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Rugged Digital Networks Solutions

Reinforced Infocom Connectors for Harsh Environment

RJ Field - USB Field

Amphenol

July 2014
update











Connecting to people + technology

www.rjfield.com

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Rugged electronics

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Field installable



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Rugged Electronics

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Field installable



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RUGGED ETHERNET SOLUTION SELECTION GUIDE

	Connectors	Series	Indust. Ethernet Spec.	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page
F I E L D I N S T A L L A B L E		RJF RB		Reverse Bayonet	Circular	Plastic	N/A	Industrial & Telecom	10
		RJF544	IEC 60603-7 variant 12	Push Pull	Circular	Plastic	N/A	Industrial & Telecom	13
		RJF EZ	IEC 60603-7 variant 13	Lever	Rectangular	Plastic	N/A	Industrial & Telecom	15
		RJF	IEC 60603-7 variant 11	Bayonet	Circular	Metal	MIL-DTL-26482	Industrial Mil/Aero	17
		RJF in line receptacles & PC tails receptacles	IEC 60603-7 variant 11	Bayonet	Circular	Metal	MIL-DTL-26482	Industrial Mil/Aero	20
		RJF receptacles & plugs with 360° EMI backshells		Bayonet	Circular	Metal	MIL-DTL-26482	Industrial Mil/Aero	21
		RJF transversally sealed receptacles		Bayonet	Circular	Metal	MIL-DTL-26482	Mil/Aero & Industrial	22
		RJF hermetic receptacles		Bayonet	Circular	Metal	MIL-DTL-26482	Mil/Aero & Industrial	23
		RJF for big insulation wire up to 1.6mm [0.062 inch]		Bayonet	Circular	Metal	MIL-DTL-26482	Industrial Mil/Aero	24
		RJFTV		Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Rail Mass Transit	26
		RJF TV receptacles & plugs with 360° EMI backshells		Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Rail Mass Transit	30
		RJF TV through bulkhead receptacles		Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Rail Mass Transit	32
		RJF TV stand off receptacles		Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Rail Mass Transit	33
		RJFTV transversally sealed receptacles		Bayonet or Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Industrial	36
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	RJF TV for big insulation wire up to 1.6 mm		Bayonet or Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero	38	
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I N S T A L L A B L E	Cables	Series	Indust. Ethernet Spec.	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page	
		High reliability Cat 5E cable and cordsets							Mil/Aero & Industrial	41
		High reliability Cat 6 cable and cordsets							Mil/Aero & Industrial	42
		High reliability Cat 6A cable and cordsets							Mil/Aero & Industrial	43

A S S E M B L I E S	Connectors	Series	Indust. Ethernet Spec.	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page	
		RJ45/M12 Railway cable solution			Bayonet	Circular	Metal	MIL-DTL-26482	Industrial & Rail Mass Transit	46
		Jumper			Thread	Circular	Metal	MIL-DTL-38999 Series III	Rail Mass Transit	47



R U G G E D E L E C T R O N I C S	Connectors	Series	Sealing	Type	# of ports	Specification	Prime Market	Page	
		RES-GMC Media converter with Expanded Beam Tech.		IP67/68	Unmanaged	2 Gb ports		Mil/Aero	50
		RES-GMC Media converter with Butt Joint Fiber connect.		IP67/68	Unmanaged	2 or 4 Gb ports		Mil/Aero	52
		RES-GMC-1M-FORC Media converter with Remote Control		IP67/68	Unmanaged	1 Gb port + 1 Fiber port		Mil/Aero	54
		RES-SCE-AC-8US miniature portable switch		IP67/68	Unmanaged	8 Fast ports		Mil/Aero	56
		RES-SCE-AC-8MG miniature portable switch		IP67/68	Managed	8 Gb ports		Mil/Aero	58
		RESMLAC-8US-CAPS military Ethernet switch MIL-DTL-38999 connectors		IP67/68	Unmanaged	8 Fast ports		Mil/Aero	60
		RJSMLAC-8UG-CAPS military Ethernet switch MIL-DTL-38999 connectors		IP67/68	Unmanaged	8 Gb ports		Mil/Aero	62
		RJSMLAC-8MG-CAPS military Ethernet switch RJFTV connectors		IP67/68	Managed	8 Gb ports		Mil/Aero	64
		RESMLAC-8MG-CAPS military Ethernet switch MIL-DTL-38999 connectors		IP67/68	Managed	8 Gb ports		Mil/Aero	66
		RESMLAC-8MG-CAPS-F35 military Ethernet switch MIL-DTL-38999 connectors		IP67/68	Managed	8 Gb ports		Mil/Aero	68
		RESMLAC-28MG military Ethernet switch		IP67/68	Managed	24 Gb + 4 combo 10G ports		Mil/Aero	70
		RJSML-8US1 & RJSML-8UG1 military Ethernet switch		IP67/68	Unmanaged	8 Gb ports		Mil/Aero	73
		RJSML-MG7F3G military Ethernet switch		IP67/68	Managed	7 fast + 3 Gb ports		Mil/Aero	77
	RJSPC industrial Ethernet switch <i>For ATEX version, see page 138</i>		IP67/68	Unmanaged	5 fast ports		Industrial	81	

RUGGED USB SOLUTION SELECTION GUIDE






	Connectors	Series	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page
F I E L D I N S T A L L A B L E		USB3FTV (USB-A)	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	86
		USB3FTV transversally sealed receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	90
		USB3FTV hermetic receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Industrial	93
		High reliability USB 3.0 Cordsets					Mil/Aero, Rail Mass Transit & Industrial	96
		USBFTV (USB-A)	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	97
		USBF TV transversally sealed receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	100
		USBF TV hermetic receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Industrial	102
		USBF TV special receptacles with 360° EMI backshells	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	103
		Special USB through bulkhead receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Industrial	104
		USBF TV stand off receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass transit & Industrial	105
		High reliability USB 2.0 Cordsets					Mil/Aero, Rail Mass Transit & Industrial	109
		USBF SC Quick release series	Spring Release	Circular	Metal	N/A	Mil/Aero & Industrial	110
		USBBF TV (USB-B)	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	112
		USBBF TV stand off receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	115
		USBBF TV transversally sealed receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	117
	Special USB adaptor for Military & Commercial Aeronautics		Circular	Metal		Aeronautic	120	

	Connectors	Series	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page
ASSEMBLIES CABLES		USB-A plastic with Self Closing Cap		Circular	Plastic	N/A	Industrial & Telecom	122
		USB B Field Plastic shell Overmolded cordset plug	Thread	Circular	Plastic	N/A	Industrial & Telecom	125
RUGGED ELECTRONICS		Reinforced USB3FTV & USB 2.0 Memory Keys	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & industrial	128
		Reinforced USB Memory Keys	Bayonet	Circular	Metal	N/A	Mil/Aero & Industrial	129
		Reinforced USB 2.0 amplifier	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Industrial	130

RUGGED ATEX ZONE 2 SOLUTION GUIDE

	Connectors	Series	Coupling mechanism	Shape	Material	Specification	Prime Market	Page
RUGGED ELECTRONICS		RJFTVX, USBFTVX RJ11FTVX	IP68		Metal		Factory Automation, Video, Oil & Gaz	132
		RJSPCEX	IP68	Plastic	5	X	X	Oil & Gas

OTHER RUGGED SOLUTIONS

	Connectors	Series	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page	
FIELD INSTALLED TABLE		FWFTV (FireWire)	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Video	140	
		RJ11F (RJ11)	Bayonet	Circular	Metal	MIL-C-26482	MIL/Aero & Industrial	144	
		Special RJ11 adaptor for Military & Commercial Aeronautics			Circular	Metal		Aeronautic	146
		MTRJFTV (MTRJ) Fiber optic solution	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Rail Mass Transit	148	
		LC Field Fiber optic solution	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Rail Mass Transit	150	

Rugged Ethernet Solutions



Field installable

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	RJF EZ: plastic rectangular shell - lever coupling	15
	RJF: metallic circular shell based on MIL-DTL-26482 H - bayonet coupling	17
	RJF special receptacles: inline receptacles & PC tails receptacles	20
NEW	RJF receptacles & plugs with 360° EMI backshells	21
NEW	RJF transversally sealed receptacles.....	22
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	RJF for big insulation wire up to 1.6 mm [0.062 inch]	24
	Self Closing Cap (SCC) for RJ Field receptacles	25
	RJF TV: metallic circular shell based on MIL-DTL-38999 series III - thread coupling with anti-decoupling device	26
	Metallic self closing cap (SCC) for RJFTV square flange receptacles.....	29
	RJF TV receptacles and plugs with 360° EMI backshells	30
	RJF TV through bulkhead receptacles	32
	RJF TV stand off receptacles	33
NEW	RJF TV transversally sealed receptacles	36
NEW	RJF TV hermetic receptacles	37
NEW	RJF TV for big insulation wire up to 1.6 mm	38
	RJ45/M12 adaptators	39
	Special RJ45 adaptators for Military & Commercial Aeronautics	40
	High reliability Cat 5E Ethernet cable & cordsets	41
NEW	High reliability Cat 6 Ethernet cable & cordsets	42
NEW	High reliability Cat 6A Ethernet cable & cordsets	43

RJF RB

Ethernet connection system for harsh environment – Industrial Ethernet



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!

Applications

- Telecom equipments
- Video control
- Robotics
- Industrial process control
- CNC machines
- Special machines
- Motion control

Main characteristics

- Sealed against fluids and dust (IP68)
- 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]

Environmental protection

- Sealing: IP68
- Salt spray > 1000 h
- Fire retardant / Low smoke: UL94 V0 and NFF 16102, DIN 5510-2
- 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

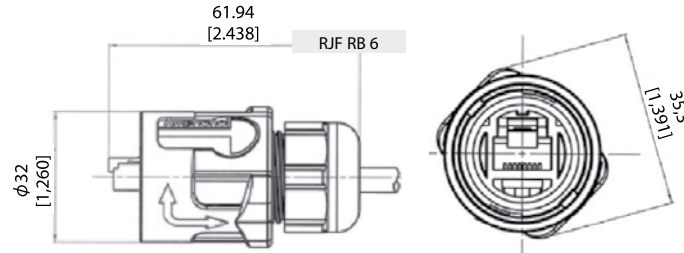
Part number code

	RJF RB	7	1RA
Shell type			
6: composite reverse bayonet plug, plastic gland			
7: composite jam nut receptacle			
Back terminations (for receptacles only)			
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			
Cordset length (for receptacles with "2" back termination only)			
03 100BTX: 0.3m [11.81 inches]			
05 100BTX: 0.5m [19.68 inches]			
10 100BTX: 1m [39.37 inches]			
15 100BTX: 1.5m [59.05 inches]			
Remark: cabling configuration → 100 BTX = 568B (Ethernet specification)			

- 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

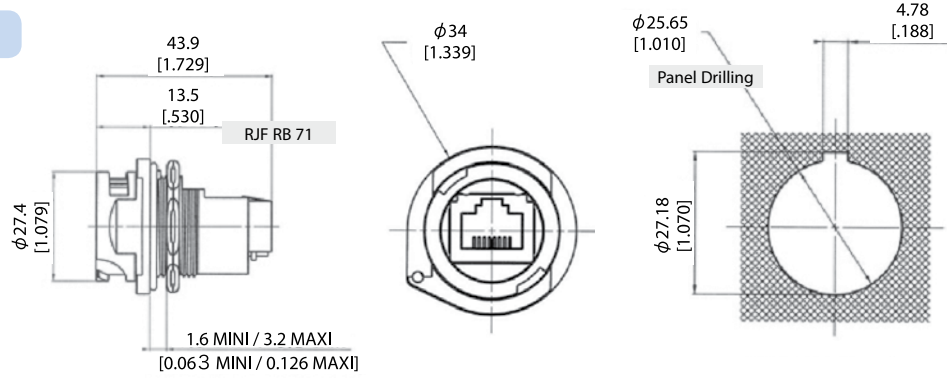
Plug

- Type 6 shell with plastic gland

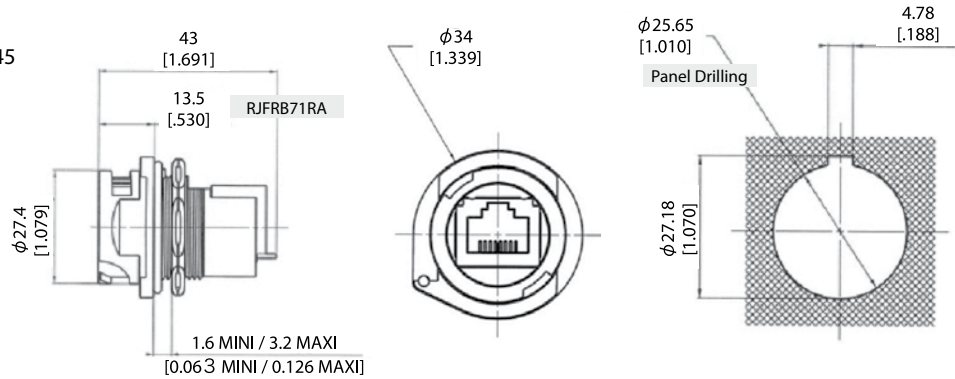


Receptacles

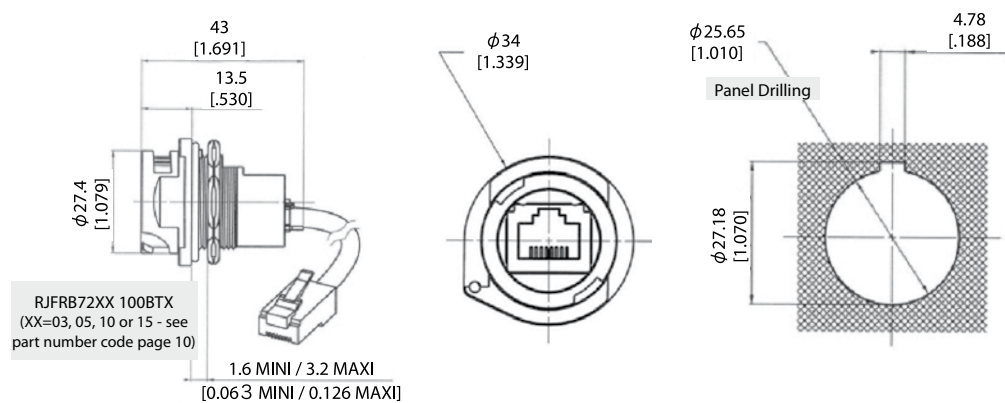
- Type 1: female RJ45 (front mounting)



- Type 1RA: right angle female RJ45 (front mounting)



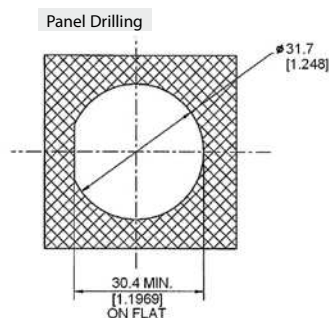
- Type 2: RJ45 cordset (front mounting)



- Type 3: IDC CAT 6 termination (rear mounting)



Unshielded: RJF RB 73U
Partial shielding RJF RB 73F

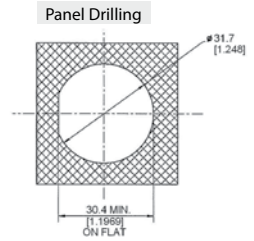
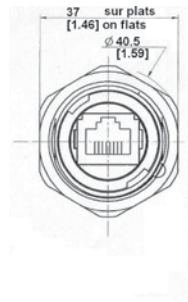
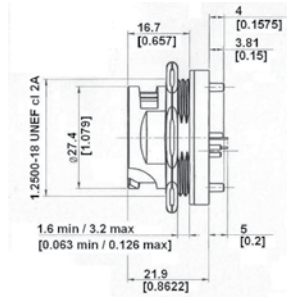


Shielded: RJFRB73S

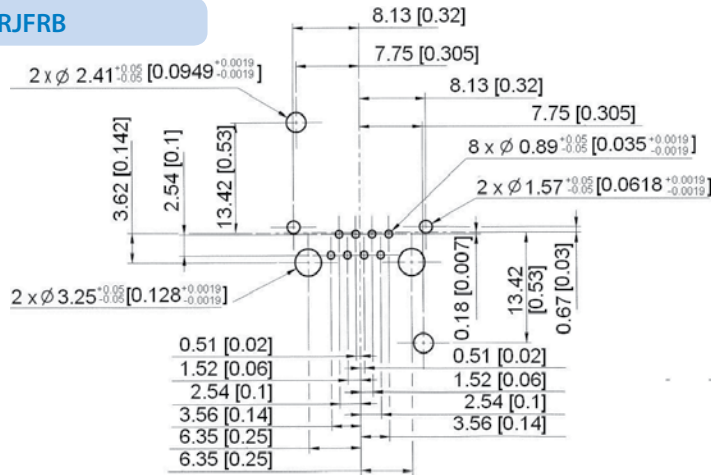
■ Straight PCB termination receptacle:
(rear mounting)



Part number: RJF RB 75



PCB drilling RJFRB



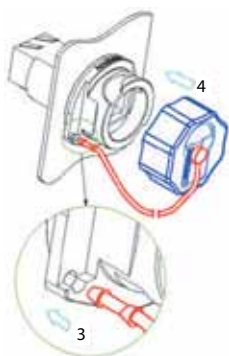
IMPORTANT NOTE
The customer's PCB design will determine the receptacle category.

Assembly instructions

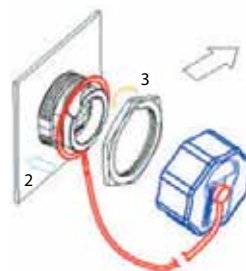


Accessories

■ IP68 Dust caps



RJF RB C7
Cap for receptacles RJFRB71 / 71RA / 72xxx



RJF RB 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 !

Applications

- Telecom equipment
- Video control
- Robotics
- Industrial process control
- CNC machines
- Special machines
- Motion control
- Tele-maintenance

Data transmission

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



Now available with transversal sealing*

*Seald in unmated condition

Main characteristics

- Compliant with IEC 60603-7 variante 12
- Shock, vibration and traction resistant
- No cabling operation in field and no tools required
- Sealed against fluids and dust (IP68)
- **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 6 mm [0.236 in] to 13 mm [0.512 in]

Environmental protection

- Sealing: IP68
- 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.
- Operating temperature: - 40°C / +85°C

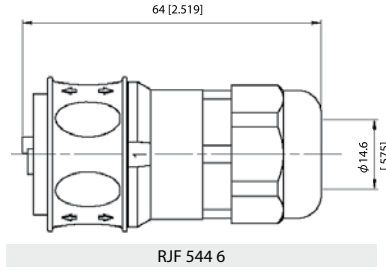
Part number code

	RJF 544	2	2	03 100BTX
Shell type				
6: composite push pull plug, plastic gland				
2: composite square flange receptacle				
2S: composite square flange receptacle transversally sealed				
2M: metallized (Ni) composite square flange receptacle				
2SM: metallized (Ni) composite square flange receptacle transversally sealed				
Back terminations (for receptacles only)				
1: female RJ45				
1RA: right angle female RJ45				
2: RJ45 cordset				
Cordset length (for receptacles with "2" back termination only) - Other lengths are available on demand				
03 100BTX: 0.3 meters [11.81 inches]				
05 100BTX: 0.5 meters [19.68 inches]				
10 100BTX: 1 meter [39.37 inches]				
15 100BTX: 1.5 meters [59.05 inches]				
00: 8 tinned holes at the rear of the PCB to solder the cable				
Remark: cabling configuration → 100 BTX = 568B (Ethernet specification)				

- 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
 - Transversally sealed receptacle female RJ45 back termination: RJF544 2S1

Plug

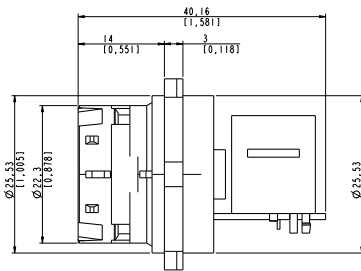
- Type 6 shell with plastic gland



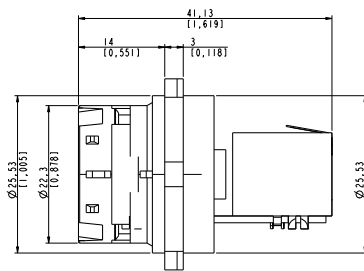
RJF 544 6

Receptacle

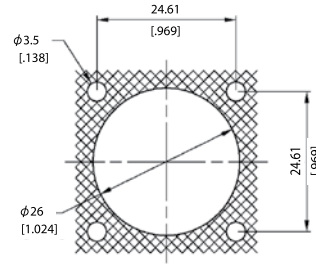
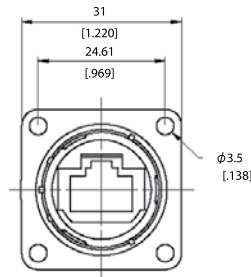
- Type 2S/2M/2SM shell: square flange receptacle with 4 mounting holes



RJF 544 2x 1 RA

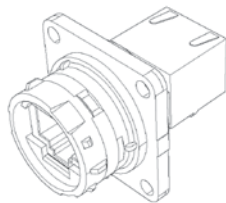


RJF 544 2x 1

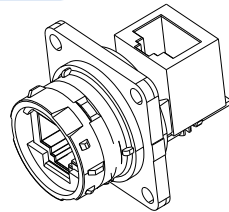


Panel Drilling
(same as #16 ML-C-5015)

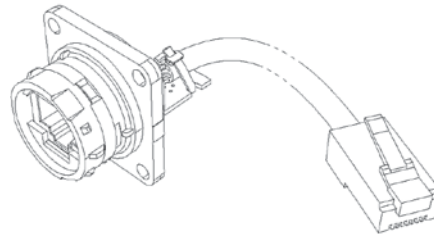
Back terminations



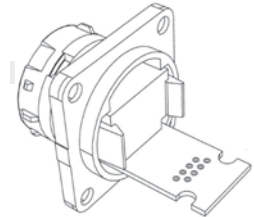
Type1: female RJ45



Type1RA: right angle female RJ45



Type2: RJ45 cordset



Type 2 - 00: solder - 8 tinned holes

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

Accessories

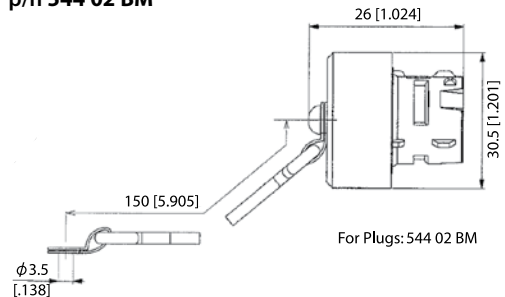
- Rubber IP68 receptacle cap
p/n RJF 544BESC



- Panel gasket
p/n RJF 544 02JE



- IP68 caps for plug
p/n 544 02 BM



For Plugs: 544 02 BM

- Panel gasket (thickness: 0.6mm [0.039]): p/n RJF 544 02 JE
- Plug Insert removal tool: p/n 5440 OT 02

RJF EZ

Ethernet connection system for harsh environment – Industrial Ethernet



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!

Applications

- Telecom equipment
- Video control
- Robotics
- Industrial process control
- CNC machines
- Special machines
- Motion control
- 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 13
- Sealed against fluids and dust (IP68)
- 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]

Environmental protection

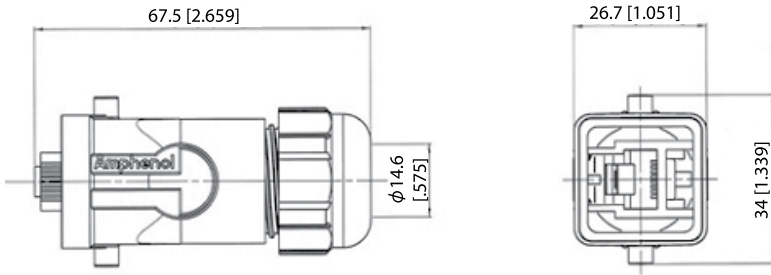
- Sealing: IP68
- Salt spray > 1000 h
- Fire retardant / Low smoke: UL94 V0 and NFF 16102, DIN 5510-2
- Operating temperature: - 40°C / +85°C

Part number code

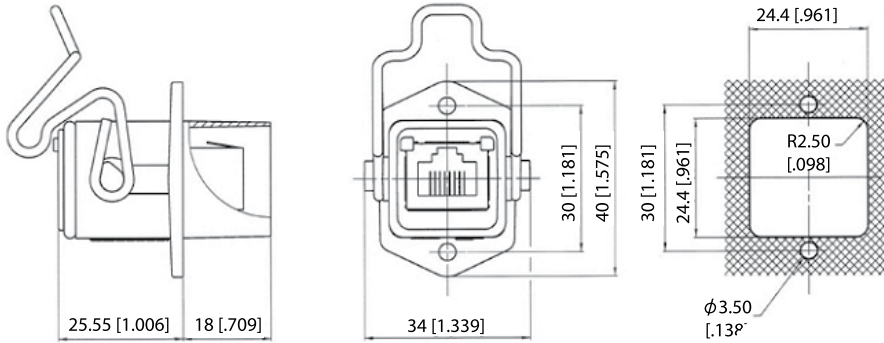
	RJF EZ	2	2	03 100BTX
Shell type				
6: composite lever plug, plastic gland				
2: composite square flange receptacle				
Back terminations (for receptacles only)				
1: female RJ45				
2: RJ45 cordset				
Cordset length (for receptacles with "2" back termination only)				
03 100BTX: 0.3m [11.81 inches]				
05 100BTX: 0.5m [19.68 inches]				
10 100BTX: 1m [39.37 inches]				
15 100BTX: 1.5m [59.05 inches]				
Remark: Cabling configuration → 100 BTX = 568B (Ethernet specification)				

- 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

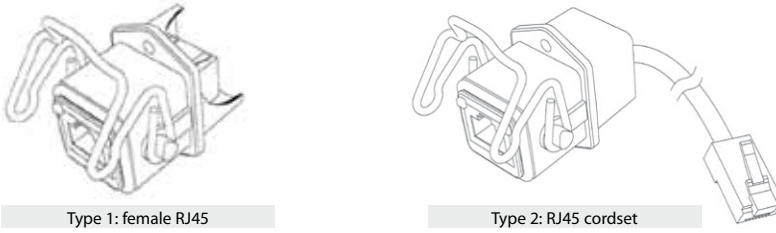
Plug



Receptacles



Back terminations

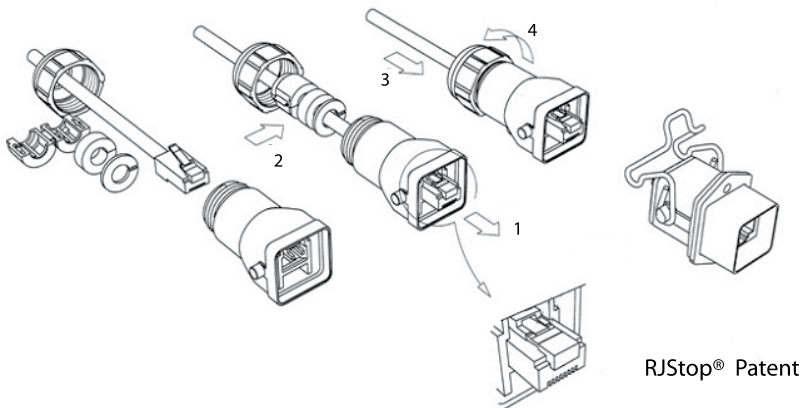


Type 1: female RJ45

Type 2: RJ45 cordset

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

Assembly instructions



RJStop® Patent

Accessories

- IP68 dust caps
For plugs: not available
For receptacles: RJF EZ BE



- Panel gasket
Thickness: 1 mm [.039]
Part No. RJF EZ JE



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
- Temperature range: -40°C / +85°C
- Storage temperature:

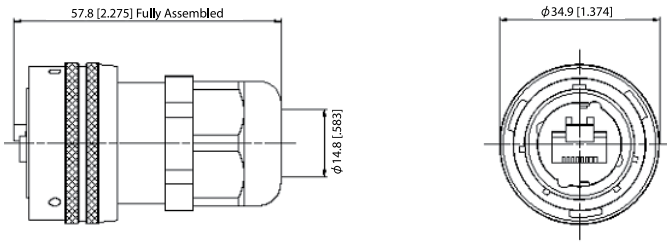
Part number code

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

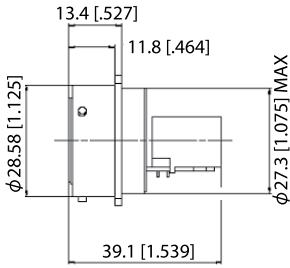
Plug

- Shell type 6 with plastic or metal gland

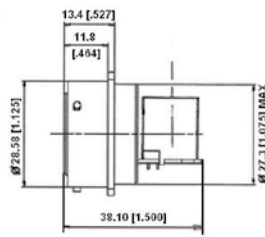


Receptacles

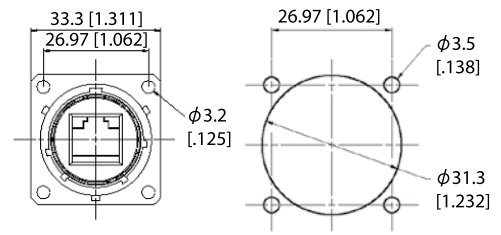
- Square flange receptacle • 4 mounting holes: shell type 2



RJF 21 X (Straight Female RJ45)

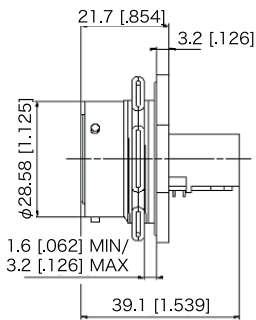


RJF 21 RA X (Right Angle Female RJ45)

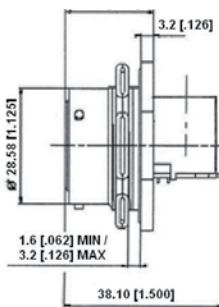


Panel Drilling

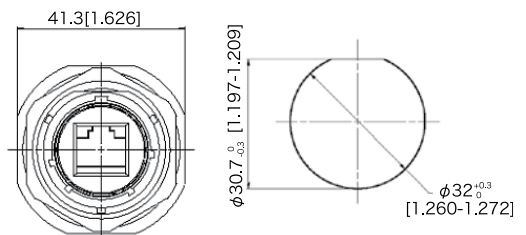
- Jam nut receptacle • Hexagonal nut mounting: shell type 7



RJF 71 X (straight female RJ45)

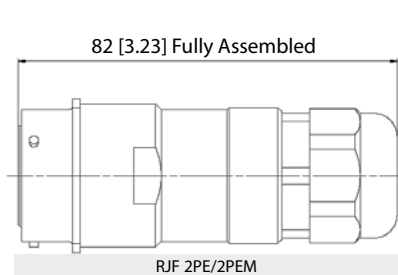


RJF 71 RA X (right angle female RJ45)

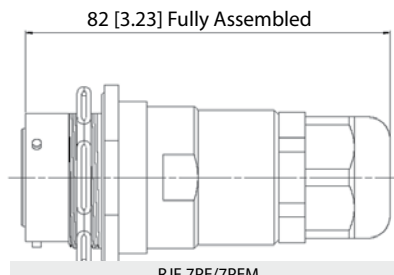


Panel drilling

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

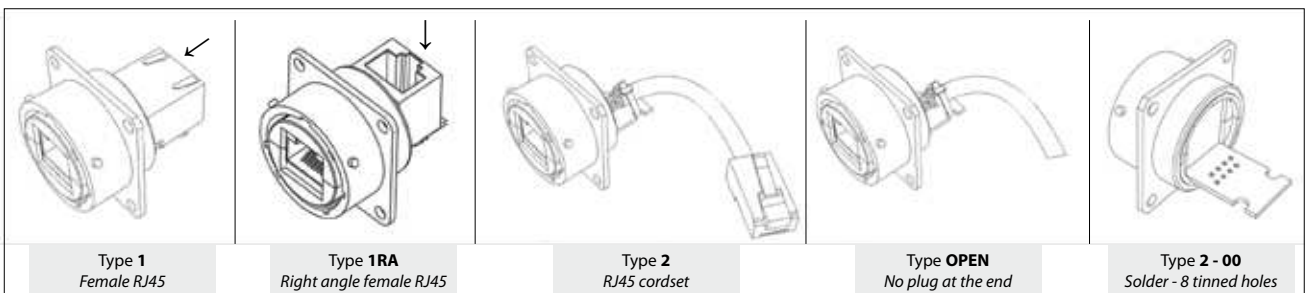


RJF 2PE/2PEM



RJF 7PE/7PEM

Back terminations



Type 1
Female RJ45

Type 1RA
Right angle female RJ45

Type 2
RJ45 cordset

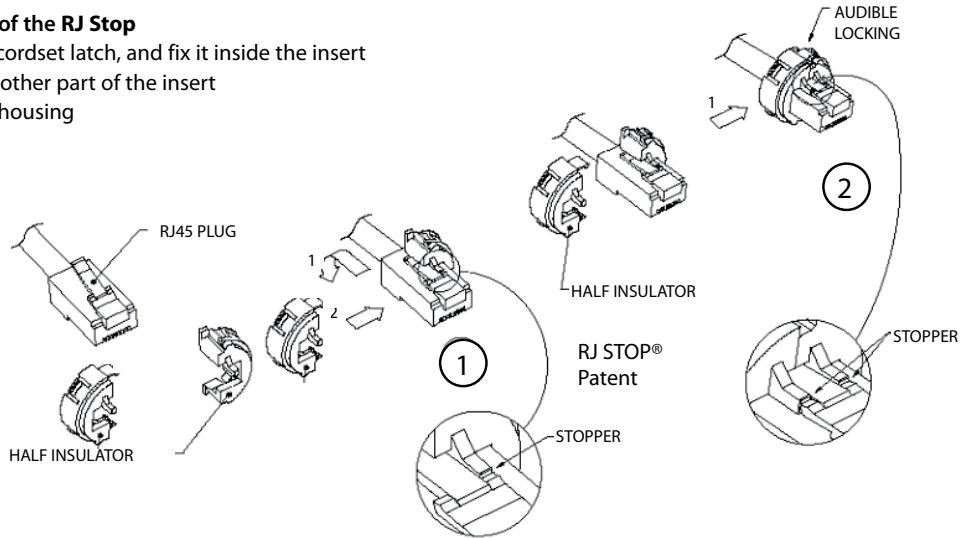
Type OPEN
No plug at the end

Type 2-00
Solder - 8 tinned holes

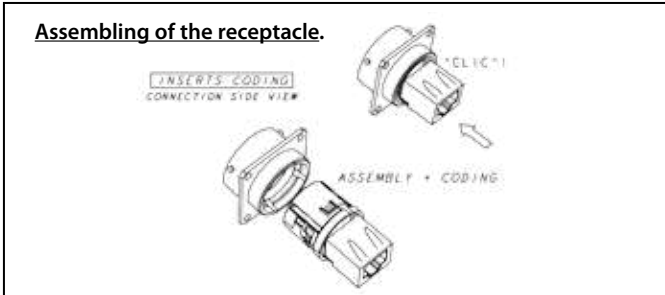
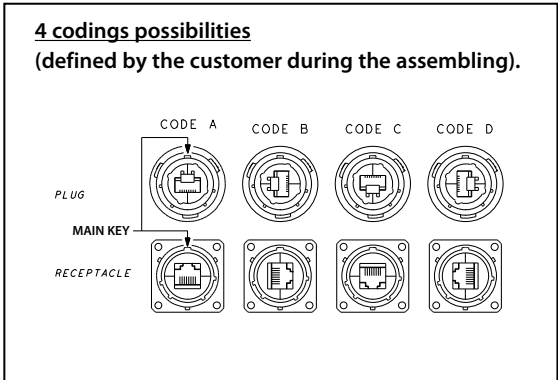
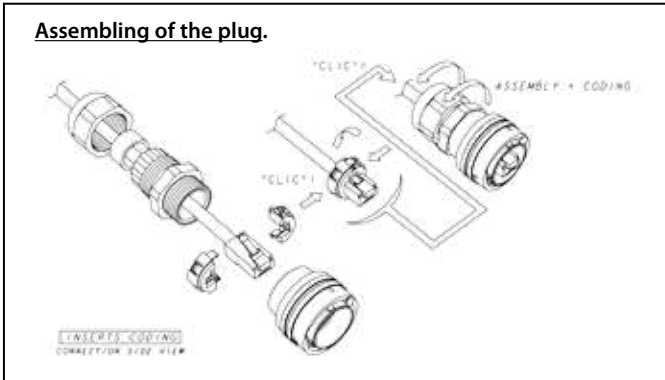
Universal: can be used with all standard RJ45 Cat.5e cordset brands.

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



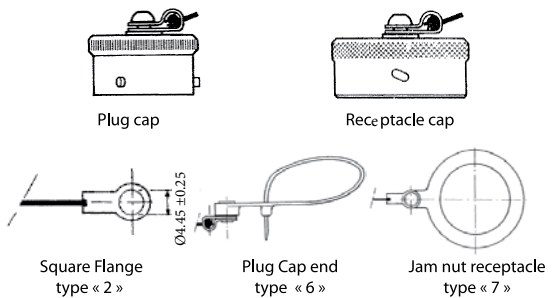
IMPORTANT NOTE: to remove the insert, use the
 ■ Insert removal tool for receptacle and plug
 P/N: RJF ODE



Accessories

■ **Metallic cap**

	RJFC	2	G
Connector type			
6: plug			
2: square Flange Receptacle			
7: jam Nut Receptacle			
Shell material & finish			
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

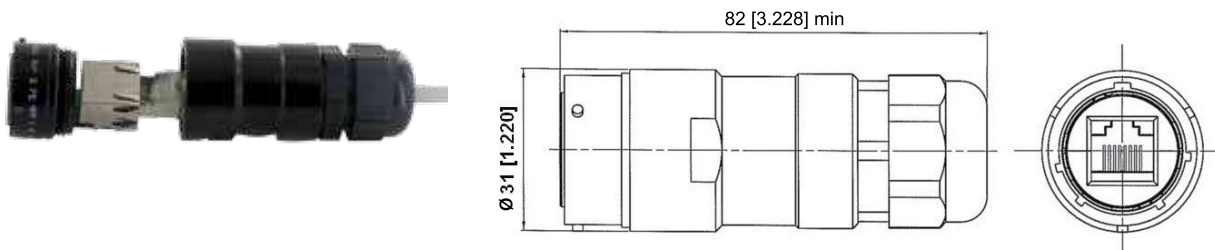


RJF

In line receptacles & PC tails receptacles

In line receptacles

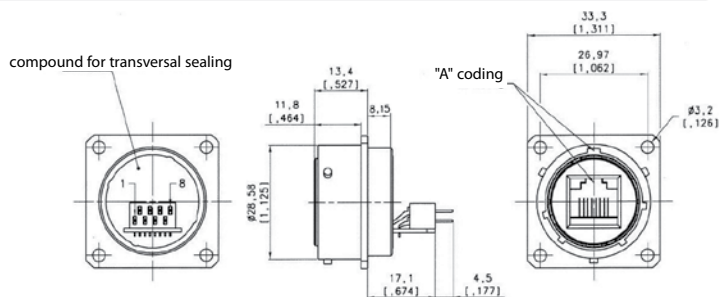
Inline receptacles allow you to make cable extensions in the field by using them with rugged RJ Field series plugs.



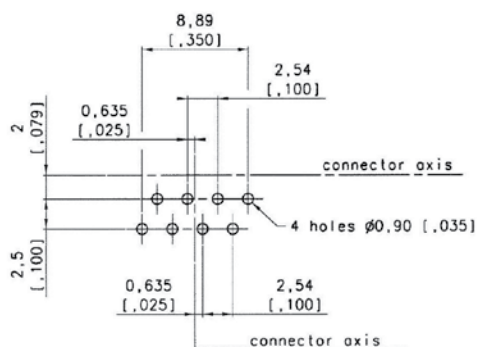
Part number	Plating	Plastic gland	Metallic gland
	Black coating - ROHS compliant	RJF2PEWF1B	RJF2PEMWF1B
Nickel - ROHS compliant	RJF2PEWF1N	RJF2PEMWF1N	
Olive drab cadmium	RJF2PEWF1G	RJF2PEMWF1G	

PC tails receptacles

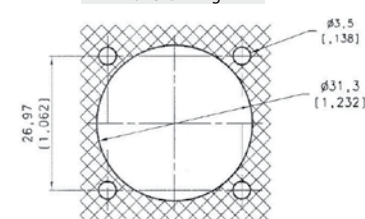
These receptacles can be soldered directly on your PCB. A compound insures a transversal sealing and good performance in high vibration environments. They can be connected with rugged RJField series plugs.



PCB LAYOUT - SOLDER FACE VIEW

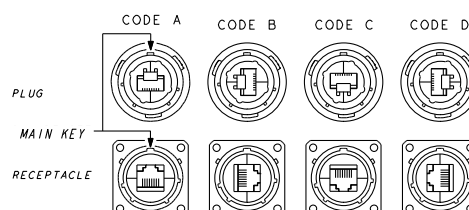


Panel Drilling



Part number	Plating	Part number
	Black coating - ROHS compliant	RJF 2S X 5B
Nickel - ROHS compliant	RJF 2S X 5N	
Olive drab cadmium	RJF 2S X 5G	

X to be replaced by the letter of the coding position you need (A, B, C, or D) ▶



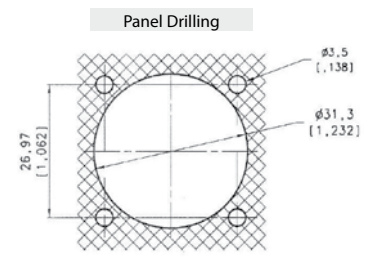
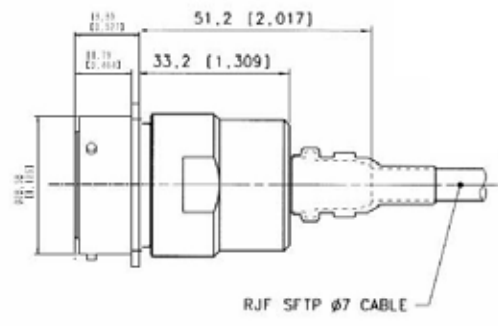


RJF

Receptacles & plugs with 360° EMI backshell

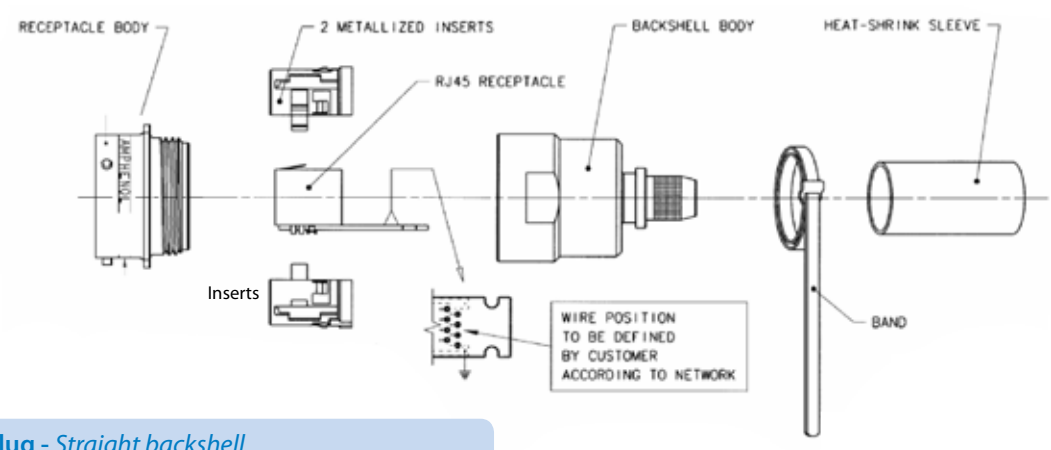
RJF series receptacles and plugs with EMI backshells provide a solution with 360° shielding: same protection than the one proposed by standard MIL-DTL-26482H connectors. With those solutions we recommend using our reinforced and double shielded Cat5E, Cat6, or Cat6A cable ► see pages 41-42-43.

Square flange receptacle - Straight backshell

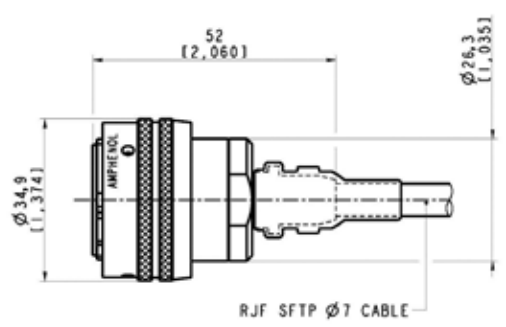


Part number	Plating	Part number
	Nickel - ROHS compliant	Kit30439NI
	Olive drab cadmium	Kit30439

Kit30439 / Kit30439NI & Kit30436 / Kit30436N include:



Plug - Straight backshell



Part number	Plating	Part number
	Nickel - ROHS compliant	Kit30394NI
	Olive drab cadmium	Kit30394

Kit30394 & Kit30394NI include:



RJF

Transversally 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.

Applications

- Outdoor equipment
- Airplanes equipment
- Tactical radios
- Shelters
- Rugged computers
- Data acquisition and transmission in harsh environments

Data transmission

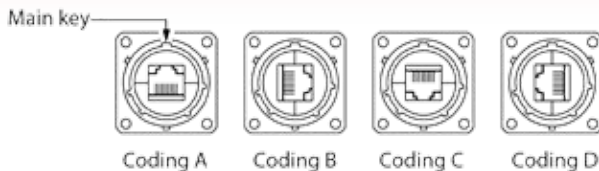
10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

Main characteristics

- Same as the RJF series.
- A complete IP68 sealing of the receptacle (even with no plug or no protective cap mated) is added.
- Outside dimensions are the same as the standard RJF series.

IMPORTANT NOTE

Due to the compound, the coding of the connector must be done in the factory : use the codes A, B, C or D in the part number: see below.



Part number code

Series	RJF	7S	A	2	G	03 100BTX
RJF: MIL-DTL-26482 H bayonet						
Shell type						
2S: sealed square flange receptacle						
7S: sealed jam nut receptacle						
Coding						
A,B,C,D						
Back terminations (for receptacles only)						
1: female RJ45						
1RA: right angle female RJ45						
2: RJ45 Cordset						
Shell material & finish						
B: aluminium shell - black coating - ROHS compliant						BZC: aluminium shell - black zinc cobalt plating - ROHS compliant
N: aluminium shell - nickel plating - ROHS compliant						ZC: aluminium shell - green zinc cobalt plating - ROHS compliant
G: aluminium shell - olive drab cadmium plating						
<i>Nota: for N, G, BZC, and ZC plating, the inserts are metallized.</i>						
Cordset length (For Receptacles with "2" Back Termination only) - Other lengths are available on demand						
03 100 BTX: 0.3m [11.81 inches]						
05 100 BTX: 0.5m [19.68 inches]						
10 100 BTX: 1m [39.37 inches]						
15 100 BTX: 1.5m [59.05 inches]						
xx OPEN: open cable - with no plug at the end (xx to be replaced by the cordset length 03, 05, 10, or 15 - see above)						
Remark: cabling configuration: 100 BTX = 568B (Ethernet specification)						

Examples: - bayonet, sealed jam nut receptacle, A coding, with female RJ45 back termination, olive drab cadmium plating: **RJF 7SA 1 G**
 - bayonet, sealed square flange receptacle, A coding, with female RJ45 back termination, black plating: **RJF 2SA 1 B**
 - bayonet, sealed jam nut receptacle, A coding, 1.5m [59.05"] 100 BTX cordset, olive drab cadmium plating: **RJF 7SA 2 G15 100BTX**

RJF

Hermetic receptacles



In some applications, a transversal hermiticity for the receptacle is a « must ».

This will prevent gas from going through the receptacle when plug or cap are not mated to the receptacle.

The hermetic solution (version "H") has a compound at the rear of the receptacle as shown on the picture.

Helium leakage is less than 1.10^{-6} cm³ per second [0.1 micron cubic ft per hour] at one bar [15 psi] pressure differential.

Applications

- Outdoor equipment
- Airplanes equipment
- Tactical radios
- Shelters
- Rugged computers
- Data acquisition and transmission in harsh environments

Data transmission

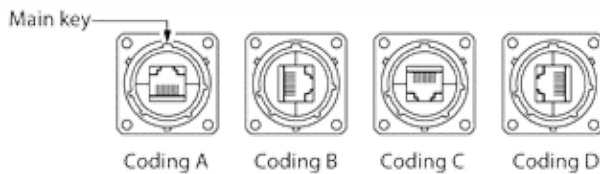
10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

Main characteristics

- Same as the RJF series.
- A complete IP68 sealing of the receptacle (even with no plug or no protective cap mated) is added.
- Outside dimensions are the same as the standard RJF series.

IMPORTANT NOTE

Due to the compound, the coding of the connector must be done in the factory: use the codes A, B, C or D in the part number: see below.



Part number code

Series	RJF	7H	A	2	G	03 100BTX
RJF: MIL-DTL-26482 H bayonet						
Shell type						
2H: transversally sealed and hermetic square flange receptacle						
7H: transversally sealed and hermetic jam nut receptacle						
Coding						
A,B,C,D						
Back terminations (for receptacles only)						
1: female RJ45						
1RA: right angle female RJ45						
2: RJ45 Cordset						
Shell material & finish						
B: aluminium shell - black coating - ROHS compliant						
N: aluminium shell - nickel plating - ROHS compliant						
G: aluminium shell - olive drab cadmium plating						
BZC: aluminium shell - black zinc cobalt plating - ROHS compliant						
ZC: aluminium shell - green zinc cobalt plating - ROHS compliant						
<i>Note: for N, G, BZC, and ZC plating, the inserts are metallized.</i>						
Cordset length (for receptacles with "2" back termination only) - Other lengths are available on demand						
03 100 BTX: 0.3m [11.81 inches]						
05 100 BTX: 0.5m [19.68 inches]						
10 100 BTX: 1m [39.37 inches]						
15 100 BTX: 1.5m [59.05 inches]						
xx OPEN: open cable - with no plug at the end (xx to be replaced by the cordset length 03, 05, 10, or 15 - see above)						
Remark: cabling configuration: 100 BTX = 568B (Ethernet specification)						

Examples: - bayonet, sealed jam nut receptacle, A coding, with female RJ45 Back termination, olive drab cadmium plating: **RJF 7HA 1 G**
 - bayonet, sealed square flange receptacle, A coding, with female RJ45 back termination, black plating: **RJF 2HA 1 B**
 - bayonet, sealed jam nut receptacle, A coding, 1.5m [59.05"] 100 BTX cordset, olive drab cadmium plating: **RJF 7HA 2 G15 100BTX**



RJF

Special plug for big insulation wire up to 1.6 mm [0.062 in]



Rugged plug dedicated to cable with insulation wire from 1,1 to 1,6 mm [from 0.043 in to 0.062 in]

Remark:

- Solution compatible with any RJF receptacle
- For cables which are not compatible with standard RJ45 plug.

Applications

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

Data transmission

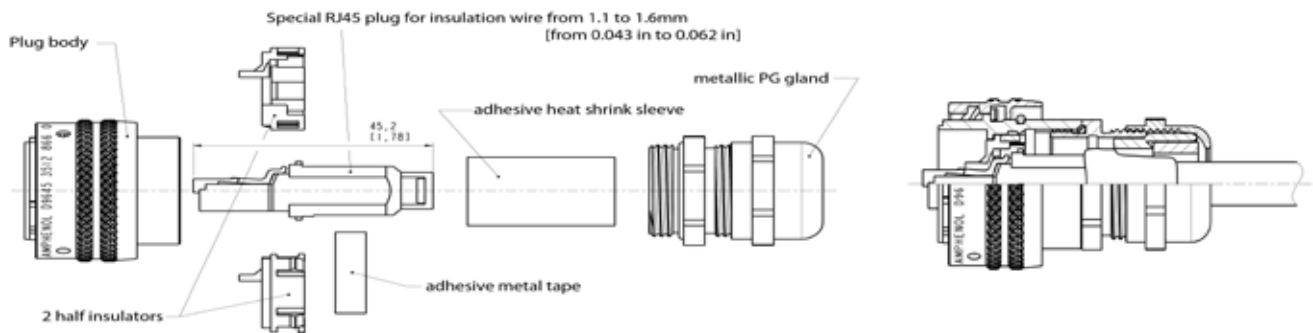
10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

Main characteristics

- 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
- Mechanical coding / polarization (4 positions)
- Compatible with cable diameter from 6 mm [0.216 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 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
- Temperature range: - 40°C / +85°C



Part number	Plating	Part number
	Black coating - ROHS compliant	Kit39992B
	Nickel - ROHS compliant	Kit39992NI
	Olive drab cadmium	Kit39992G

RJ Field receptacle with self closing cap

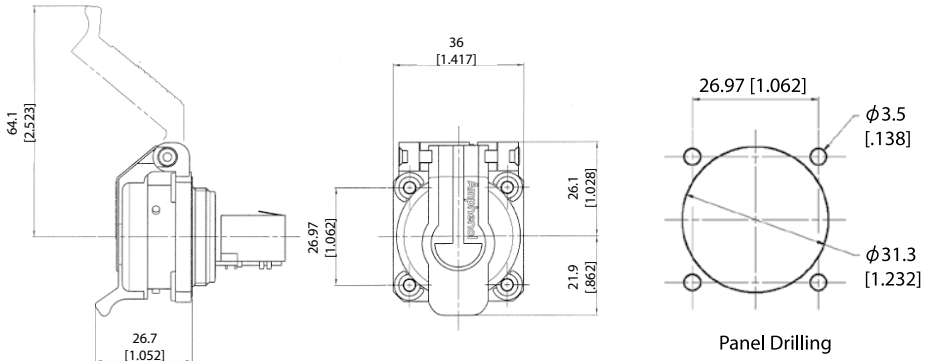


This kit includes a receptacle and a Self Closing Cap which protects the RJ Field square flange receptacles (MIL-C-26482 type). This cap offers a protection against dust and water projections. A spring automatically closes the upper part of the cap when either the RJfield plug or RJ45 cordset are removed from the receptacle.

Sealing level IP54
(Splash and dust Proof)

RJF 21 X SCC

RJ45 version



Part number *	Plating	Metallized insert (EMI)	Part number
	Black coating - ROHS compliant	No	RJF 21B SCC
	Nickel - ROHS compliant	Yes	RJF 21N SCC
	Olive drab cadmium	Yes	RJF 21G SCC

* The part number includes the receptacle + the self closing cap

Remarks:

- the back termination is female RJ45
- it could be used with our RJF series plug (part number RJF6xx ▶ see page 17)

■ **Note:** Panel gasket with any of these receptacles: JE18

USBF 21 x SCC, USBF 21 x SCC, & IEEE1394



USB2.0 & 3.0 - A version
(see pages 94 & 107)



USB-B version
(see page 118)



IEEE1394 version
(see page 143)