RJF6

CAT6 Ethernet connection system for harsh environment – Industrial Ethernet

RJF Cat6 allows you to use an Ethernet Class E / Cat. 6 connection for 10 BaseT,100 BaseTX or 1000 BaseT up to 250 MHz 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 up to 250 MHz networks
Cat 6 per EIA/TIA 568 and ClassE per ISO11801

Cat5e version: page 17 of the Field series catalogue.
► *Direct access by clicking here*
► Or visit *www.amphenol-socapex.com*

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
- Thermal shock: 5 cycles at -40°C / +100°C
- Temperature range: -40°C / +85°C

Part number code: receptacles.

	RJF6	2	A	PE	1	B
Shell type **2**: square flange receptacle **7**: jam nut receptacle ***Nota:** also available a transversally sealed receptacle (unmated)* ►*see page 13*						
Coding **A, B, C, or D**						
Backshells **PE**: IP68 backshell, plastic gland **PEM**: IP68 backshell, metal gland Blank for receptacles without backshell						
Back termination **1:** female RJ45						
Shell finishes **B**: black Coating - *ROHS compliant* **N**: nickel - *ROHS compliant* **G**: olive drab cadmium						

BZC: aluminium shell - black zinc cobalt plating
ZC: aluminium shell - green zinc cobalt plating - *ROHS compliant*
NOTA: for N,G, BZC, and ZC plating, the inserts are metallized.

Example: square flange receptacle, coding A, female RJ45 back termination, black plating ⇨ ***RJF6 2 A 1 B***

Part number code: plug ►see page 11.

	RJF	6	B
Shell type **6**: plug, plastic gland **6M**: plug, metal gland			
Shell finishes **B**: black Coating - *ROHS compliant* **N**: nickel *(note: with this version, the inserts are metallized)* - *ROHS compliant* **G**: olive drab cadmium *(note: with this version, the inserts are metallized)*			

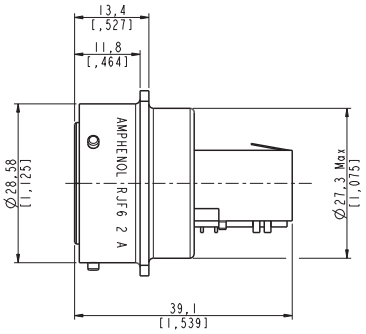
BZC: aluminium shell - black zinc cobalt plating
ZC: aluminium shell - green zinc cobalt plating - *ROHS compliant*

Example: plug with metal gland, nickel plating ⇨ ***RJF 6M N***

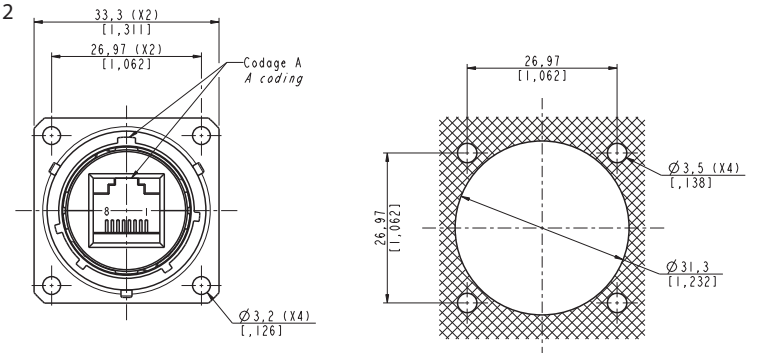
NOTA: also available a plug with 360° EMI backshell, and a plug for big insulation wire up to 1.6mm ►see pages 16 & 17.

Receptacles

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

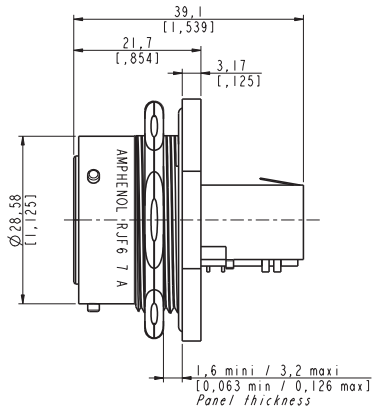


RJF6 2 X 1 X (Straight Female RJ45)

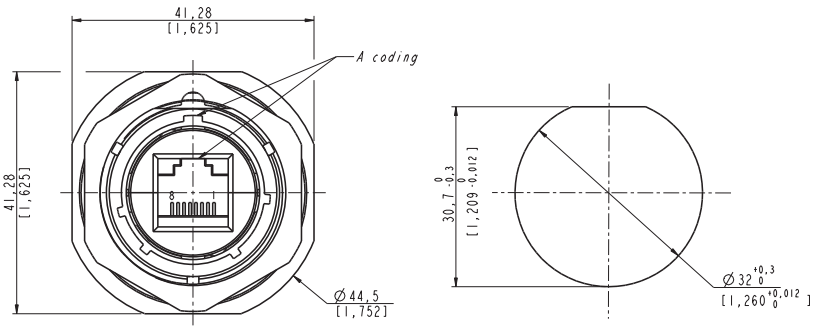


Panel Drilling

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

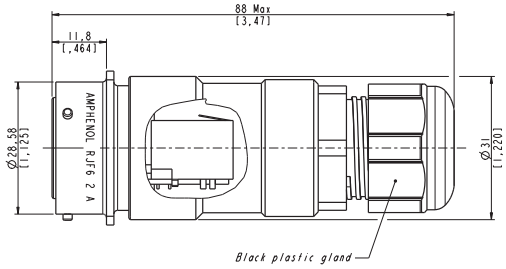


RJF6 7 x 1 X (straight female RJ45)

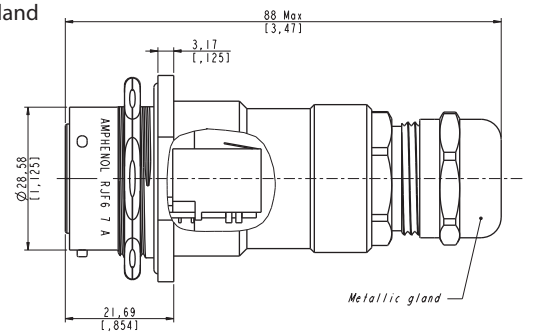


Panel drilling

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

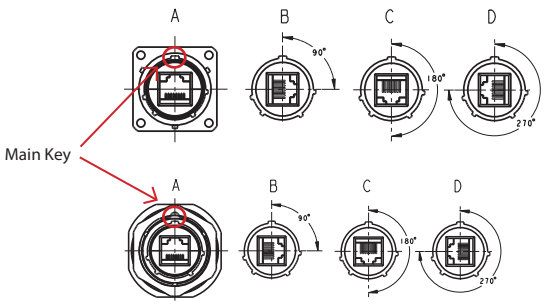


RJF6 2 X PE 1 X / 2 X PEM 1 X

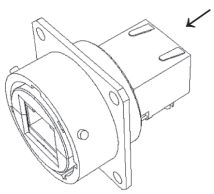


RJF6 7 X PE 1 X / 7 X PEM 1 X

Codings - *To be specified in the part number: A, B, C, or D.*



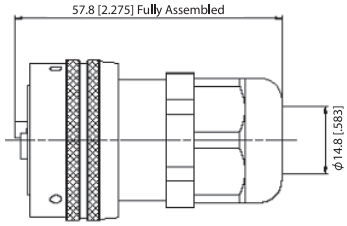
Back termination

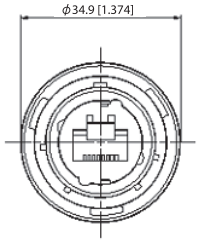


Type **1**
Female RJ45

Plug

■ Shell type 6 with plastic or metal gland



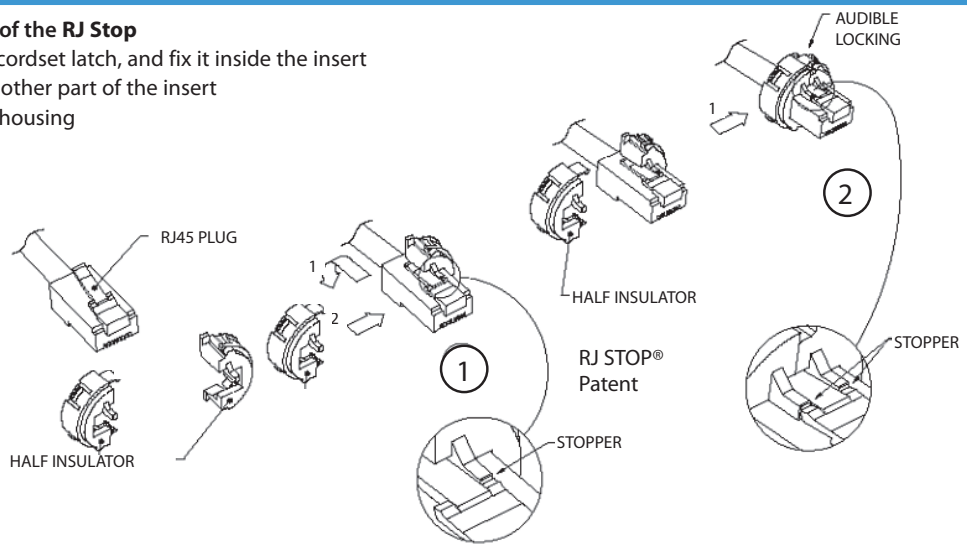


NOTA: also available a plug with 360° EMI backshell, and a plug for big insulation wire up to 1.6mm
►see pages 16 & 17.

Universal: can be used with all standard RJ45 Cat. 6 cordset brands.

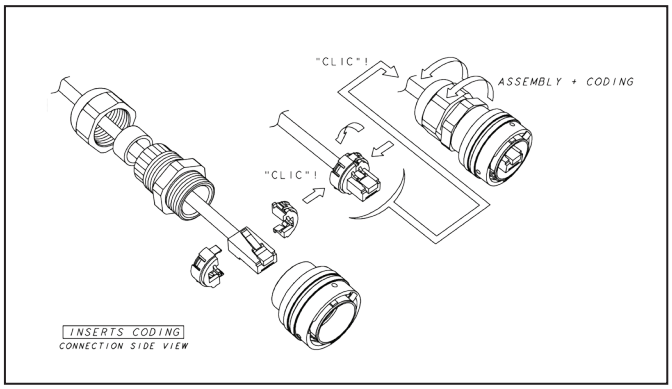
Assembly instructions of the RJ Stop

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

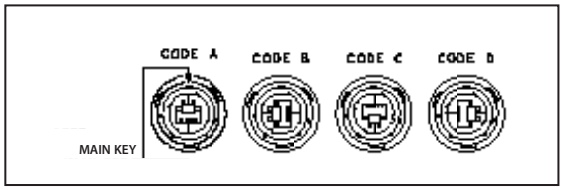


Easy and safe - No field cabling tools required for cabling

Assembling of the plug.



4 codings possibilities
(defined by the customer during the assembling).



IMPORTANT NOTE: to remove the insert, use the

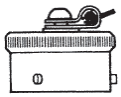
■ **Insert removal tool for plug**

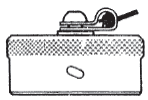
P/N: **RJF ODE**

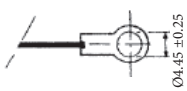
Accessories

■ **Metallic cap**

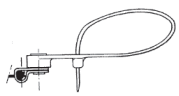
	RJFC	2	G
Connector type **6**: plug **2**: square Flange Receptacle **7**: jam Nut Receptacle			
Shell material & finish **B**: black coating - *ROHS compliant* **N**: aluminium shell - nickel plating - *ROHS compliant* **G**: aluminium shell - olive drab cadmium plating			

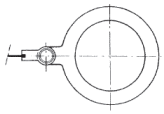

Plug cap


Receptacle cap



Square Flange
type « 2 »


Plug Cap end
type « 6 »


Jam nut receptacle
type « 7 »

■ **Panel gasket for square flange 2 »thickness - 0,6 mm**

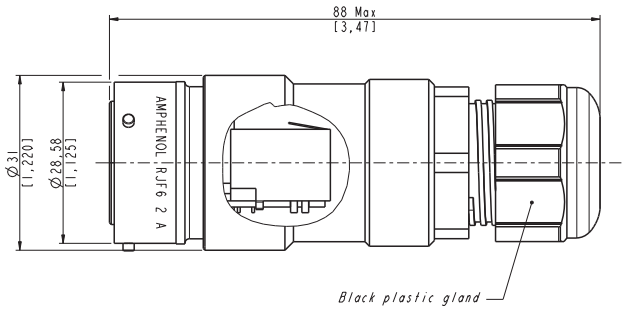
P/N: **JE 18**

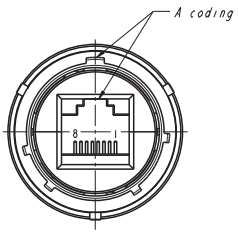
RJF6

CAT6 in line receptacle

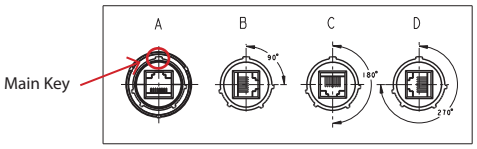
In line receptacles allow you to make cable extensions in the field by using them with rugged RJ Field series plugs.

In line receptacle





Codings - *To be specified in the part number: A, B, C, or D.*



	Plating	Plastic gland	Metallic gland
Part number	Black coating - *ROHS compliant*	**RJF6 2 X PEWF1 B**	**RJF6 2 X PEMWF 1 B**
	Nickel - *ROHS compliant*	**RJF6 2 X PEWF 1 N**	**RJF6 2 X PEMWF 1 N**
	Olive drab cadmium	**RJF6 2 X PEWF 1 G**	**RJF6 2 X PEMWF 1 G**

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

Cat5e version: page 20 of the Field series catalogue.
- *Direct access by clicking here*
- Or visit *www.amphenol-socapex.com*

RJF6

CAT6 transversally sealed receptacles

ROHS COMPLIANT N, B & BZ

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. This feature is available both in RJF and RJF TV shells (please consult the relevant data sheet for product details and accessories).
In addition, the Sealed RJF TV has been successfully tested in very high vibration corresponding to airplane applications.

Applications

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

Data transmission

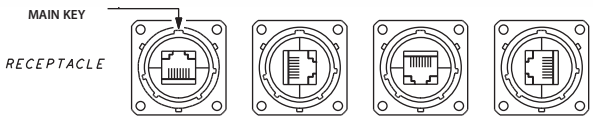
10 BaseT, 100 BaseTX and 1000 BaseT up to 250 MHz networks
Cat 6 per EIA/TIA 568 and ClassE per ISO 11801

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

RJF6	7 S	A	PE	1	G

Shell type
2 S: sealed square flange receptacle
7 S: sealed jam nut receptacle

Coding
A,B,C,D

Backshells
PE: IP68 backshell, plastic gland
PEM: IP68 backshell, metal gland
Blank for receptacle without backshell.

Back termination
1: female RJ45

Shell material & finishes
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
ZC: aluminium shell - green zinc cobalt plating - *ROHS compliant*
NOTA: for N, G, BZC, and ZC plating, the inserts are metallized.

Examples: *- sealed jam nut receptacle, A coding, with female RJ45 back termination, olive drab cadmium plating ⇨* ***RJF6 7 S A 1 G***
- sealed square flange receptacle, D coding, with IP68 backshell, plastic gland, female RJ45 back termination, black plating ⇨ ***RJF6 2 S D PE 1 B***

Cat5e version: page 22 of the Field series catalogue.
► *Direct access by clicking here*
► Or visit *www.amphenol-socapex.com*

RJF6
CAT6 hermetic receptacles

ROHS COMPLIANT N, B & BZ

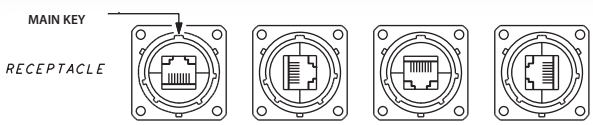
In some applications, a transversal hermiticity for the receptacle is a « must ».
This will prevent gas from going through the receptacle when plug or cap are not mated to the receptacle.
The hermetic solution (version "H") has a compound at the rear of the receptacle as shown on the picture.
This feature is available both in RJF and RJF TV shells (please consult the relevant data sheet for product details and accessories).
Helium leakage is less than 1.10^{-6} cm^3 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 up to 250 MHz networks
Cat 6 per EIA/TIA 568 and ClassE per ISO 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

RJF6	7H	A	2	G

Shell type
2H: transversally sealed and hermetic square flange receptacle
7H: transversally sealed and hermetic jam nut receptacle

Coding
A,B,C,D

Back termination
1: female RJ45

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
ZC: aluminium shell - green zinc cobalt plating - *ROHS compliant*
NOTA: for N, G, BZC, and ZC plating, the inserts are metallized.

Examples: *- sealed jam nut receptacle, A coding, with female RJ45 Back termination, olive drab cadmium plating* ⇨ ***RJF6 7HA 1 G***
- sealed square flange receptacle, A coding, with female RJ45 back termination, black plating ⇨ ***RJF6 2HA 1 B***

Cat5e version: page 23 of the Field series catalogue.
► *Direct access by clicking here*
► Or visit *www.amphenol-socapex.com*

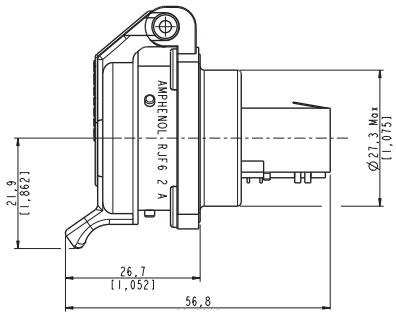
RJF CAT6 receptacle with self closing cap

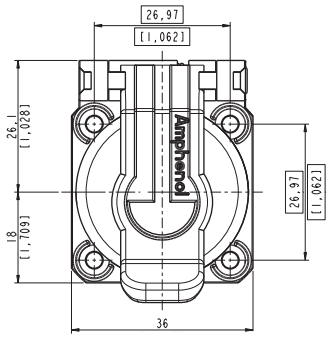
This kit includes a receptacle and a Self Closing Cap which protects the RJ Field square flange receptacles (MIL-C-26482 type).
This cap offers a protection against dust and water projections.
A spring automatically closes the upper part of the cap when either the RJfield plug, USB or IEEE1394 cordset, or USB key are removed from the receptacle.

Sealing level IP54
(Splash and dust Proof)

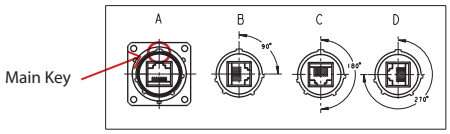
RJF6 2 x 1 x SCC

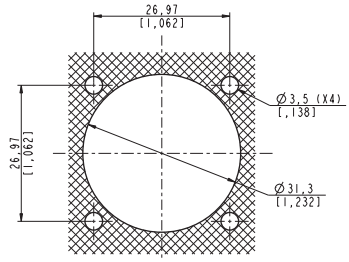
RJ45 version





Codings - *To be specified in the part number: A, B, C, or D.*





	Plating	Metallized insert (EMI)	Part number
Part number *	Black coating - *ROHS compliant*	No	**RJF6 2 X 1 B SCC**
	Nickel - *ROHS compliant*	Yes	**RJF6 2 X 1 N SCC**
	Olive drab cadmium	Yes	**RJF6 2 X 1 G SCC**

* *The part number includes the receptacle + the self closing cap*
X to be replaced by the letter of the coding position you need (A, B, C, or D)

Remarks:
- the back termination is female RJ45
- it could be used with our RJF series plug *(part number RJF6xx ▶ see page 9)*

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

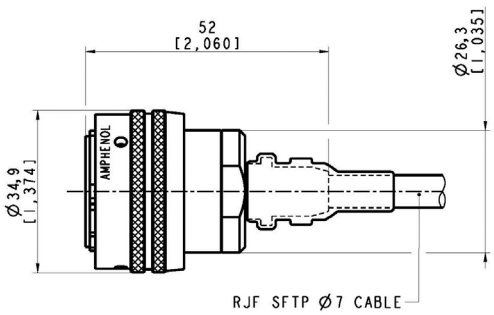
Cat5e version: page 25 of the Field series catalogue.
▶ *Direct access by clicking here*
▶ Or visit *www.amphenol-socapex.com*

RJF
Plug with 360° EMI backshell

RJF series plug with EMI backshells provide a solution with 360° shielding: same protection than the one proposed by standard MIL-DTL-26482 connectors. With those solutions we recommend using our reinforced and double shielded Cat5E, Cat6, and Cat6A cable
►*see page* 27 for Cat6 version

Cat5E version: page 41 of the Field series catalogue ► *Direct access by clicking here*
Cat6A version: page 43 of the Field series catalogue ► *Direct access by clicking here*
Or visit *www.amphenol-socapex.com*

Plug - *Straight backshell*



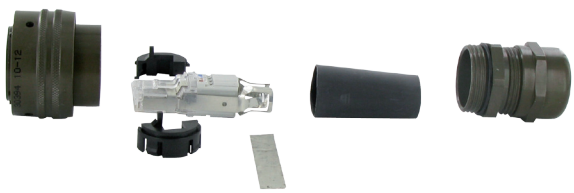
Part number	Plating	Part number
	Nickel - *ROHS compliant*	**Kit30394NI**
	Olive drab cadmium	**Kit30394**

Kit30394 & Kit30394NI include:

Plug body | Inserts | Backshell body | Band | Heat shrink sleeve

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 RJF6 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

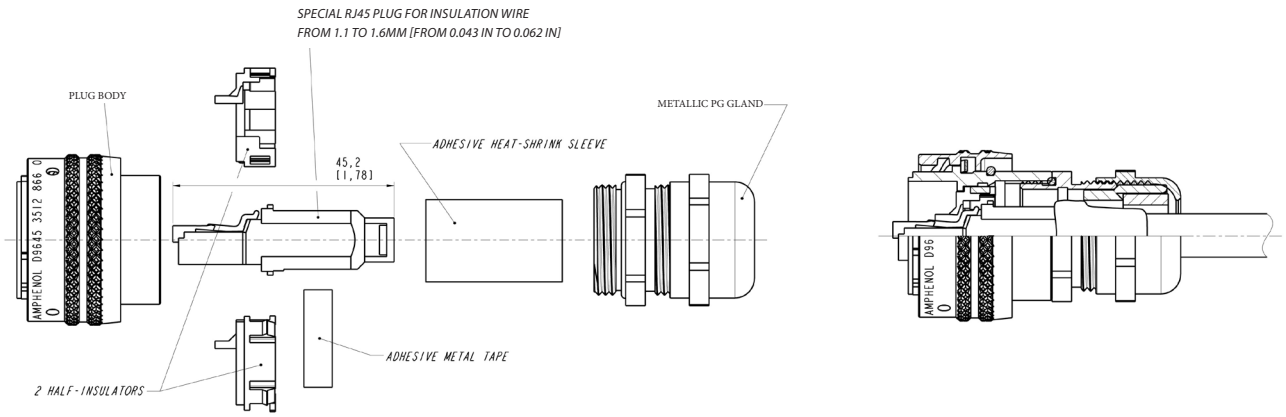
10 BaseT, 100 BaseTX and 1000 BaseT up to 250 MHz networks
Cat 6 per EIA/TIA 568 and ClassE per ISO 11801

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
- Thermal shock: 5 cycles at - 40°C / +100°C
- Temperature range: - 40°C / +85°C



Part number	Plating	Part number
	Nickel - *ROHS compliant*	**Kit39992NI**
	Olive drab cadmium	**Kit39992G**