

## USBFTV - USB-A

### MAIN CHARACTERISTICS

- Sealed against fluids and dust (IP68)
- Shock, vibration and traction-resistant
- No cabling operation in-field and no tools required
- Improved EMI-protection
- Tri-Start thread coupling mechanism (MIL-DTL-38999 series III-type) with anti-decoupling device
- 2 mechanical coding / polarization possibilities by the user (receptacle insert rotation)
- USBF TV plug retention in the receptacle: 100 N in the axis
- Mating cycles: 500 to 1500

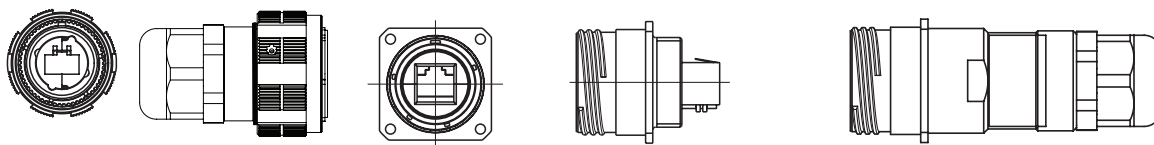
### ENVIRONMENTAL PROTECTION

- Sealing (when mated): IP68 (Temporary immersion)
- Salt Spray: 48-hour with nickel-plating > 500-hour with olive drab cadmium 1000-hour 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 > 1 micros
- Shocks: IK06; weight of 250 g drop from 40 cm [15.75 in] onto connectors (mated pair)
- Humidity: 21 days, 109.4°F (43°C), 98% humidity
- Temperature Range: -40°F to +185°F (-40°C to +85°C)

### DATA TRANSMISSION

USB Specification 2.0

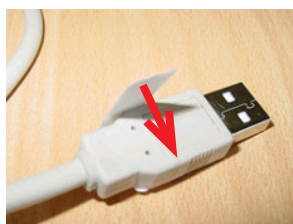
Data Rate: Up to 480 Mb/s for high-speed



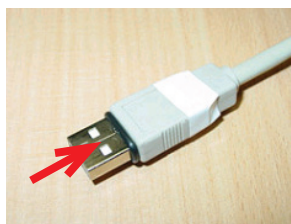
| PLATING            | PLUG            | RECEPTACLES              |                    |                         |              |               |
|--------------------|-----------------|--------------------------|--------------------|-------------------------|--------------|---------------|
|                    |                 | SQUARE FLANGE RECEPTACLE |                    |                         |              |               |
|                    |                 | FEMALE USB-A             |                    | SOLDER (4 TINNED HOLES) |              |               |
| Marine Bronze      | USBFTV6BZ       | USBFTV21BZ               | USBFTV2PE1BZ       | USBFTV22BZ              | USBFTV2PE2BZ | USBFTV2PEM2BZ |
| Nickel             | <b>USBFTV6N</b> | <b>USBFTV21N</b>         | USBFTV2PE1N        | <b>USBFTV22N</b>        | USBFTV2PE2N  | USBFTV2PEM2N  |
| Olive Drab Cadmium | <b>USBFTV6G</b> | <b>USBFTV21G</b>         | <b>USBFTV2PE1G</b> | <b>USBFTV22G</b>        | USBFTV2PE2G  | USBFTV2PEM2G  |

**BOLD** = Stocked Items

## PLUG ASSEMBLY INSTRUCTIONS



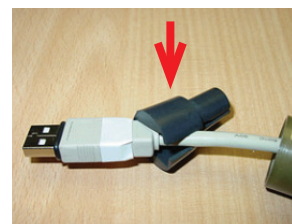
**STEP 1:** If you need a full sealing to IP68, install the white sticker around the front face of the USB-A plug, covering the four holes of the overmolding.



**STEP 2:** Insert the black O-ring around the front face of the USB-A plug. This O-ring will ensure connection sealing.



**STEP 3:** Insert the USB cordset into the metallic backshell.



**STEP 4:** Insert the retention spacer laterally to the cable (this spacer is soft in order to adapt to different shapes of overmolding) and slide the overmolding of the USB-A plug into this retention spacer.

### IMPORTANT NOTE

The connection sealing is not done by the black retention spacer (which is slotted), but by the front face O-Ring (fig. 2)

# USBFTV TRANSVERSALLY SEALED



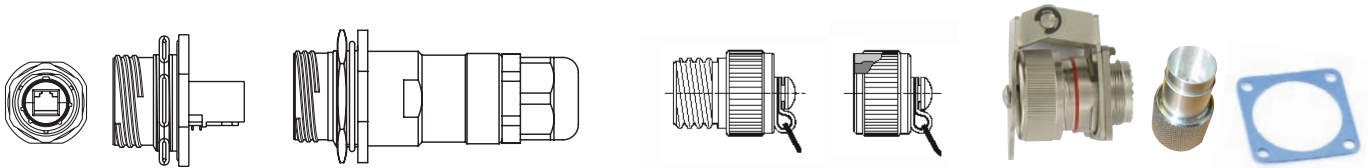
| PLATING            | SQUARE FLANGE RECEPTACLE |                   |                               |                              |
|--------------------|--------------------------|-------------------|-------------------------------|------------------------------|
|                    | STANDARD USB-A PLUG      | OPEN CABLE        | W/BACKSHELL AND PLASTIC GLAND | W/ BACKSHELL AND METAL GLAND |
| Nickel             | USBFTV2S*2N**A           | USBFTV2S*2N**OPEN | USBFTV2PES*2N**A              | USBFTV2PEMS*2N**A            |
| Olive Drab Cadmium | USBFTV2S*2G**A           | USBFTV2S*2G**OPEN | USBFTV2PES*2G**A              | USBFTV2PEMS*2G**A            |

\* Coding A, B, C, D \*\* Select for Cordset Length 03 = 11.81 (0.30M) 05 = 19.68 (0.50M) 10 = 39.37 (1.00M)



| PLATING            | JAM NUT RECEPTACLE  |                   |                               |                              |
|--------------------|---------------------|-------------------|-------------------------------|------------------------------|
|                    | STANDARD USB-A PLUG | OPEN CABLE        | W/BACKSHELL AND PLASTIC GLAND | W/ BACKSHELL AND METAL GLAND |
| Nickel             | USBFTV7S*2N**A      | USBFTV7S*2N**OPEN | USBFTV7PES*2N**A              | USBFTV7PEMS*2N**A            |
| Olive Drab Cadmium | USBFTV7S*2G**A      | USBFTV7S*2G**OPEN | USBFTV7PES*2G**A              | USBFTV7PEMS*2G**A            |

\* Coding A, B, C, D \*\* Select for Cordset Length 03 = 11.81 (0.30M) 05 = 19.68 (0.50M) 10 = 39.37 (1.00M)



| RECEPTACLES         |              |                         |              |               | ACCESSORIES        |                  |                  |                                           |                     |                |
|---------------------|--------------|-------------------------|--------------|---------------|--------------------|------------------|------------------|-------------------------------------------|---------------------|----------------|
| JAM NUT RECEPTACLES |              |                         |              |               | METALLIC DUST CAPS |                  |                  | SELF-CLOSING CAP*                         | INSERT REMOVAL TOOL | FLANGED GASKET |
| FEMALE USB-A        |              | SOLDER (4 TINNED HOLES) |              |               | PLUG §             | BOX MOUNT §      | JAM NUT §        |                                           |                     |                |
| USBFTV71BZ          | USBFTV7PE1BZ | USBFTV72BZ              | USBFTV7PE2BZ | USBFTV7PEM2BZ | USBFTVC6BZ         | USBFTVC2BZ       | USBFTVC7BZ       | USBFTVSCC<br>for<br>square<br>flange only | USBFODE             | JE15           |
| USBFTV71N           | USBFTVPE1N   | USBFTV72N               | USBFTVPE2N   | USBFTV7PEM2N  | USBFTVC6N          | <b>USBFTVC2N</b> | USBFTVC7N        |                                           |                     |                |
| USBFTV71G           | USBFTVPE1G   | <b>USBFTV72G</b>        | USBFTVPE2G   | USBFTV7PEM2G  | <b>USBFTVC6G</b>   | <b>USBFTVC2G</b> | <b>USBFTVC7G</b> |                                           |                     |                |

§ Nylon Cord Lengths: Plugs = 6.30 (160.0) Box Mount and Jam Nut = 4.134 (105.0)

**BOLD** = Stocked Items

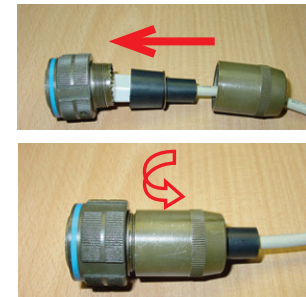
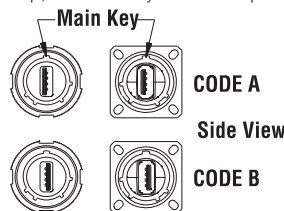
## PLUG ASSEMBLY INSTRUCTIONS



**STEP 5:** Insert the friction ring laterally to the cable



**STEP 6:** Choose the right coding (2 positions) and insert the USB-A plug into the protective plug. Note that at this step, the main key is used for polarization.



**STEP 7:** Screw the backshell onto the plug body. A wrench may be necessary to fully tighten.

All dimensions in inches (millimeters in parenthesis)