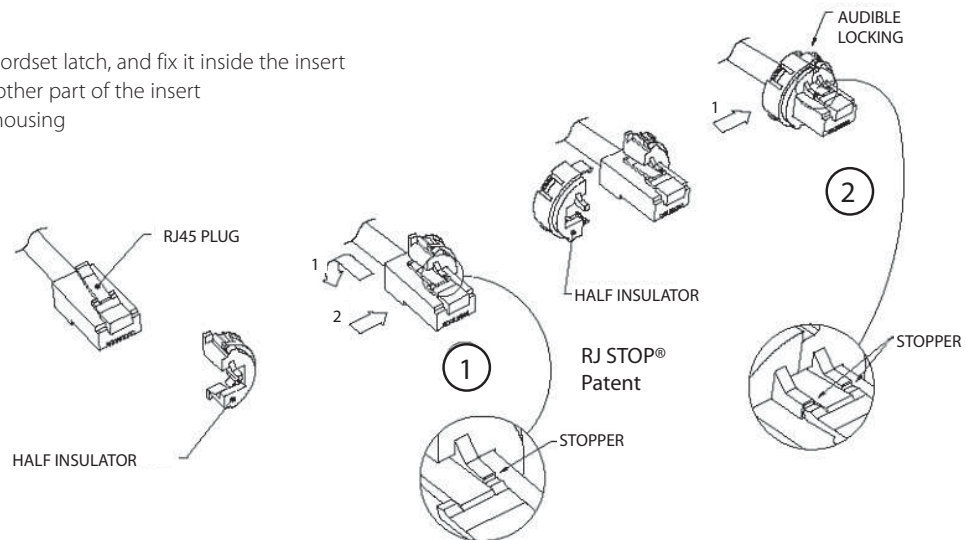
**Notes:** • Type 2 without RJ45 plug at the end of the cable are also available: consult factory

• Type 1 also available with 90° female RJ45

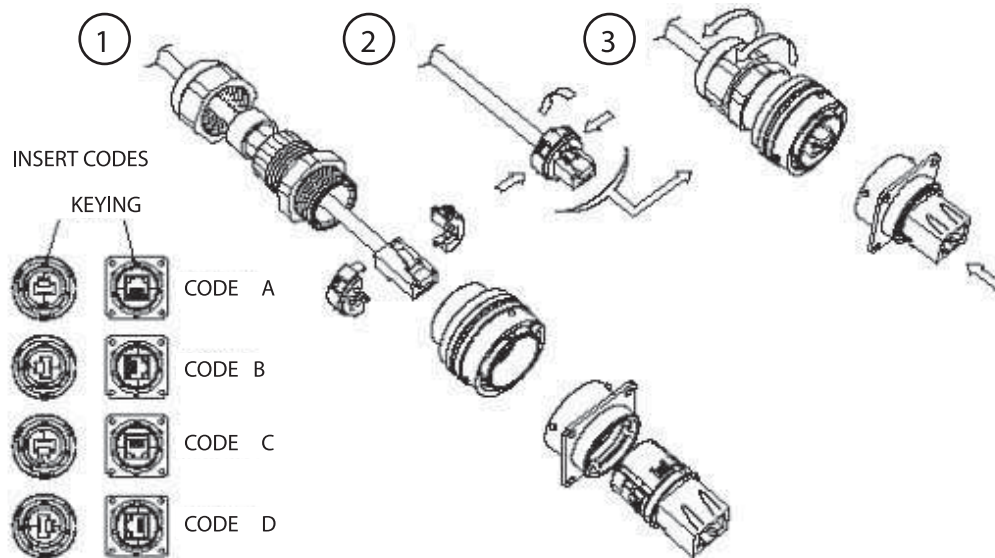
Universal: Can be used with all standard RJ45 Cat.5e cordset brands

#### 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



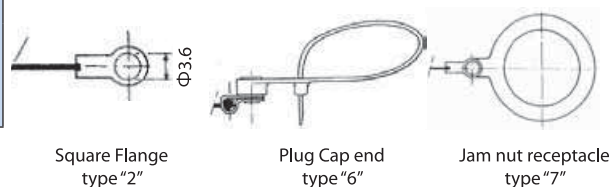
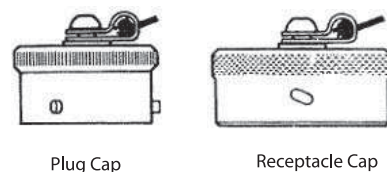
Easy and Safe: No field cabling tools required



#### 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



### Right Angle Receptacles

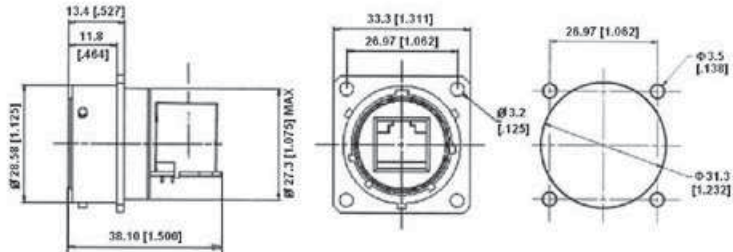


#### ROHS COMPLIANT

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

Some applications have minimal space inside the system. The right angle receptacles meet this need while keeping the advantage of connecting a standard RJ45 cordset at the back.

#### Square Flange Receptacle - 4 mounting holes - Right Angle - 4 clocking positions:



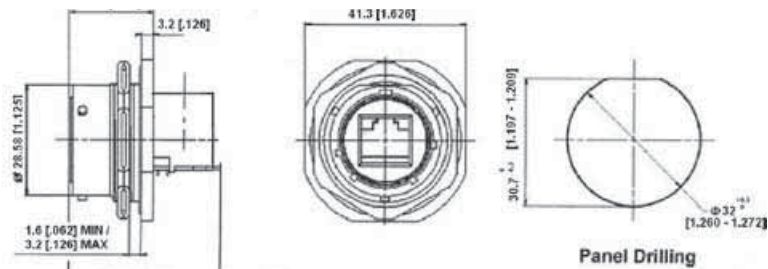
#### PART NUMBERS:

Black coating: **RJF21RAB**

Nickel plating: **RJF21RAN**

Olive Drab Cadmium plating: **RJF21RAG**

#### Jam Nut Receptacle - Hexagonal nut mounting - Right Angle - 4 clocking positions:



#### PART NUMBERS:

Black coating: **RJF71RAB**

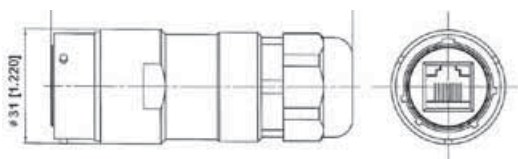
Nickel plating: **RJF71RAN**

Olive Drab Cadmium plating: **RJF71RAG**

### Inline Cable Mount Receptacles



Inline receptacles allow you to make cable extensions in the field by using them with rugged RJFied series plugs.



#### PART NUMBERS:

##### Plastic Gland

Black coating: **RJF2PEWF1B**

Nickel plating: **RJF2PEWF1N**

Olive Drab Cadmium plating: **RJF2PEWF1G**

##### Metallic Gland

Black coating: **RJF2PEMWF1B**

Nickel plating: **RJF2PEMWF1N**

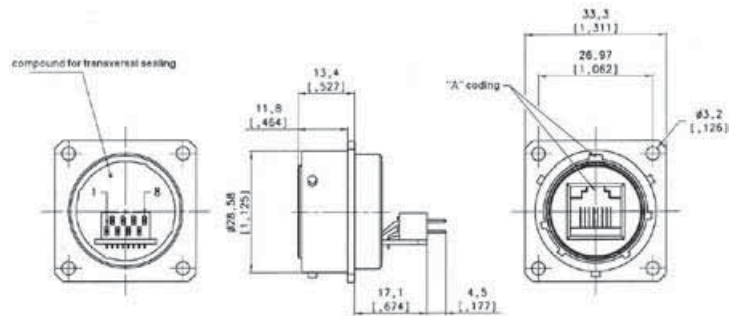
Olive Drab Cadmium plating: **RJF2PEMWF1G**



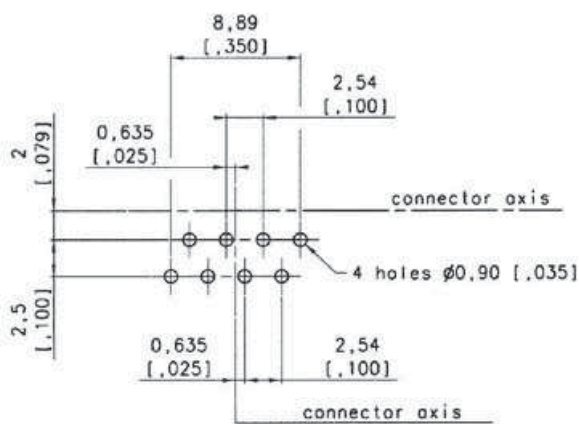
## PCB Tails Receptacles



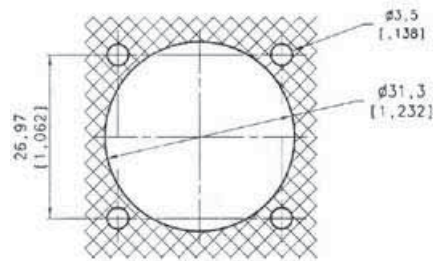
These receptacles can be soldered directly on your PCB. A compound insures a transversal sealing and good performance in high vibration environments. They can be connected with rugged RJField series plugs.



### PCB LAYOUT – SOLDER FACE VIEW



### PANEL DRILLING



### PART NUMBERS:

Note:

1. Platings available:

"B": black coating

"N": nickel plating

"G": olive drab cadmium plating

2. As these receptacles are compounded, coding position has to be chosen before ordering

### Examples:

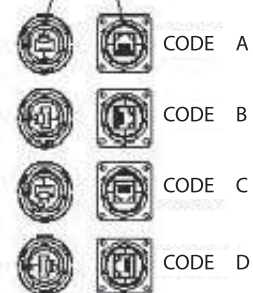
Square flange receptacle – black coating – coding A: **RJF2SA5B**

Square flange receptacle – nickel plating – coding C: **RJF2SC5N**

Square flange receptacle – olive drab cadmium plating – coding D: **RJF2SD5G**

### Insert Codes

#### Keying



## Environmentally Sealed Receptacles

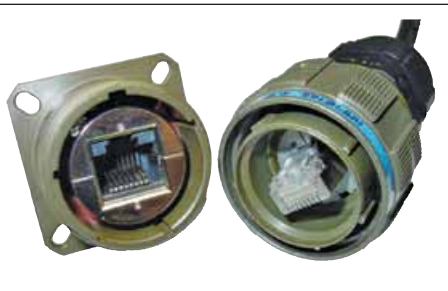


In some applications, a **transversal sealing** for the receptacle is a « must ». This will prevent fluids and dust from going through the receptacle when plug or cap are not mated to the receptacle. The sealed solution (version "S") has a compound at the rear of the receptacle as shown on the picture. For more information, please consult datasheet RJF-RJFTV Environmentally Sealed Receptacles, page 24.

**ROHS COMPLIANT**

"N": nickel plating

"B": black coating



### ROHS COMPLIANT

"N": nickel plating  
"BZ": marine bronze

#### Applications

- Data Acquisition and Transmission in harsh environment
- Railways
- Radars
- Shelters
- Battlefield Communication
- Systems
- Navy

#### Data Transmission

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

RJFTV 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

- Sealed against fluids and dusts (IP67)
- Shock, Vibration and Traction resistant
- No cabling operation in field and no tools required
- Mechanical Coding / Polarization (4 positions)
- Improved EMI protection
- **Tri Start Thread coupling mechanism (MIL-DTL-38999 series III type) with anti-decoupling device**
- **Robust metallic shells**
- RJ45 cordset retention in the plug: 100 N in the axis
- Mating cycles: 500 min
- Compatible with cable diameter from 5,5 mm [0.216 in] to 13 mm [0.512 in]

#### Environmental Protection

- Sealing: IP67
- Salt Spray: 48 h with Aluminium shell - Nickel plating  
500 h with Aluminium shell - Olive Drab Cadmium plating  
1000h with Marine bronze shell
- 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.
- Compounded versions tested per NAS 1599 (5-3000 Hz, 20g, 12h)
- 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

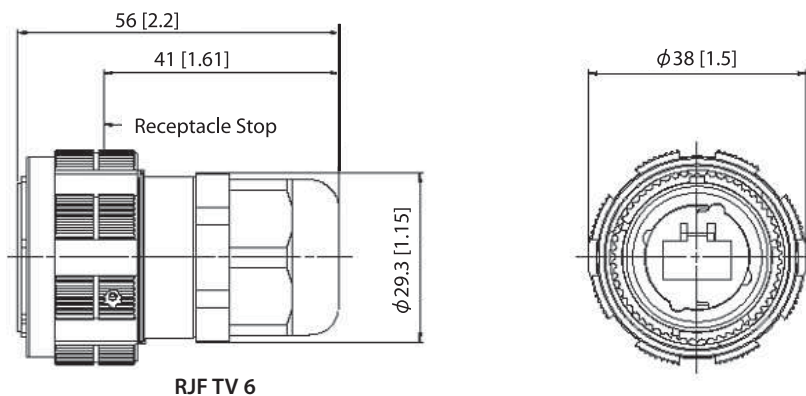
#### Part Number Code

Series	RJF TV	2	2	G	03	100 BTX
<b>RJ Field TV</b>						
<b>Shell Type</b>						
<b>6:</b>	Plug with Plastic gland					
<b>6M:</b>	Plug with Metal gland					
<b>2:</b>	Square Flange Receptacle					
<b>2PE:</b>	Square Flange Receptacle, IP67 backshell, Plastic gland					
<b>2PEM:</b>	Square Flange Receptacle, IP67 backshell, Metal gland					
<b>7:</b>	Jam Nut Receptacle					
<b>7PE:</b>	Jam Nut Receptacle, IP67 backshell, Plastic gland					
<b>7PEM:</b>	Jam Nut Receptacle, IP67 backshell, Metal gland					
<b>2SA, 7SA:</b>	Compounded versions: see page 24					
<b>Back Terminations (Receptacles only)</b>						
<b>1:</b>	Female RJ45					
<b>2:</b>	RJ45 Cordset					
<b>Shells material &amp; Finish</b>						
<b>N:</b>	Aluminium shell - nickel plating (receptacle inserts are metallized) - ROHS compliant					
<b>G:</b>	Aluminium shell - olive drab cadmium plating (receptacle inserts are metallized)					
<b>BZ:</b>	Marine bronze shell (receptacle inserts are metallized) - ROHS compliant					
<b>Cordset Length (type 2 back termination only)</b>						
<b>03:</b>	0.3m [11.81 inches]					
<b>05:</b>	0.5m [19.68 inches]					
<b>10:</b>	1m [39.37 inches]					
<b>15:</b>	1.5m [59.05 inches]					
<b>00:</b>	8 tinned holes at the rear of the PCB to solder the cable					
<b>Cabling Configuration (for Type "2" receptacles only)</b>						
<b>100BTX:</b>	(=568B)					

- Examples:
- Olive Drab Cadmium plug with plastic gland: RJF TV 6G
  - Olive Drab Cadmium Jam Nut Receptacle, female RJ45 back termination: RJF TV 71G
  - Nickel Jam Nut Receptacle, 1,5 m 100 BTX cordset back termination: RJF TV 72N 15 100BTX
  - Olive Drab Cadmium in line Square Flange Recept., 0,3 m 100 BTX cordset back termination: RJF TV 2PE 2 G 03 100BTX
  - Nickel Jam Nut Receptacle Solder termination 8 tinned holes: RJF TV 22 N 00

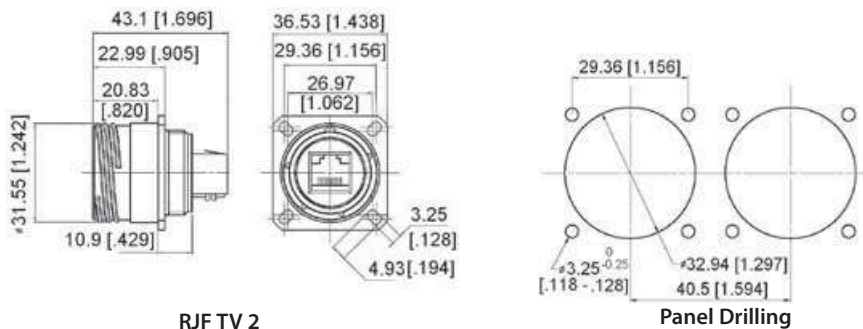
## Plug:

- Shell type 6 with Plastic or Metal Gland

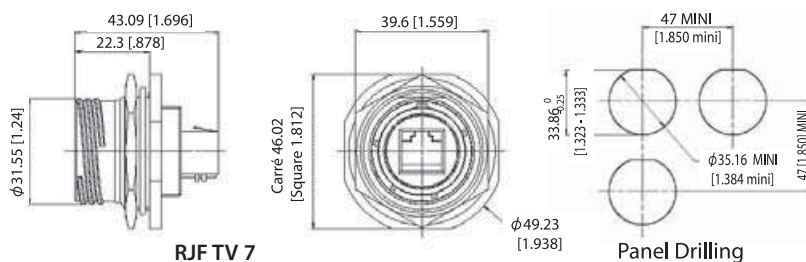


## Receptacles:

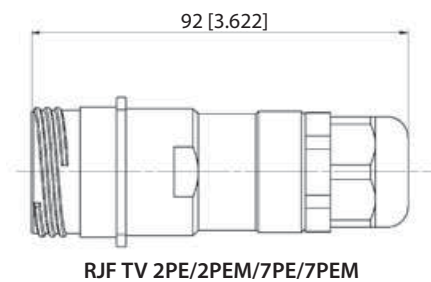
- Square flange receptacle  
4 mounting holes: Shell type 2



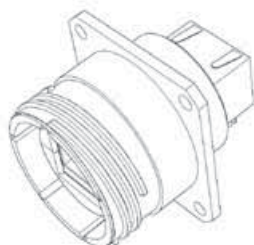
- Jam nut receptacle  
Hexagonal Nut mounting:  
Shell type 7



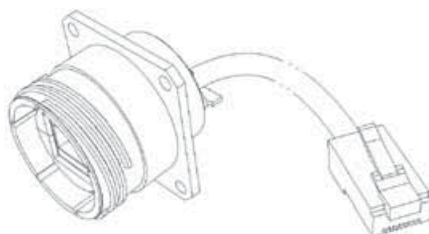
- Receptacles with IP67 backshell:  
Shell type 2PE and 7PE with Plastic or Metal Gland



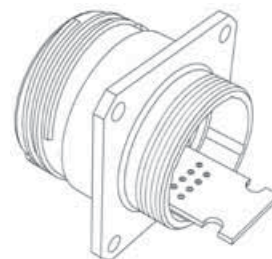
## Back Terminations



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

# Assembly instructions

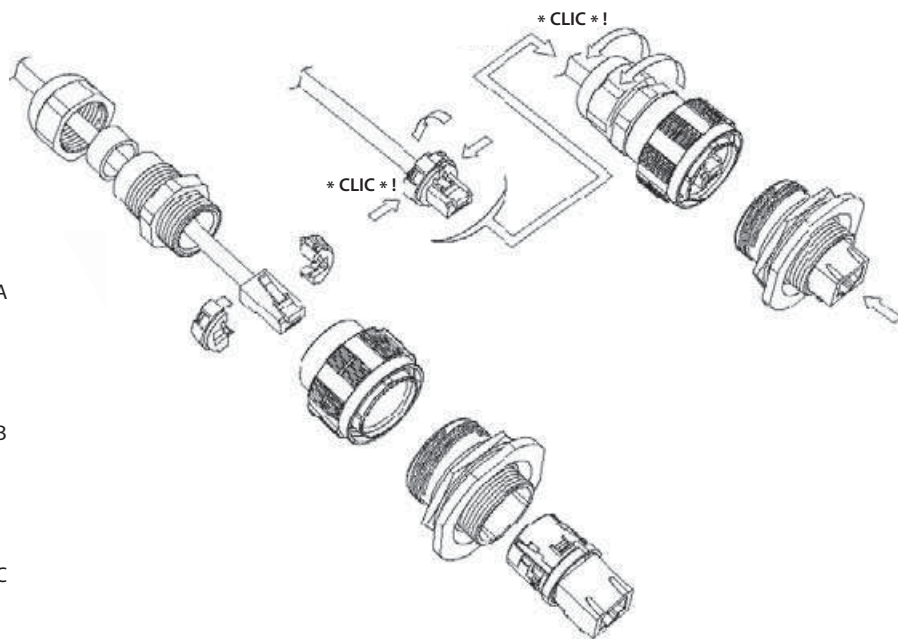
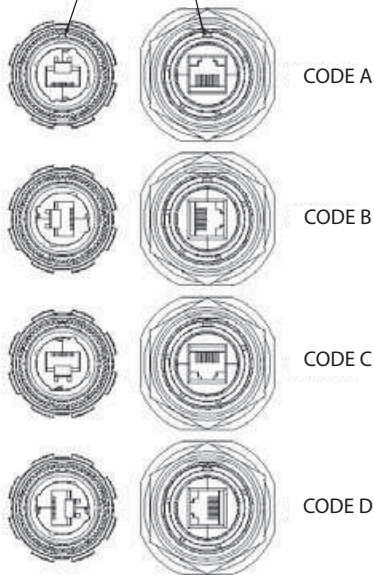
## Insert Codings

CONNECTION SIDE VIEW

Plug

Receptacle

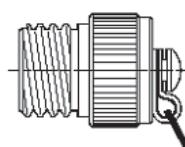
Main Key



## Accessories

### Metallic Caps

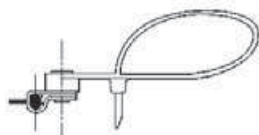
RJFTVC		2	G
<b>Connector Type</b>			
6: Plug			
2: Square Flange Receptacle			
7: Jam Nut Receptacle			
<b>Shell Material &amp; finish</b>			
N: Aluminium shell - nickel plating - ROHS compliant			
G: Aluminium shell - olive drab cadmium plating			
BZ: Marine bronze shell - ROHS compliant			



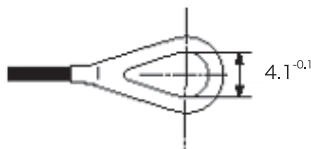
Plug Cap



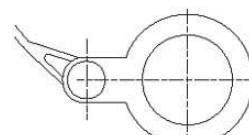
Receptacle Cap



Plug Cap end



Square flange receptacle cap end



Jam Nut receptacle cap end

### Panel Gasket for square flange receptacle (Thickness: 0,8 mm [.031]): JE19



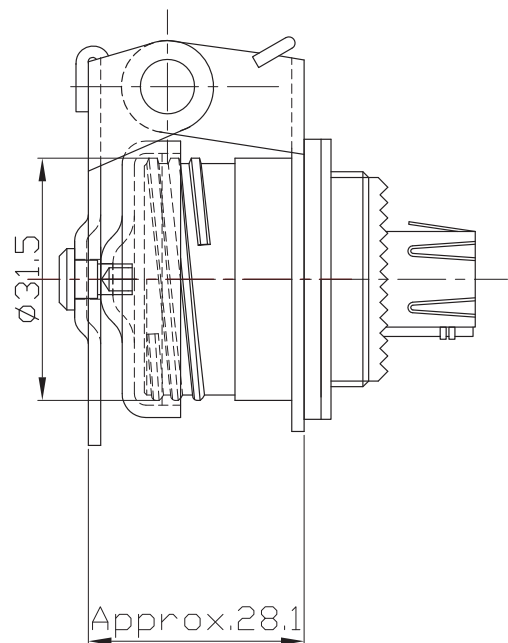
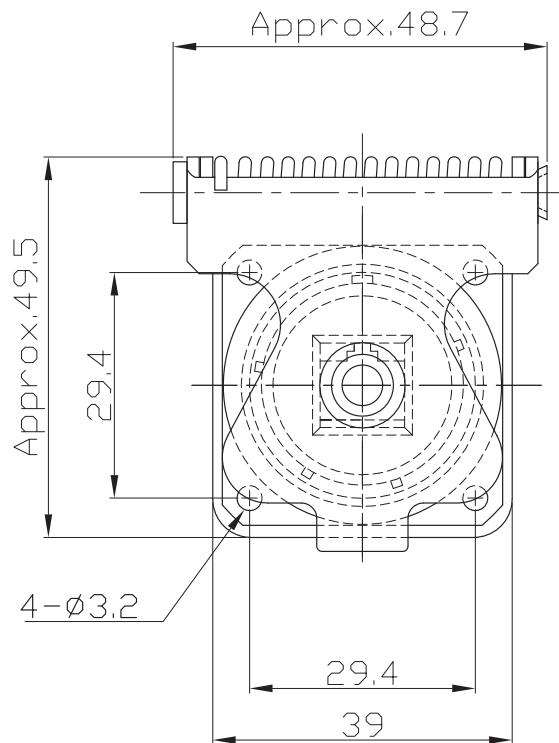
### Insert removal tool: RJF ODE







This Self Closing cap automatically protects the RJF TV square flange receptacle (MIL-DTL-38999 type), protecting your system from dust and water projection. A spring automatically closes the upper part of the cap when the RJF TV plug is removed from the receptacle.



■ Panel Gasket for square flange receptacle  
(Thickness: 0,8 mm [.031]):

PART NUMBER: JE19



**PART NUMBER:**

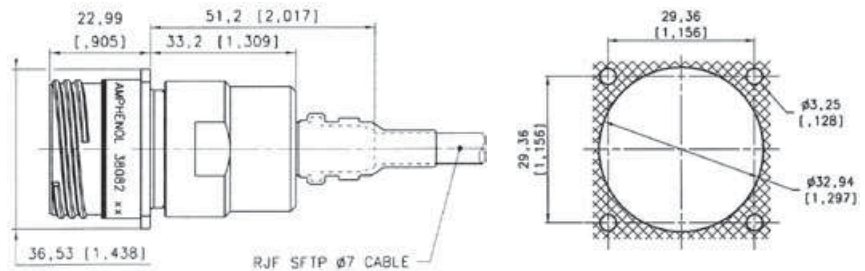
Self closing cap only: **RJFTVSCC**

**Remark:** Compatible only with RJFTV square flange receptacle type: RJFTV2XXX (see page 15)



RJFTV series receptacles and plugs with EMI backshells provide a solution with 360° shielding: same protection than the one proposed by standard MIL-DTL-38999 series III connectors. With those solutions we recommend using our reinforced and double shielded cat5E cable, see page 25.

### SQUARE FLANGE RECEPTACLE

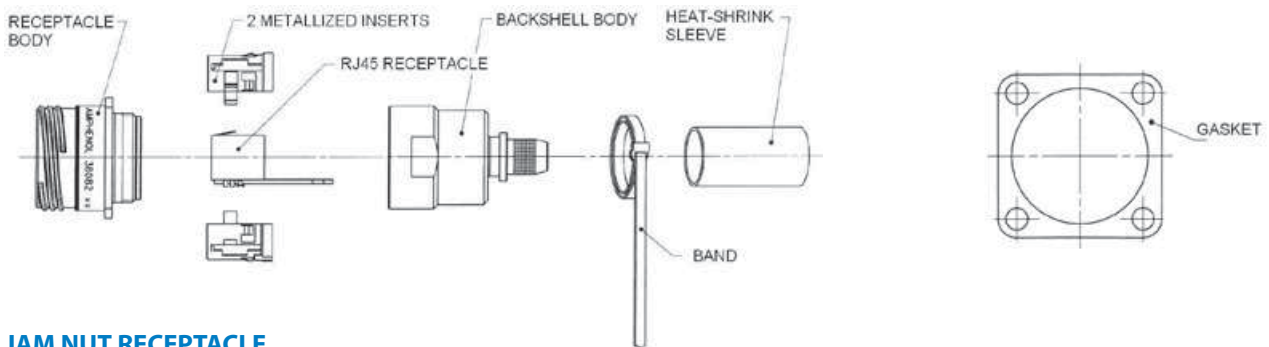


#### PART NUMBERS:

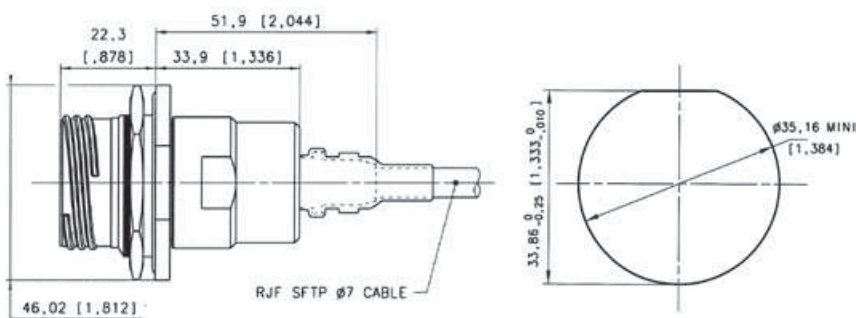
Olive Drab Cadmium Plating: **Kit38082**

Nickel Plating: **Kit38082NI**

Kit38082 and Kit38082NI include:



### JAM NUT RECEPTACLE

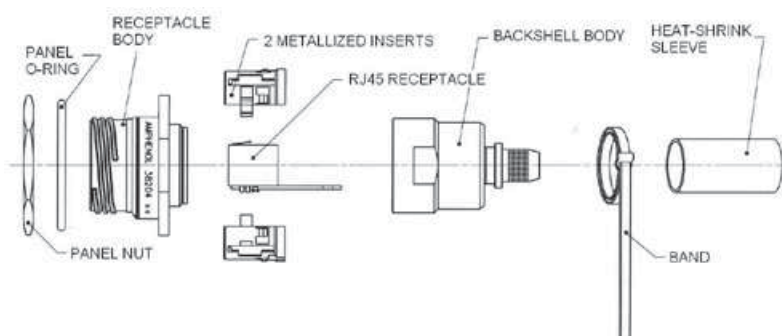


#### PART NUMBERS:

Olive Drab Cadmium Plating: **Kit38204**

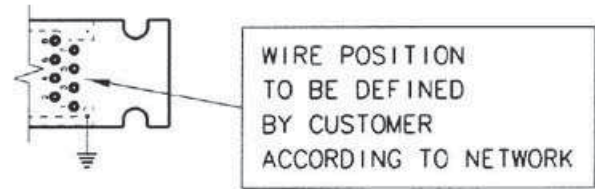
Nickel Plating: **Kit38204NI**

Kit38204 and Kit38204NI include:

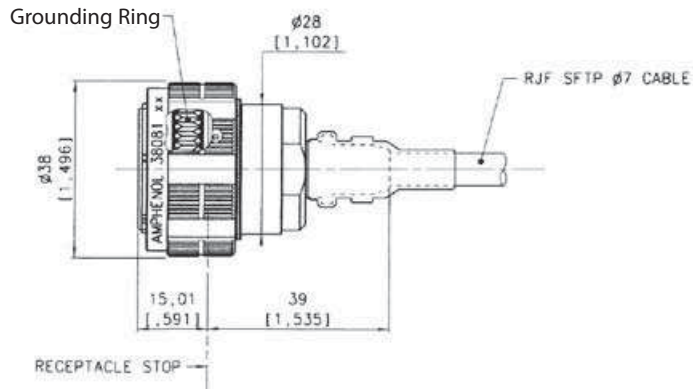


### IMPORTANT NOTE

With these receptacles, customer will have to solder his own cable on the PCB. So the wire positions have to be defined by the customer according to his network.



### PLUGS

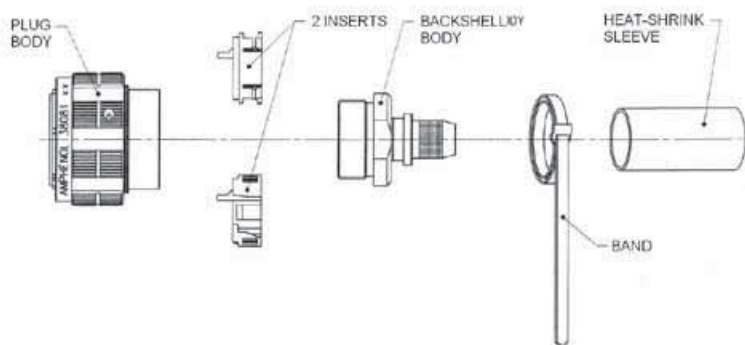


### PART NUMBERS:

Olive Drab Cadmium Plating: **Kit38081**

Nickel Plating: **Kit38081NI**

Kit38081 and Kit38081NI include:

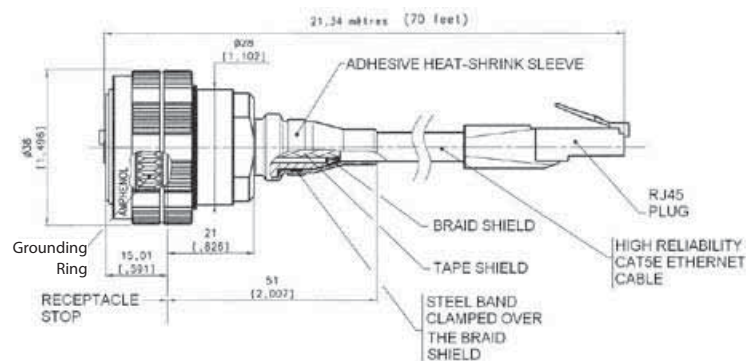


### IMPORTANT NOTE

With these plugs, the standard RJ45 plug is not provided. Customer will have to crimp a standard RJ45 on the cable by himself.

We advise using our double Shielded, reinforced Cat5E cable (see page 25) with these RJFTV series EMI connectors. If customer wants to use his own cable, please check with us regarding compatibility with our backshells: [contact@rjfield.com](mailto:contact@rjfield.com).

We also provide assembled cordsets, (see examples below). For this type of solution please provide the configuration needed: length, description of second end...



### Right Angle Receptacles

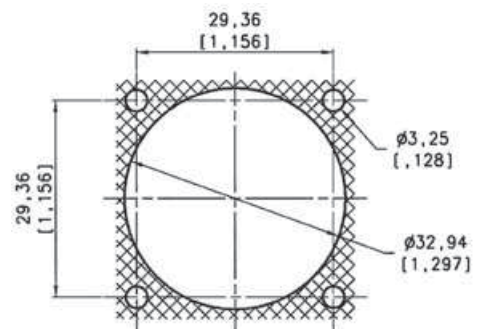
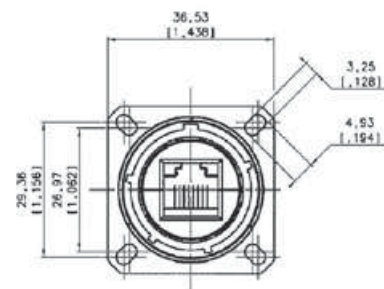
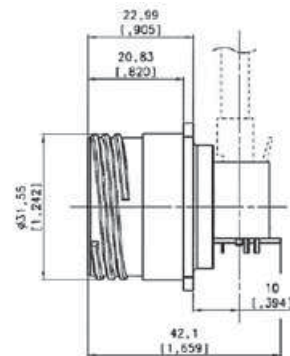


**ROHS COMPLIANT**

"N": nickel plating

Some applications have minimal space inside the system. The right angle receptacles meet this need while keeping the advantage of connecting a standard RJ45 cordset at the back.

### SQUARE FLANGE RECEPTACLE



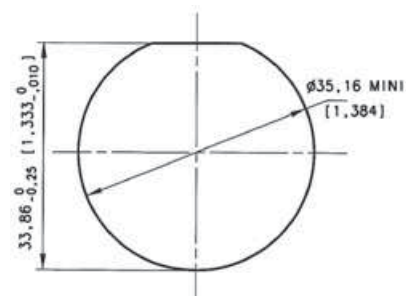
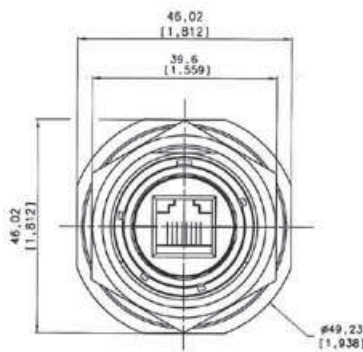
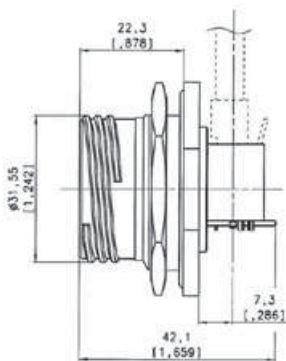
PANEL DRILLING

#### PART NUMBERS:

Nickel plating: **RJFTV21RAN**

Olive Drab Cadmium plating: **RJFTV21RAG**

### JAM NUT RECEPTACLE



PANEL DRILLING

#### PART NUMBERS:

Nickel plating: **RJFTV71RAN**

Olive Drab Cadmium plating: **RJFTV71RAG**



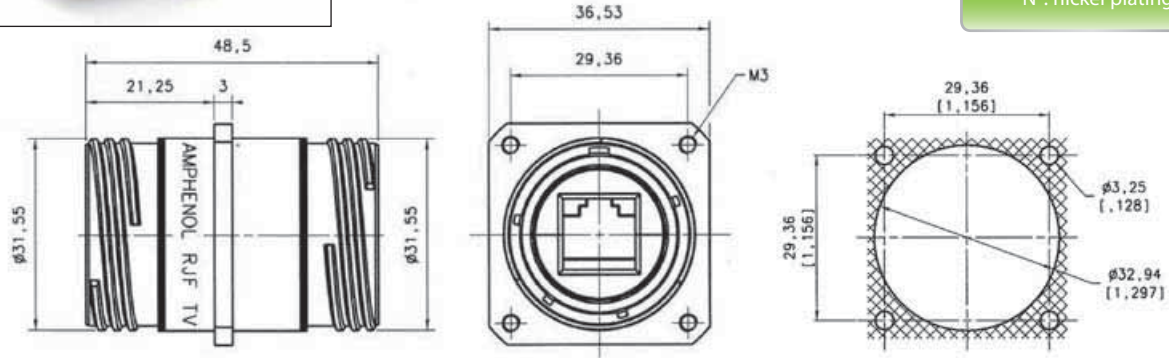
## Through Bulkhead Receptacles



Our RJFTV through bulkhead receptacles can be connected on each side with rugged RJFTV plugs. This system allows mechanical protection and a sealing (IP67) inside and outside the equipment, and keeps the flexibility offered by panel mount and plug connectors.

**ROHS COMPLIANT**

"N": nickel plating



### PART NUMBERS:

Nickel plating – Non metallized inserts: **RJFTVB2N ISO BRUT**

Nickel plating – Metallized inserts: **RJFTVB2N ISO NI**

Olive Drab Cadmium plating – Non metallized inserts: **RJFTVB2G ISO BRUT**

Olive Drab Cadmium plating – Metallized inserts: **RJFTVB2G ISO NI**

## Environmentally Sealed Receptacles



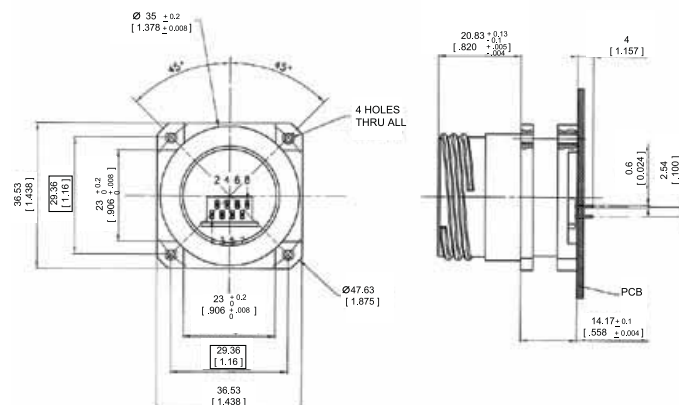
In some applications, a transversal sealing for the receptacle is a « must ». This will prevent fluids and dust from going through the receptacle when plug or cap are not mated to the receptacle. The sealed solution (version "S") has a compound at the rear of the receptacle as shown on the example. In addition, the Sealed RJF TV have been successfully tested in very high vibration corresponding to airplanes applications. For more information, please consult datasheet RJF-RJFTV Environmentally Sealed Receptacles (see page 24).

## PCB Tails receptacles



These receptacles can be soldered directly to your PCB. A compound insures a transversal sealing and good performance in high-vibration environments. The shell of those receptacles are in the « Stand Off » style. They can be connected with RJFTV series plugs.

### SQUARE FLANGE RECEPTACLE



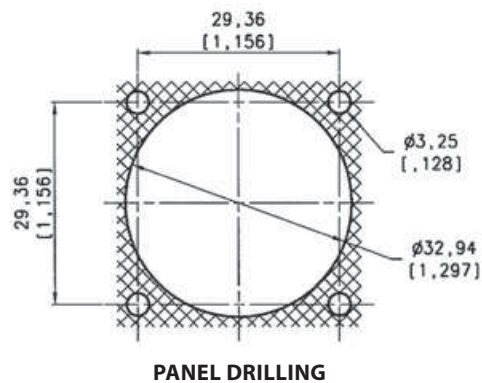
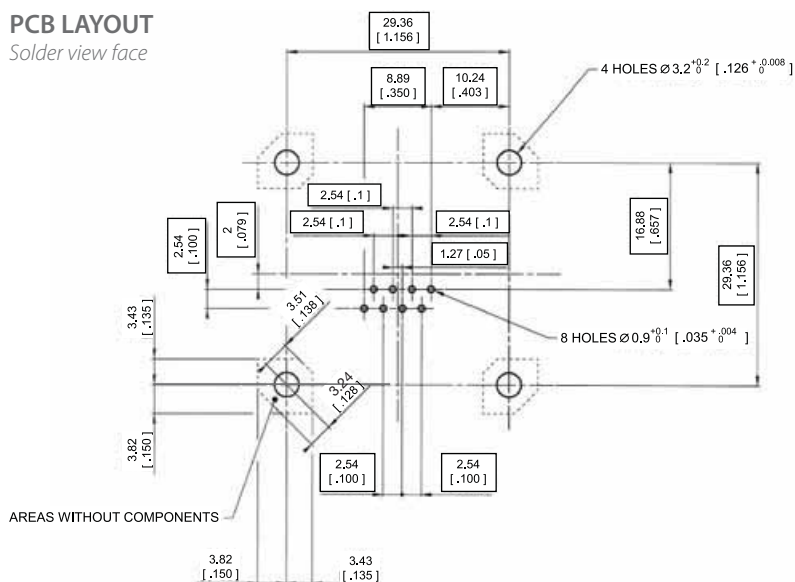
### PART NUMBERS:

Olive Drab Cadmium Plating: **RJFTV25GF459**

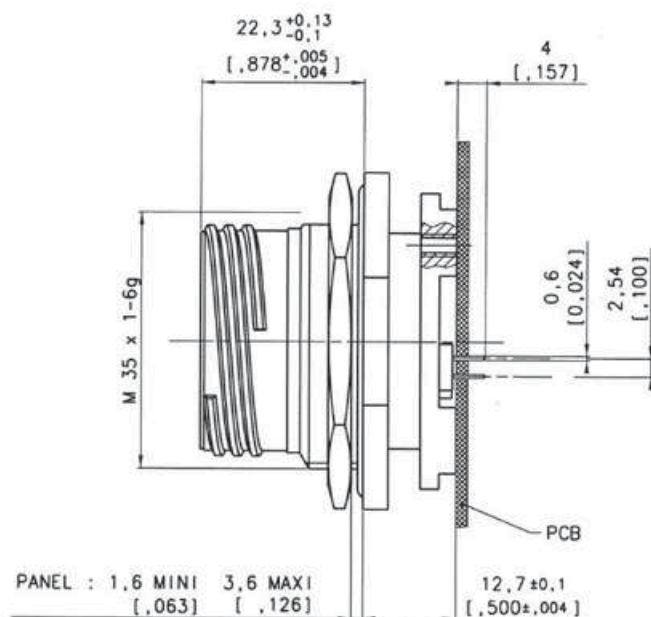
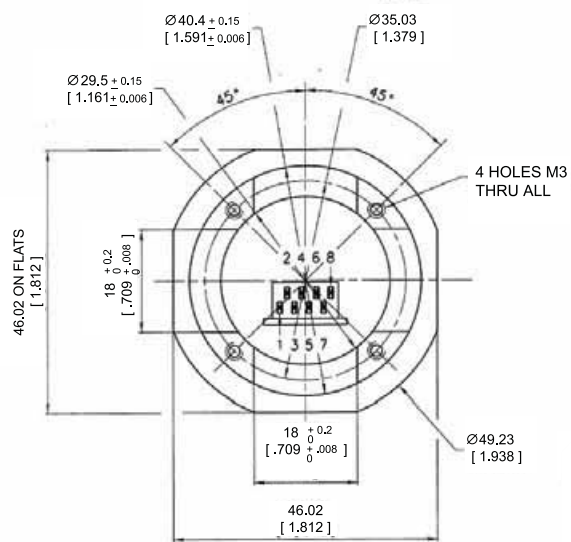
Nickel Plating: **RJFTV25NF459**

## PCB LAYOUT

Solder view face



## JAM NUT RECEPACLE



## PART NUMBERS:

Olive Drab Cadmium Plating: **RJFTV75GF459**

Nickel Plating: **RJFTV75NF459**

## PCB LAYOUT

Solder view face

