RJF TV

Ethernet Connection System for Harsh Environment

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!

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 6 mm [0.236 in] to 13 mm [0.512 in], for smaller diameters please consult us

Environmental Protection
- Sealing: IP68
- Salt Spray: 48h with Aluminium shell - Nickel plating
  > 500h with Aluminium shell - Olive drab cadmium plating
  1000 h 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
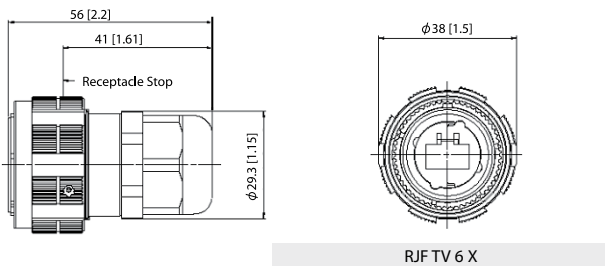- Temperature Range: -40°C / +85°C

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 34

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
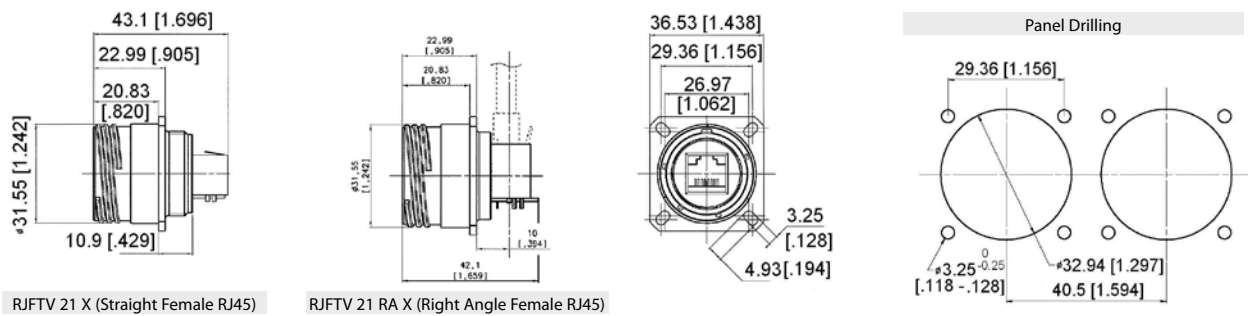- Nickel Jam Nut Receptacle Solder termination 8 tinned holes: RJF TV 22 N 00

Plug

■ Shell type 6 with Plastic or Metal Gland

56 [2.2]

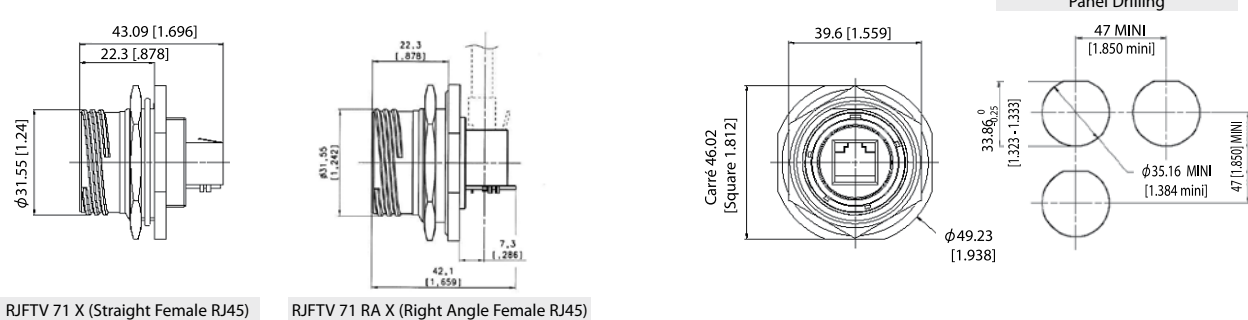41 [1.61]

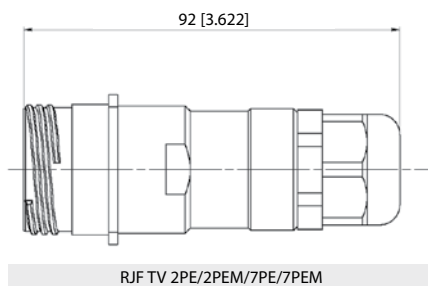Receptacle Stop

ϕ29.3 [1.15]

ϕ38 [1.5]

RJF TV 6 X

Receptacles

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

43.1 [1.696]

22.99 [.905]

20.83 [.820]

31.55 [1.242]

10.9 [.429]

RJFTV 21 X (Straight Female RJ45)

22.99 [.905]

20.83 [.820]

ϕ31.55 [1.242]

10 [.394]

42.1 [1.659]

RJFTV 21 RA X (Right Angle Female RJ45)

36.53 [1.438]

29.36 [1.156]

26.97 [1.062]

3.25 [.128]

4.93 [.194]
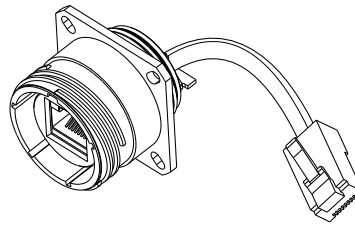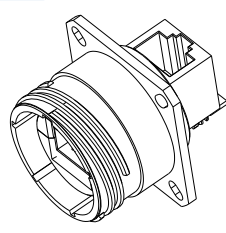
Panel Drilling

29.36 [1.156]

ϕ3.25 0 -0.25 [.118 - .128]

ϕ32.94 [1.297]

40.5 [1.594]

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

43.09 [1.696]

22.3 [.878]

ϕ31.55 [1.24]

RJFTV 71 X (Straight Female RJ45)

22.3 [.878]

ϕ31.55 [1.242]

7.3 [.286]

42.1 [1.659]

RJFTV 71 RA X (Right Angle Female RJ45)

39.6 [1.559]

Carré 46.02 [Square 1.812]

ϕ49.23 [1.938]

Panel Drilling

47 MINI [1.850 mini]

33.86 0 -.25 [1.323 - 1.333]

ϕ35.16 MINI [1.384 mini]

47 [1.850] MINI

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

92 [3.622]

RJF TV 2PE/2PEM/7PE/7PEM

Back terminations

Type 1: Female RJ45

Type 1RA: Right Angle Female RJ45

Type 2: RJ45 Cordset

Type 2 - 00: Solder - 8 tinned holes
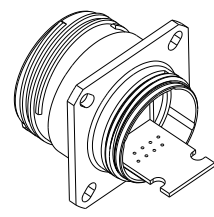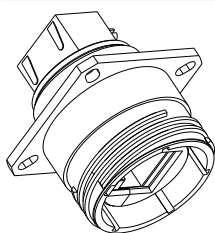
Notes   Type 2 without RJ45 plug at the end of the cable is also available: consult factory

Amphenol

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Assembly instructions

Insert Codings

CONNECTION SIDE VIEW

"CLIC"!

"CLIC"!

"CLIC"!

"CLIC"!

ASSEMBLY + CODING

ASSEMBLY + CODING

INSERTS CODING
CONNECTION SIDE VIEW

	CODE A	CODE B	CODE C	CODE D
PLUG				
MAIN KEY				
RECEPTACLE				
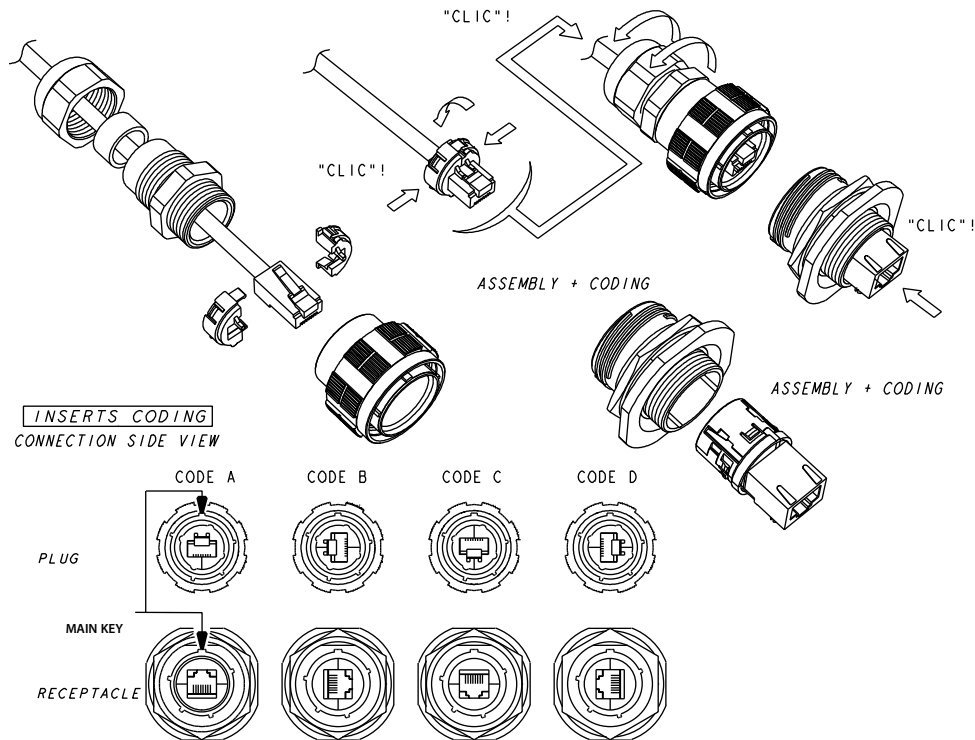
Accessories

■ **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

$4.1^{-0.1}$
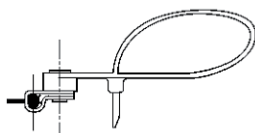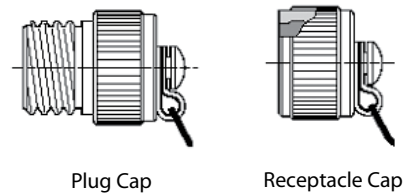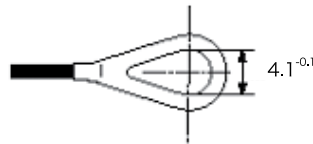
Plug Cap end   Square flange receptacle cap end   Jam Nut receptacle cap end
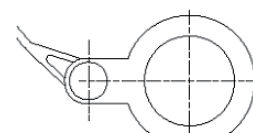
■ **Panel Gasket for square flange receptacle**
(Thickness: 0,8 mm [.031]): JE19

■ **Insert removal tool: RJF ODE**