

# USBF TV

## Transversally Sealed Receptacles



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 below. In addition, the Sealed USBF TV has been successfully tested in very high vibration corresponding to airplane applications.

### Applications

- Embedded Computers
- Data Acquisition and transmission in harsh environment
- Railways
- Battelfield Communication Systems
- Navy Systems

### Data Transmission

USB Specification 2.0  
Data Rate: Up to 480 Mb/s for High Speed USB

### Main characteristics

- Sealed against fluids and dusts (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 minimum

### Environmental Protection

- Sealing (when mated): IP68 (Temporary immersion)
- Salt Spray: 48 h with Nickel plating  
> 500 h with Olive Drab Cadmium  
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 > 1 micro 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

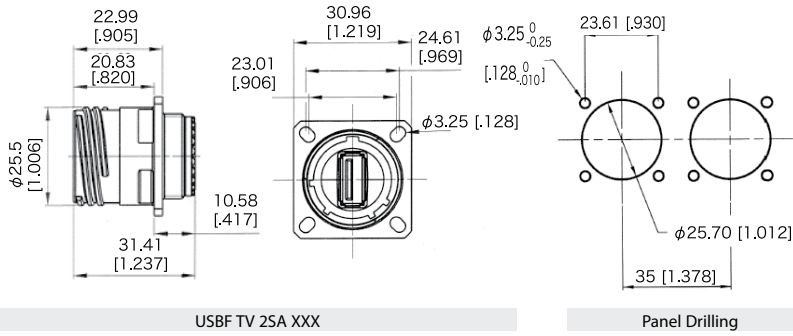
### Part Number Code

Series	USBF TV	2PES	A	2	N	03	A
USB Field TV							
Shell Type							
2S: Square flange receptacle							
2PES: Square flange receptacle + backshell + plastic gland							
2PEMS: Square flange receptacle + backshell + metal gland							
7S: Jam nut receptacle							
7PES: Jam nut receptacle + backshell + plastic gland							
7PEMS: Jam nut receptacle + backshell + metal gland							
Coding							
"A" (Standard) or "B"							
Back Terminations							
2: Rugged USB cable (see corresponding datasheet page 94)							
Shells Plating							
N: Nickel							
G: Olive drab cadmium plating							
USB cable length							
03: 30 cm [11.81 inches]							
05: 50 cm [19.68 inches]							
10: 1 meter [39.37 inches]							
USB cable end							
A: Standard USB-A plug							
OPEN: Open cable (no connector)							

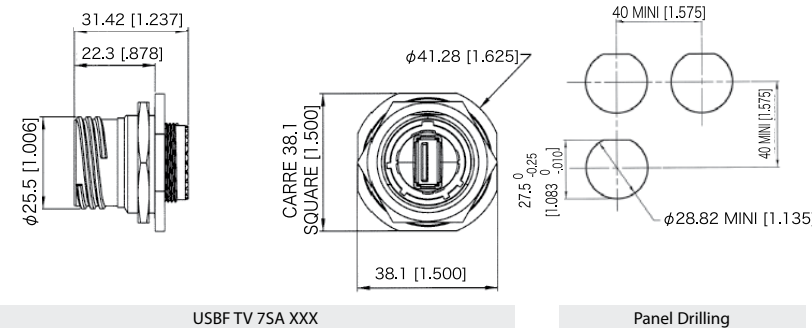
- Examples:
- Olive Drab Cadmium Square Flange Receptacle with 30 cm of USB cable and standard USB-A plug: USBF TV 2S G 03 A
  - Nickel Jam Nut Receptacle + backshell + plastic gland, with 1 meter of USB cable, and a standard USB-A plug: USBF TV 7PES N10 A

## Receptacles

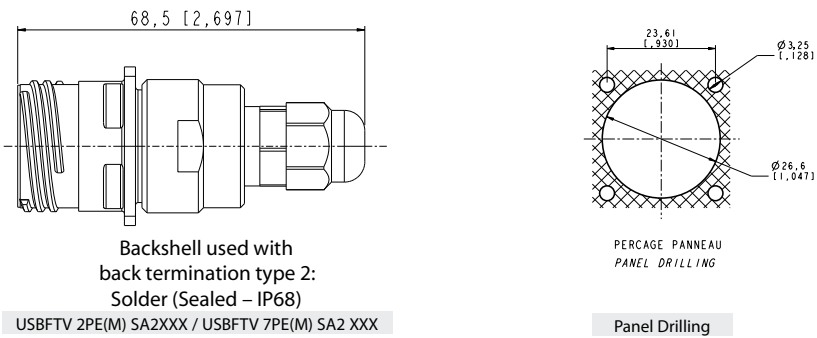
- Square flange receptacle 4 mounting holes: Shell type 2



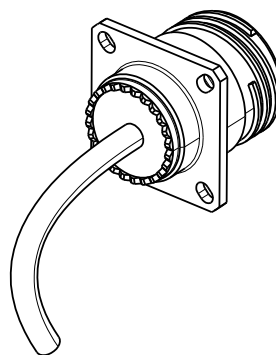
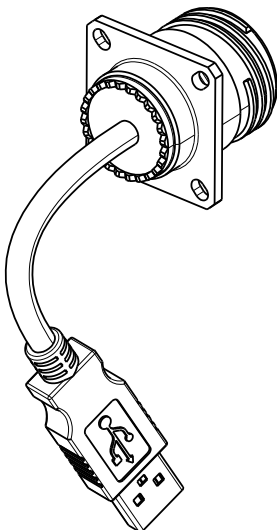
- Jam nut receptacle Hexagonal Nut mounting: Shell type 7



- Jam nut receptacle Hexagonal Nut mounting: Shell type 7



## Cordset End





# USBF TV

## Hermetic Receptacles



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. Helium leakage is less than  $1.10^{-6}$  cm<sup>3</sup> per second [0.1 micron cubit ft per hour] at one bar [15 psi] pressure differential.

### Applications

- Embedded Computers
- Data Acquisition and transmission in harsh environment
- Railways
- Battelfield Communication Systems
- Navy Systems

### Data Transmission

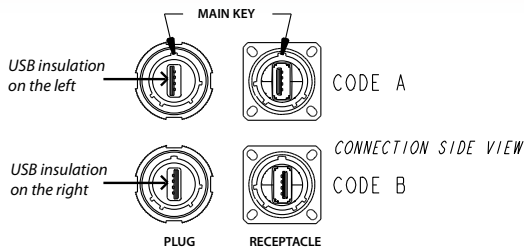
USB Specification 2.0  
Data Rate: up to 480 Mb/s for High Speed USB

### Main characteristics

- Same as the USBF TV (see page 76)... a complete IP68 sealing of the receptacle is added (even with no plug or no protective cap mated).
- Outside dimensions are the same as the standard USBF TV (USB-A).
- Vibrations : the compounded version of the USBF TV has been tested in vibration following the NAS 1599 Aeronautic specification (Ambient temperature):  
5 - 3000 Hz, 20g, 2.5 mm [.1 inch] double amplitude, 3 axes, 12 hours  
Note: this specification exceeds MIL-C-26500 requirements.

### IMPORTANT NOTE

Due to the compound, the coding of the connector must be done in the factory: use the codes A or B in the part number. **Example:** USBFTV 2H **A** 2 N 03 A



### Part Number Code

Series	USBF TV	2H	A	2	N	03	A
USB Field TV							
Shell Type							
2H :	Hermetic square flange receptacle						
2PEH:	Hermetic square flange receptacle + backshell + plastic gland						
2PEMH:	Hermetic square flange receptacle + backshell + metal gland						
7H:	Hermetic jam nut receptacle						
7PEH:	Hermetic jam nut receptacle + backshell + plastic gland						
7PEMH:	Hermetic jam nut receptacle + backshell + metal gland						
Coding							
"A" (Standard) or "B"							
Back Terminations							
2:	Rugged USB cable (see corresponding datasheet page 94)						
Shells Plating							
N:	Nickel						
G:	Olive drab cadmium plating						
USB cable length							
03:	30 cm [11.81 inches]						
05:	50 cm [19.68 inches]						
10:	1 meter [39.37 inches]						
USB cable end							
A:	Standard USB-A plug						
OPEN:	Open cable (no connector)						

Examples: - Olive Drab Cadmium Hermetic Square Flange Receptacle with 30 cm of USB cable and standard USB-A plug: USBF TV 2H G 03 A  
- Nickel Hermetic Jam Nut Receptacle + backshell + plastic gland, with 1 meter of USB cable, and a standard USB-A plug: USBF TV 7PEH N10 A