

RJF TV

Ethernet Connection System for Harsh Environment



RJF TV 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

- 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

MAIN CHARACTERISTICS

- Sealed against fluids and dusts (IP68)
- 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: IP68
- 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

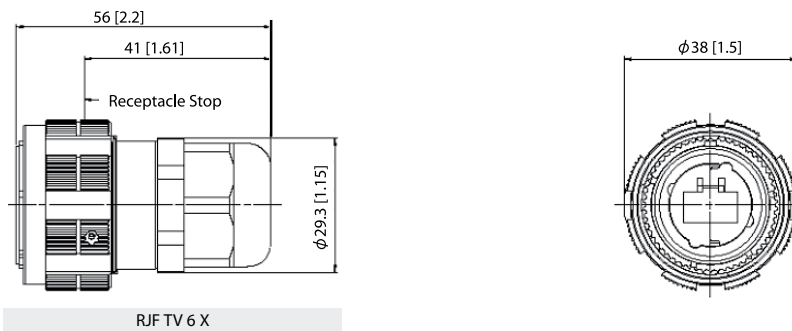
Series RJ Field TV	RJF TV	2	2	G	03 100 BTX
Shell Type					
6:	Plug with Plastic gland				
6M:	Plug with Metal gland				
2:	Square Flange Receptacle				
2PE:	Square Flange Receptacle, IP68 backshell, Plastic gland				
2PEM:	Square Flange Receptacle, IP68 backshell, Metal gland				
7:	Jam Nut Receptacle				
7PE:	Jam Nut Receptacle, IP68 backshell, Plastic gland				
7PEM:	Jam Nut Receptacle, IP68 backshell, Metal gland				
2SA, 7SA:	Transversally sealed receptacle (unmated) see page 22				
Back Terminations (Receptacles only)					
1:	Female RJ45				
1RA:	Right Angle Female RJ45				
2:	RJ45 Cordset				
Shells material & Finish					
N:	Aluminium shell - nickel plating (receptacle inserts are metallized) - ROHS compliant				
G:	Aluminium shell - olive drab cadmium plating (receptacle inserts are metallized)				
BZ:	Marine bronze shell (receptacle inserts are metallized) - ROHS compliant				
Cordset Length (type 2 back termination only)					
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				

Remark: Cabling configuration: 100 BTX = 568B (Ethernet specification)

- 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

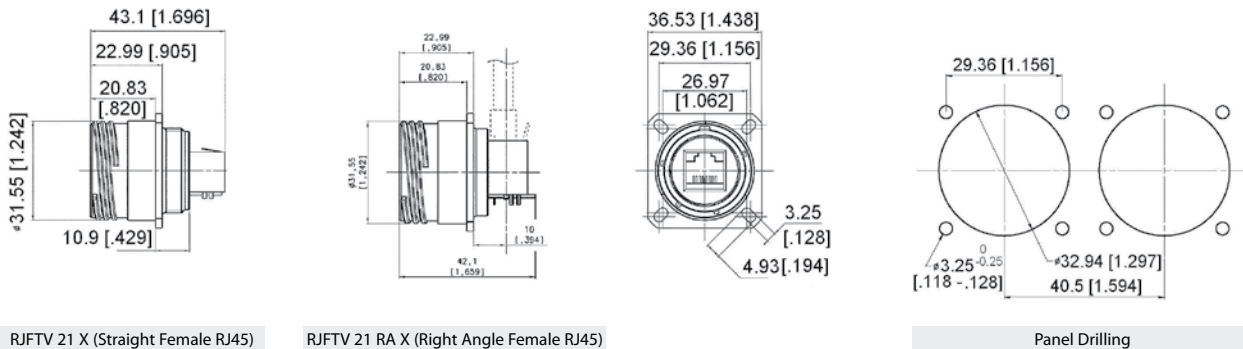
Plug:

- Shell type 6 with Plastic or Metal Gland

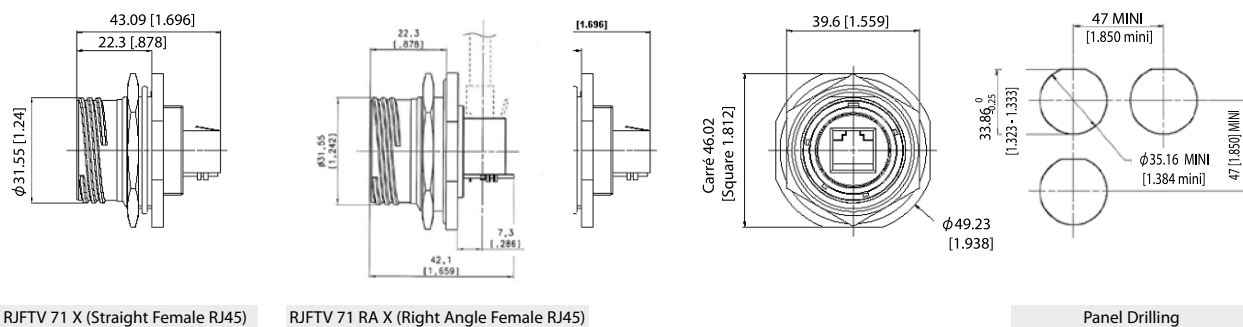


Receptacles:

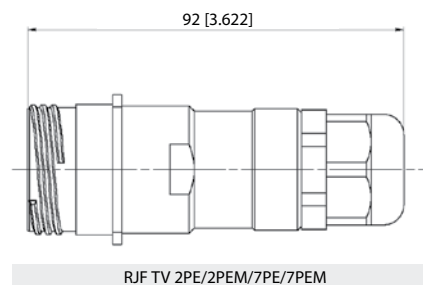
- Square flange receptacle • 4 mounting holes: Shell type 2



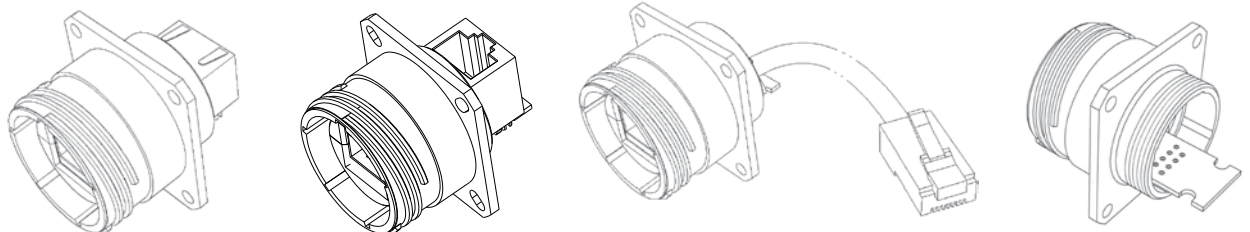
- Jam nut receptacle • Hexagonal Nut mounting: Shell type 7



- Receptacles with IP68 backshell: • Shell type 2PE and 7PE with Plastic or Metal Gland



Back Terminations



Type 1: Female RJ45

Type 1RA: Right Angle Female RJ45

Type 2: RJ45 Cordset

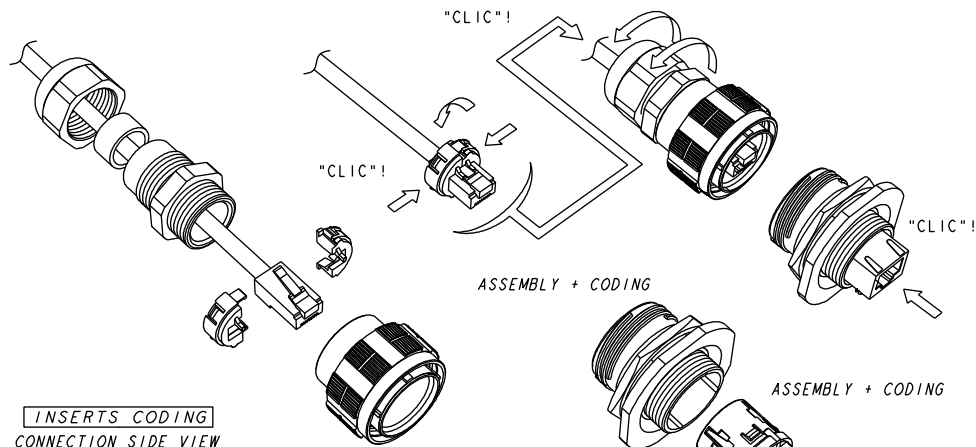
Type 2 - 00: Solder - 8 tinned holes

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

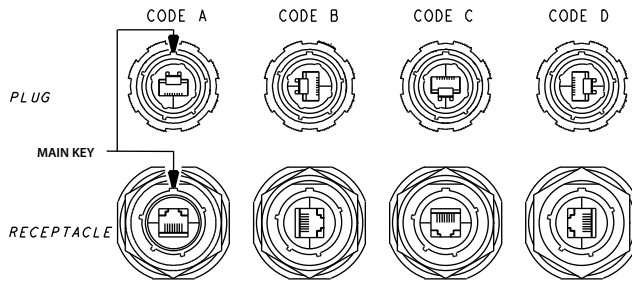
Assembly instructions

Insert Codings

CONNECTION SIDE VIEW



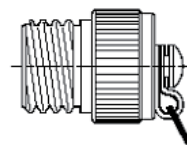
INSERTS CODING
CONNECTION SIDE VIEW



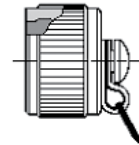
Accessories

■ Metallic Caps

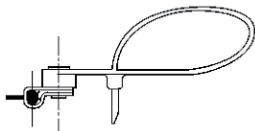
	RJFTVC	2	G
Connector Type			
6:	Plug		
2:	Square Flange Receptacle		
7:	Jam Nut Receptacle		
Shell Material & finish			
N:	Aluminium shell - nickel plating - ROHS compliant		
G:	Aluminium shell - olive drab cadmium plating		
BZ:	Marine bronze shell - ROHS compliant		



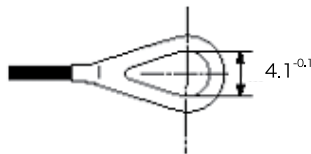
Plug Cap



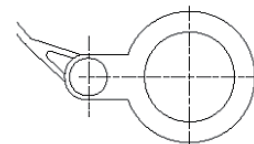
Receptacle Cap



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



RJF TV

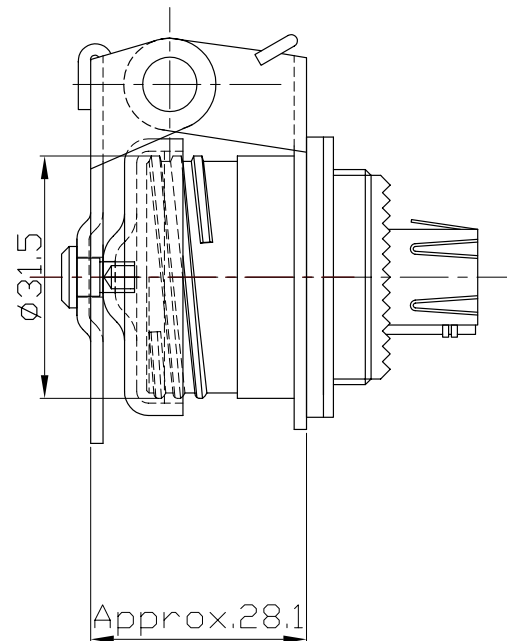
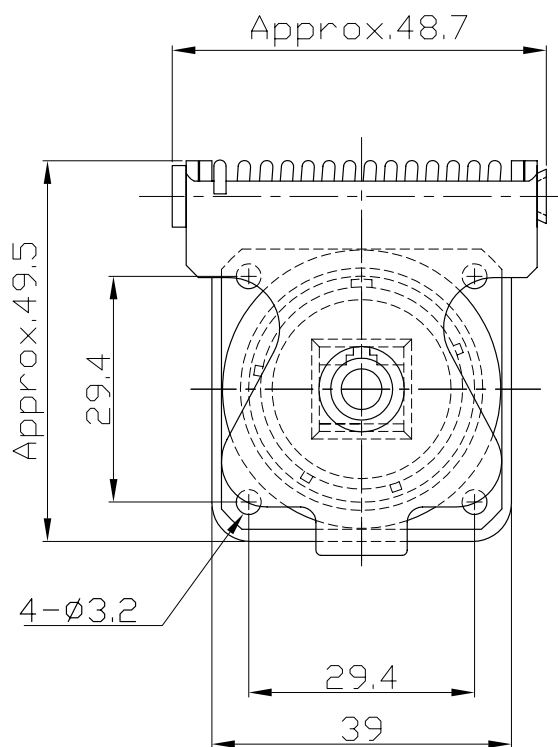
Self Closing Cap (SCC Series)



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.

IMPORTANT NOTE

Metal Self Closing cap are sold separately (without receptacle)



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

PART NUMBER: JE19



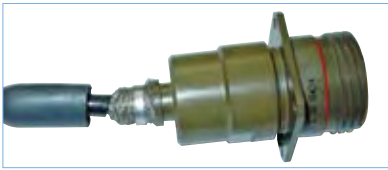
PART NUMBER:

Self closing cap only: **RJFTVSCC**

Remark: Compatible only with RJFTV square flange receptacle type: RJFTV2XXX (see page 14)

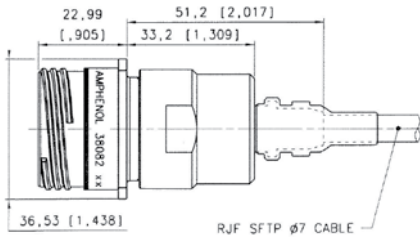
RJFTV

Receptacles - Plugs with 360° EMI backshells



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 24.

Square Flange Receptacle *Straight Backshell*

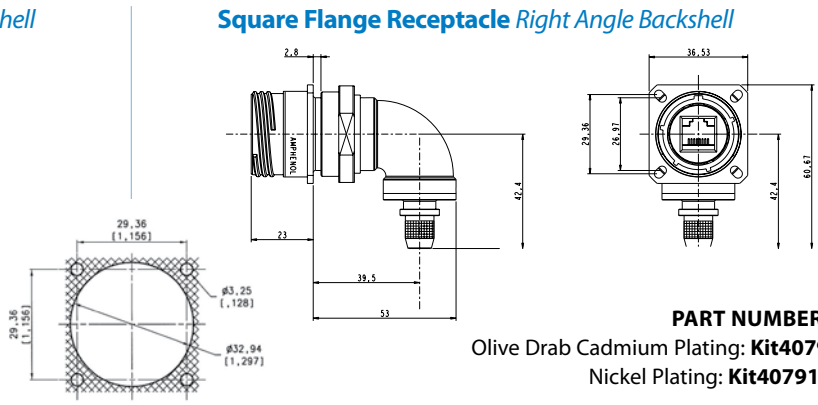


PART NUMBERS:

Olive Drab Cadmium Plating: **Kit38082**

Nickel Plating: **Kit38082NI**

Square Flange Receptacle *Right Angle Backshell*



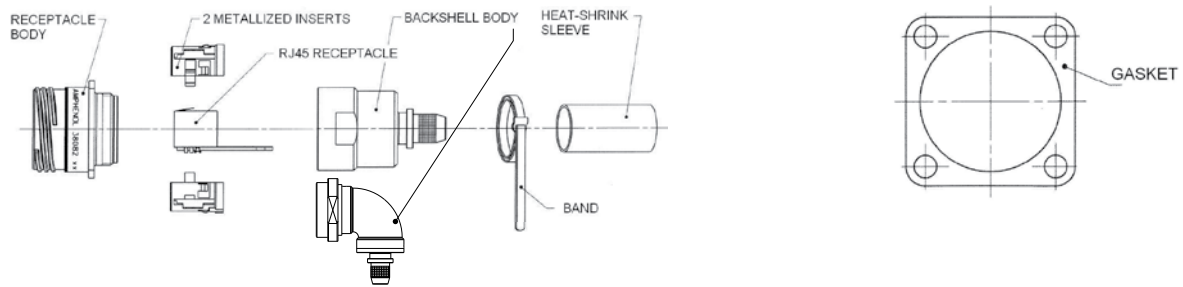
PART NUMBERS:

Olive Drab Cadmium Plating: **Kit40791**

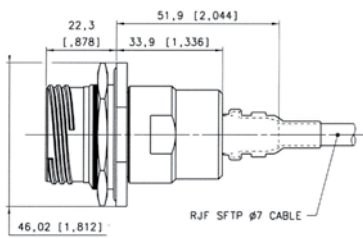
Nickel Plating: **Kit40791NI**

Panel Drilling

Kit38082, Kit38082NI, Kit 40791 & Kit 40791NI include:



Jam Nut Receptacle *Straight Backshell*

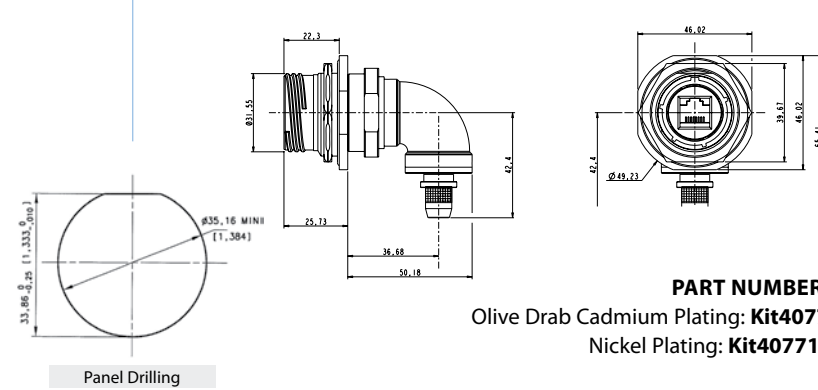


PART NUMBERS:

Olive Drab Cadmium Plating: **Kit38204**

Nickel Plating: **Kit38204NI**

Jam Nut Receptacle *Right Angle Backshell*



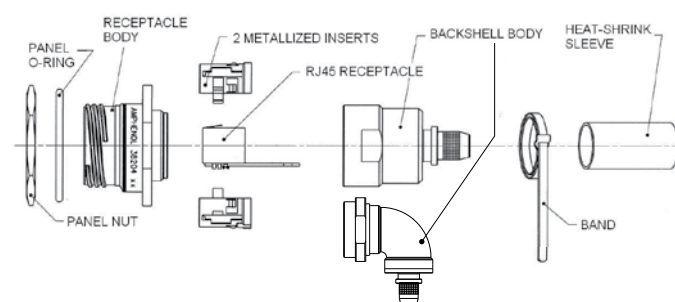
PART NUMBERS:

Olive Drab Cadmium Plating: **Kit40771**

Nickel Plating: **Kit40771NI**

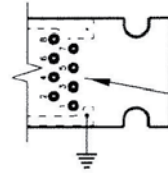
Panel Drilling

Kit38204, Kit38204NI, Kit 40771 & Kit 40771NI include:



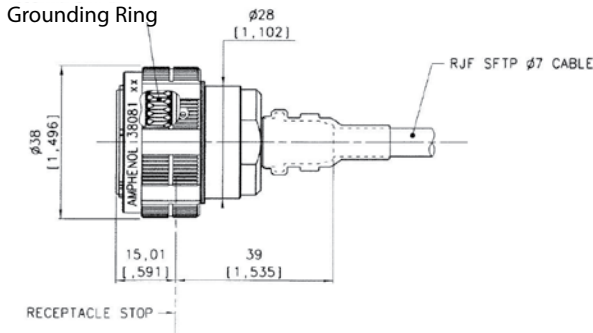
IMPORTANT NOTE

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.



WIRE POSITION TO BE DEFINED BY CUSTOMER ACCORDING TO NETWORK

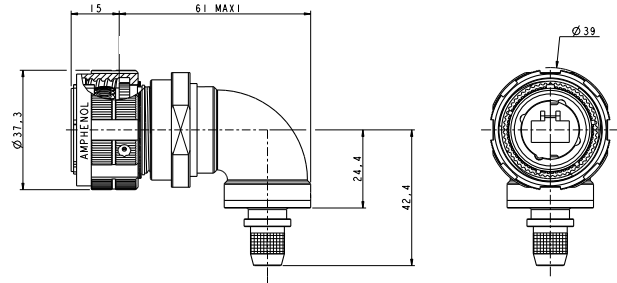
Plug Straight Backshell



PART NUMBERS:

Olive Drab Cadmium Plating: **Kit38081**
 Nickel Plating: **Kit38081NI**

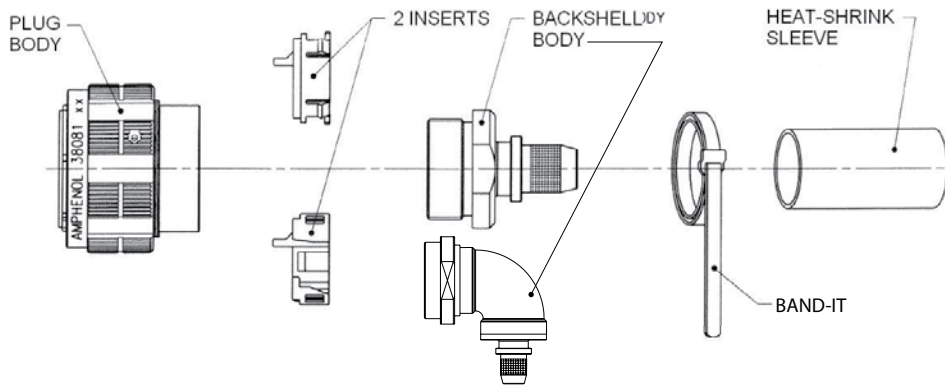
Plug Right Angle Backshell



PART NUMBERS:

Olive Drab Cadmium Plating: **Kit40792**
 Nickel Plating: **Kit40792NI**

Kit38081, Kit38081NI, Kit40792 & Kit40792NI 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 24) 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.

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

