



NO HAZARDOUS ON-FIELD CABLING AND GROUNDING

The Amphenol RJ Field series allows the use of an Ethernet Class D/ Cat5e and Class E/Cat6 connection for Ethernet over twisted-pair networks in harsh environments. The RJStop® connection system protects from shock, dust and fluid. No hazardous on-field cabling and grounding required!

- Connections for 10Base-T, 100Base-TX, or 1000Base-T networks
- No tools required
- Mechanical coding/polarization

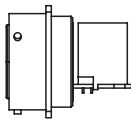
APPLICATIONS

- Robotics
- Military data hubs
- Special machines
- Welding machines
- Communications
- CNC machines
- Process & motion control
- Diagnostics

FEATURES

- Cat5e & Cat6e Cable
- USB-A, USB-B
- Mating systems – bayonet, triple-lead, latch, push-pull

TECHNICAL SPECIFICATIONS

							
SERIES	RJF RB	RJF 544	RJF-EZ	RJF	RJFTV	USBFTV (USB-A)	USBBFTV (USB-B)
Shape	Circular	Circular	Rectangular	Circular	Circular	Circular	Circular
Coupling System	Reverse Bayonet	Push-Pull	Lever	Bayonet	Tri-Start Thread	Tri-Start Thread	Tri-Start Thread
Material	Plastic	Plastic	Plastic	Metal	Metal	Metal	Metal
Data Type	CAT5e & CAT6	CAT5e	CAT5e	CAT5e	CAT5e	USB-A 2.0	USB-B 2.0
Number of possible Codings (polarizations)	1	1	1	4	4	4	4
RoHS Options Available	Yes	No	No	Yes	Yes	Yes	Yes
Mating Cycles	500 min.	500 min.	500 min.	500 min.	500 min.	up to 1500	up to 1500

RJF

MAIN CHARACTERISTICS

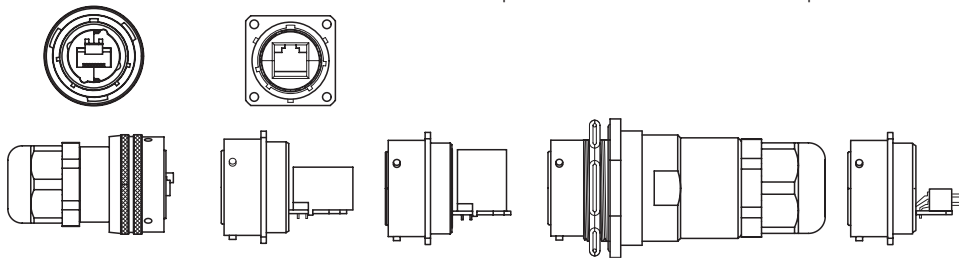
- Compliant with IEC 60603-7 variant 11
- Bayonet coupling ("audible & visual" coupling signal)
- Robust metallic shells based on MIL-DTL-26482H
- RJ45 cordset retention in the plug: 100 N in the axis
- Mating cycles: 500 min.
- Sealed against fluids and dust (IP68)
- Shock, vibration and traction-resistant
- No cabling operation in-field and no tools required
- Mechanical coding / polarization (4 positions)
- Compatible with cable diameters from 0.236 in. (6 mm) to 0.512 in. (13.0 mm)

ENVIRONMENTAL PROTECTION

- Sealing: IP68
- Salt spray: 48-hour with nickel-plating > 96-hour with black coating > 500-hour with olive 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 15.75" (40 cm) onto connectors (mated pair)
- Humidity: 21 days, 109.4°F (43°C), 98% humidity
- Thermal shock: 5 cycles at -40°F to +212°F (-40°C to +100°C)
- Operating temperature: -40°F to +185°F (-40°C to +85°C)

DATA TRANSMISSION

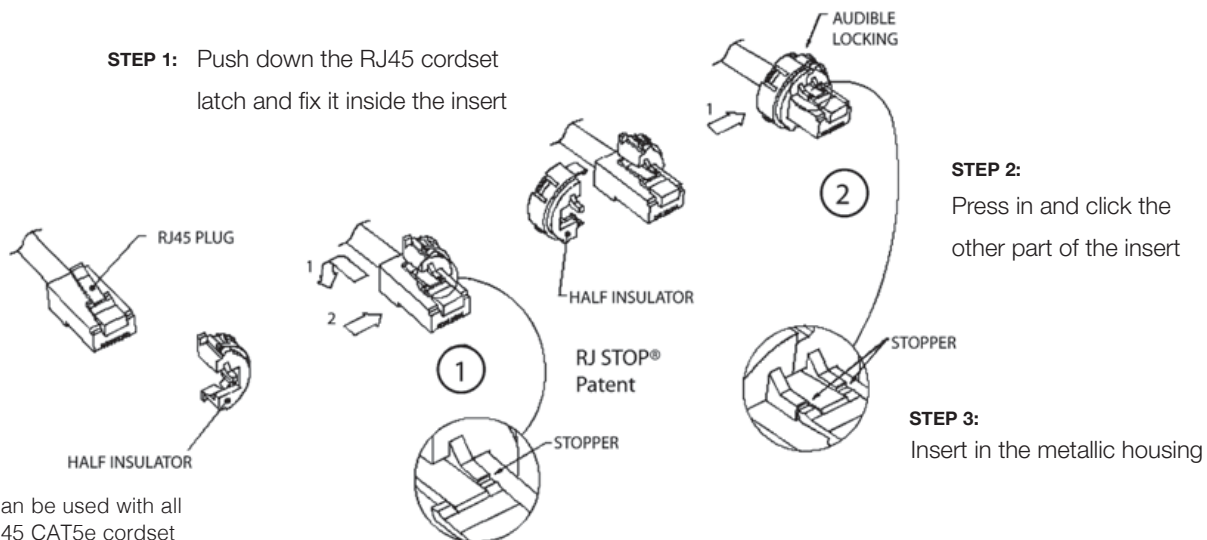
10 Base-T, 100 Base-TX, and 1000 Base-T networks
Cat5e per TIA/EIA 568B and Class D per ISO/IEC 11801



PLATING	PLUGS		RECEPTACLES							
	CABLE GLANDS		STANDARD BOX MOUNT	CORDSET BOX MOUNT	RIGHT ANGLE FEMALE RJ45	INLINE CABLE MOUNT		PC TAILS RECEPTACLES	CABLE GLANDS	
	PLASTIC	METAL				PLASTIC	METAL		PLASTIC	METAL
Black-Anodized	RJF6B	RJF6MB	RJF21B	RJF22B**100BTX	RJF21RAB	RJF2PEWF1B	RJF2PEMWF1B	RJF2SA5B	RJF2PE1B	RJF2PEM1B
Nickel	RJF6N	RJF6MN	RJF21N	RJF22N**100BTX	RJF21RAN	RJF2PEWF1N	RJF2PEMWF1N	RJF2SA5N	RJF2PE1N	RJF2PEM1N
Olive Drab Cadmium	RJF6G	RJF6MG	RJF21G	RJF22G**100BTX	RJF21RAG	RJF2PEWF1G	RJF2PEMWF1G	RJF2SA5G	RJF2PE1G	RJF2PEM1G

** Select for Cordset Length 03 = 11.81 (0.30M) 05 = 19.68 (0.50M) **BOLD** = Stocked items
 10 = 39.37 (1.00M) 15 = 59.05 (1.50M)

ASSEMBLY INSTRUCTIONS



Universal: Can be used with all standard RJ45 CAT5e cordset brands

All dimensions in inches (millimeters in parenthesis)

RJF TRANSVERSALLY-SEALED

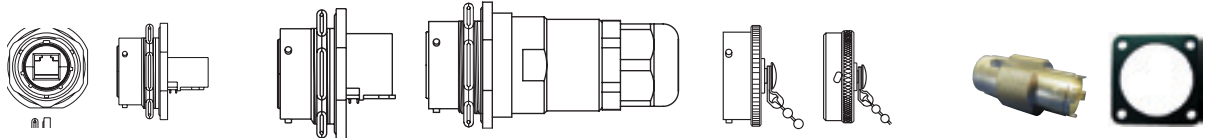
PLATING	RECEPTACLE			JAM NUT RECEPTACLE		
	STANDARD SEALED BOX MOUNT	CORDSET SEALED BOX MOUNT	RIGHT ANGLE SEALED FEMALE RJ45	STANDARD SEALED JAM NUT	CORDSET SEALED JAM NUT	RIGHT ANGLE SEALED FEMALE RJ45
Black-Anodized	RJF2S*1B	RJF2S*2B**100BTX	RJF2S*1RAB	RJF7S*1B	RJF7S*2B**100BTX	RJF7S*1RAB
Nickel	RJF2S*1N	RJF2S*2N**100BTX	RJF2S*1RAN	RJF7S*1N	RJF7S*2N**100BTX	RJF7S*1RAN
Olive Drab Cadmium	RJF2S*1G	RJF2S*2G**100BTX	RJF2S*1RAG	RJF7S*1G	RJF7S*2G**100BTX	RJF7S*1RAG

* Coding A, B, C, D ** Select for Cordset Length 03 = 11.81 (0.30M) 05 = 19.68 (0.50M) 10 = 39.37 (1.00M) 15 = 59.05 (1.50M)
BOLD = Stocked Items

RJF HERMETIC SEALED

PLATING	RECEPTACLE			JAM NUT RECEPTACLE		
	STANDARD HERMETIC BOX MOUNT	CORDSET HERMETIC BOX MOUNT	RIGHT ANGLE HERMETIC FEMALE RJ45	STANDARD HERMETIC JAM NUT	CORDSET HERMETIC JAM NUT	RIGHT ANGLE HERMETIC FEMALE RJ45
Black-Anodized	RJF2H*1B	RJF2H*2B**100BTX	RJF2H*1RAB	RJF7H*1B	RJF7H*2B**100BTX	RJF7H*1RAB
Nickel	RJF2H*1N	RJF2H*2N**100BTX	RJF2H*1RAN	RJF7H*1N	RJF7H*2N**100BTX	RJF7H*1RAN
Olive Drab Cadmium	RJF2H*1G	RJF2H*2G**100BTX	RJF2H*1RAG	RJF7H*1G	RJF7H*2G**100BTX	RJF7H*1RAG

* Coding A, B, C, D ** Select for Cordset Length 03 = 11.81 (0.30M) 05 = 19.68 (0.50M) 10 = 39.37 (1.00M) 15 = 59.05 (1.50M)

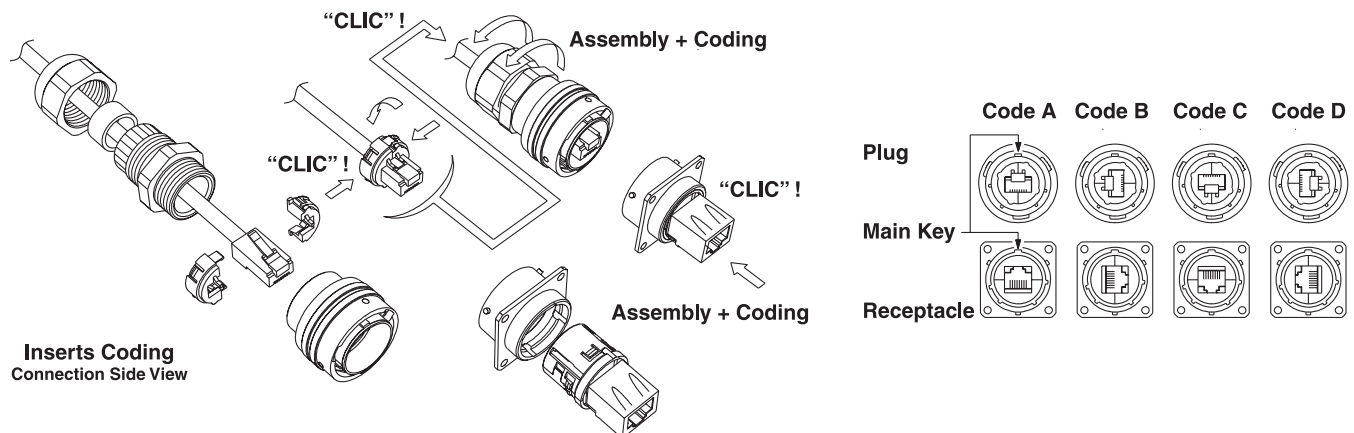


	JAM NUT RECEPTACLE					ACCESSORIES				
PLATING	STANDARD JAM NUT	CORDSET JAM NUT	RIGHT ANGLE FEMALE RJ45	CABLE GLAND		DUST CAP+			INSERT REMOVAL TOOL	FLANGE GASKET
				PLASTIC	METAL	PLUG §	BOX MOUNT §	JAM NUT§		
Black- Anodized	RJF71B	RJF72B**100BTX	RJF71RAB	RJFPE1B	RJF7PEM1B	RJFC6B	RJFC2B	RJFC7B	RJFODE	JE18
Nickel	RJF71N	RJF72N**100BTX	RJF71RAN	RJFPE1N	RJF7PEM1N	RJFC6N	RJFC2N	RJFC7N		
Olive Drab Cadmium	RJF71G	RJF72G**100BTX	RJF71RAG	RJFPE1G	RJF7PEM1G	RJFC6G	RJFC2G	RJFC7G		

** Select for Cordset Length 03 = 11.81 (0.30M) 05 = 19.68 (0.50M) + Metallic Chains Available **BOLD** = Stocked items
 10 = 39.37 (1.00M) 15 = 59.05 (1.50M) § Nylon Cord Lengths: Plugs - 6.30 (160.0)
 Box Mount and Jam Nut - 4.134 (105.0)

ASSEMBLY INSTRUCTIONS

Easy and Safe: No field cabling tools required

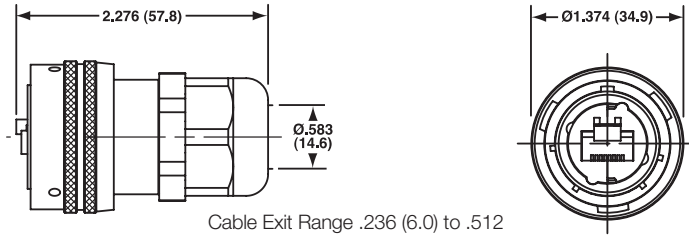


All dimensions in inches (millimeters in parenthesis)

PLUG

RJF 6

Plug with plastic or metal gland

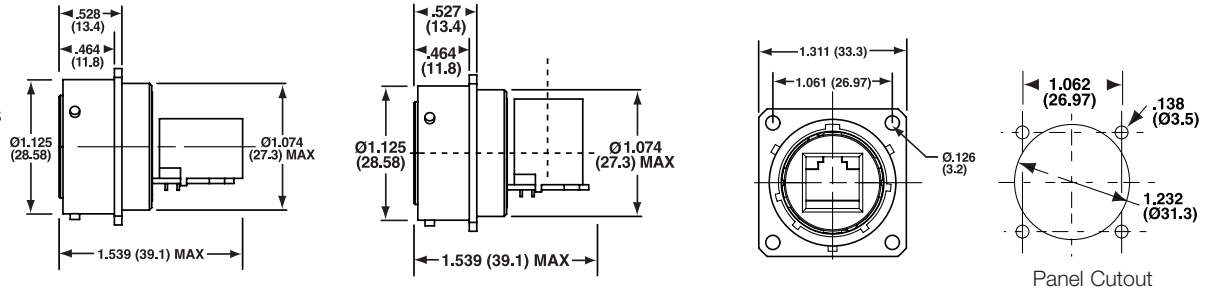


Cable Exit Range .236 (6.0) to .512 (13.0)

RECEPTACLES

RJF 2

Square flange receptacle, 4 mounting holes

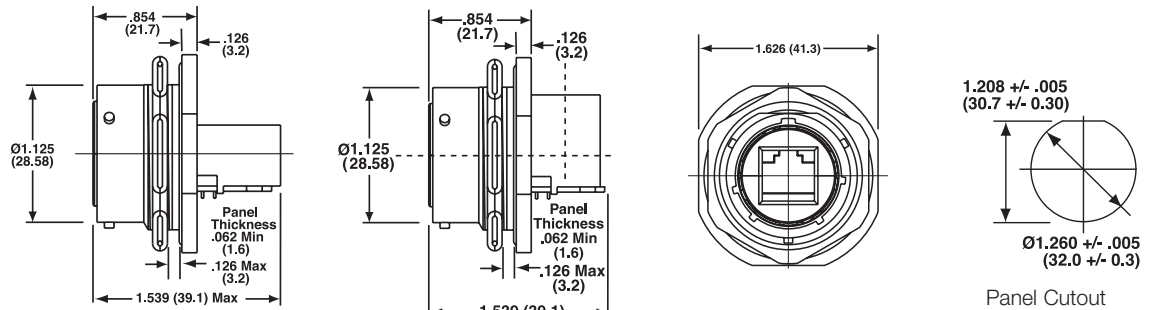


Straight

Right Angle

RJF 7

Jam nut receptacle
Hexagonal-nut mounting



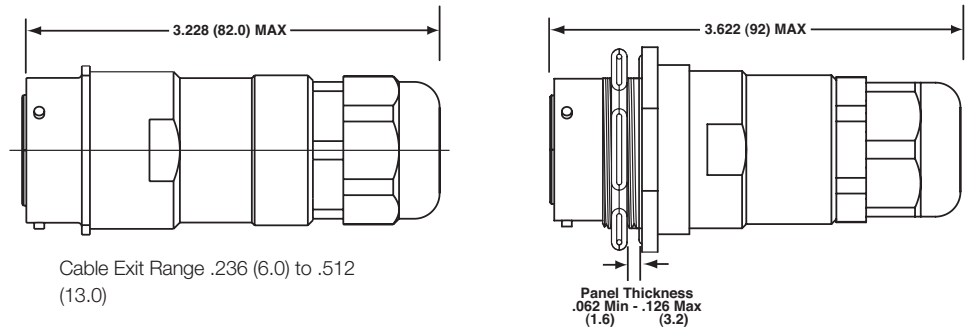
Straight

Right Angle

RJF 2PE/2PEM

RJF 72PE/7PEM

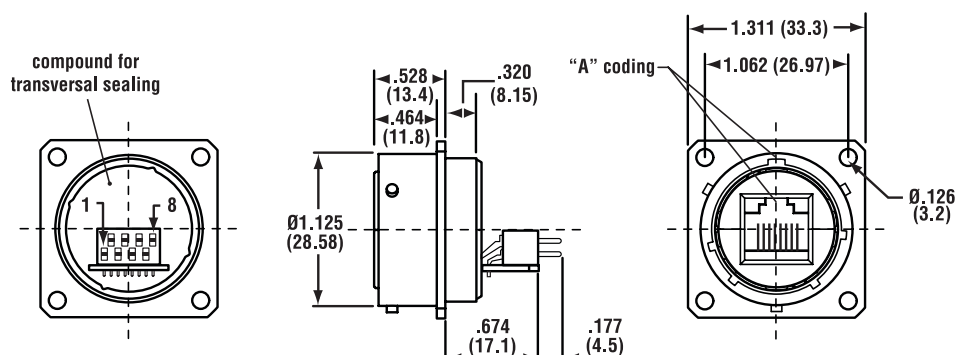
IP68 inline receptacles
with plastic or metal gland



Cable Exit Range .236 (6.0) to .512 (13.0)

PCB TAILS RECEPTACLES

PCB LAYOUT



All dimensions in inches (millimeters in parenthesis)

SELF-CLOSING CAP

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.



Plating	RJ45	USB-A	USB-B	IEEE1394
Black-Anodized	RJF21BSCC	USBF21BSCC	USBBF21BSCC	FWF21BSCC
Nickel	RJF21NSCC	USBF21NSCC	USBBF21NSCC	FWF21NSCC

BOLD = Stocked Items

CABLE Cat5e



General construction: A four-pair, 24 AWG, 100 Ohm SFTP round patch cable, designed to the ISO / IEC 11801 Category 5e requirements (Cat5e on 76m). The cable contains four twisted pairs, cabled, double-shielded with Kevlar reinforcement strands, jacketed in black UV-resistant polyurethane HFFR. Designed for fixed or portable applications in harsh environments.

HFFR: HALOGEN-FREE FLAME-RETARDANT

Jacket Compound Specification:

Halogen-free flame-retardant polyether-based polyurethane. Glossy finish.

Excellent hydrolysis resistance. High microbial resistance. UV-resistant. High flexibility.

PHYSICAL CHARACTERISTICS

Conductors	24 AWG (0.25 mm2) Tinned copper, 7x0.2 mm
Insulation	Color-coded 568-B, Linear low-density polyethylene, Nom. Dia. 0.039" (1mm)
Assembly	Pairs cabled with Kevlar-strength members and separation-tape wrapped
Shields	Inner: Aluminum mylar 100% coverage Outer: Tinned-copper braid 80% coverage
Jacket	Black, special PUR compound
Weight	40 lbs / mft (59 kg/km)
Outside Dia.	0.28" (7.1 mm) nom.
Min. Bend Radius (During installation)	67.5mm (9 x O.D.)
Min. Bend Radius (During operation)	37.5mm (5 x O.D.)
Min. Flexes to Failure	Passes IEC 61156-6 requirements
Temperature	-40°F to +185°F (-40°C to +85°C)

ELECTRICAL CHARACTERISTICS

DC Resistance	96 Ohms/KM @ 20°C
Impedance	100 ± 15 Ohms 1-100 MHz
Attenuation	
772 KHz	2.70 db/100m nom.
1 MHz	3.15 db/100m nom.
4 MHz	6.45 db/100m nom.
10 MHz	9.90 db/100m nom.
16 MHz	12.3 db/100m nom.
20 MHz	13.8 db/100m nom.
31.25 MHz	17.7 db/100m nom.
62.5 MHz	25.6 db/100m nom.
100 MHz	33 db/100m nom.
Capacitance	46pF/m nom. @ 1KHz
LCL	43 dB min. @ 64 KHz
Capacitance Unbalance	3.4 pF/m max. @ 1KHz (wire to ground)
Insulation Resistance	150 M Ohm min.
Voltage Rating	230 VMS
Dielectric Strength	VAC/1 min - 700 v/min.
Propagation Delay	(100 MHz) 5.2 ns/m max. @ 100 MHz
Delay Skew	20 ns/100m max. @ 100 MHz
Resistance Unbalance	3% max. @ 20°
Structural Return Loss	(100 MHz) 23 db/100m min. @ 1-20 MHz
Spark Test	3 KV (tested during production)
Velocity of propagation	67% nom.

All dimensions in inches (millimeters in parenthesis)

REEL OF CABLE (WITHOUT RJ45 PLUG ON ENDS)

LENGTH (M/FT)	PART NUMBER
100 m /~328 ft	190-038045-00
300 m /~984 ft	190-038045-01