

# **FWF TV**

#### IEEE 1394A Connection System for Harsh Environments



With FW Field, you can insert a standard IEEE1394A cordset into a metallic plug which will protect it from shocks, dust and fluids.

### No hazardous on-field cabling and grounding!

This metallic plug is connected into a receptacle, using a Tri Start Thread coupling mechanism (MIL-DTL-38999 series III type) with anti-decoupling device for high vibrations.

#### Applications

- Embedded Computers
- Video
- Railways
- Battelfield Communication Systems
- Naval & Shipboard Systems
- Robotics & Automation
- Process Control
- Rugged Communications

### Data Transmission

IEEE 1394a-2000 400 Mbits/second over 4.5 meters

#### MAIN CHARACTERISTICS

- No assembly tools required
- Sealed against fluids and dusts (IP68)
- No time-consuming in-field cabling operation necessary
- Tri-start thread coupling mechanism (MIL-DTL-38999 series III type) with anti-decoupling device
- FW plug retention in the receptacle: 100 N in the axis
- Mating cycles: 500 to 1500 times
- Improved EMI protection

#### Environmental Protection

- Sealing (mated): IP68 (Temporary immersion 1 meter up to 30 minutes)
  Salt Spray: 48 h with Nickel plating
  - > 500 h 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 > 1micro 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 Code

Series IEEE13	94 Field TV	2	1	G
Shell Type      6:    Plug      2:    Square Flange Receptacle      2PE:    Square flange receptacle with metal backshell (type 1) & with metal backshell + plastic gland (type 2)      7:    Jam Nut Receptacle      PE:    Jam nut receptacle with metal backshell (type 1) & with metal backshell + plastic gland (type 2)      Back Terminations (Receptacles only)    Image: The termination of termination of the termination of termination				
2:  Solder Board (6 tinned holes)    Shell Plating    N:  Nickel - ROHS Compliant				
G:	Olive Drab Cadmium			

Examples: - Olive Drab Cadmium Plug: FWF TV 6G

- Olive Drab Cadmium Square Flange Receptacle, IEEE 1394 front & back: FWF TV 21G
- Olive Drab Cadmium Jam Nut Receptacle, IEEE 1394 front and back: FWF TV 71G
- Nickel Jam Nut Receptacle, solder board termination: FWF TV 72N



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#### **Assembly Instructions**

## Can be used with most IEEE 1394 cordset brands: No tools required! Plug Assembly

- 1. If a fully sealed (IP68) assembly is required: Install the white tape around the plug to cover the 4 holes of the overmolding. If there are no holes omit this step.
- 2. Insert the black O Ring around the front face of the IEEE 1394 plug. This O Ring will ensure the seal.
- 3. Insert the IEEE 1394 cordset into the metallic backshell.
- 4. Insert the retention spacer laterally onto the cable (this spacer is soft so as to adapt to various overmolding styles) and slide the IEEE 1394 plug into this retention spacer.
- 5. Insert the friction ring laterally onto the cable cordset.
- 6. Insert the IEEE 1394 plug into the metallic circular shell. Note at this step that the main key is used for polarization.
- 7. Screw the backshell on the plug body. A spanner may be required to fully close the backshell to the circular shell.

**Important Note:** The sealing of the connector is not done by the black retention spacers which are slotted, but rather by the front face O-Ring (Fig 2).

#### Receptacle Assembly

- To Solder your cable onto the PCB:
- 1. Attach the 2 metallized plastic inserts around the PCB (Fig 1a & 1b).
- 2. Insert the IEEE 1394 module from the rear of the connector.



- 1. Insert the removal tool FWF ODE from the front
- 2. Push the module back with thumb.



informations & contacts: www.fwfield.com • contact@fwfield.com













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### **SELF CLOSING CAP** For RJ Field, USB and IEEE1394 receptacles



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.

### Sealing level IP54 (Splash and dust Proof)

#### RJF 21 X SCC





RJF 21N SCC Nickel plated shell and metallized inserts (EMI) RJF 21B SCC Black coated shell and blank insert

**Remark:** Could be used with RJF series rugged plug (see page 10)





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Version: USB-A (front and back termination) USBF 21N SCC Nickel plated shell and metallized inserts (EMI) USBF 21B SCC Black coated shell and blank insert 36 [1.417] 26.97 [1.062] 64.1 2.5231 φ3.5 [.138] 26.1 1.028] [1.062] φ31.3 21.9 [1.232] 26.7 Panel Drilling



Version: USB-B (front in USB-B and back termination in USB-A) USBBF 21N SCC Nickel plated shell and metallized inserts (EMI) USBBF 21B SCC Black coated shell and blank insert



#### Version: IEEE1394



FWF 21N SCC Nickel plated shell and metallized inserts (EMI) FWF 21B SCC Black coated shell and blank insert







Self Closing Cap

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Note: Panel gasket with any of these receptacles: JE18

