USBBF TV *(USB-B)*
USB Connection System for Harsh Environment

USB Field allows you to use a standard USB 2.0 connection in harsh environment:
• 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
• Plug retention in the receptacle: 100N in the axis
• Mating cycles: 500 minimum

Back terminations available:
• a USB-A receptacle
• solder: 4 tinned holes on the PCB to solder your wire
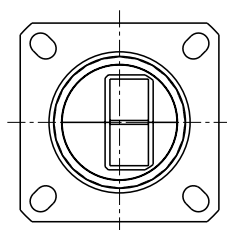
Temperature range: -40°C/+85°C

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

Part Number Code

Series USBB Field TV	USBBF 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)*				
2PEM: Square flange receptacle metal gland (only for soldering back termination type 2)				
7: Jam nut receptacle				
7PE: Jam nut receptacle with metal backshell *(type 1)* & with metal backshell + plastic gland *(type 2)*				
7PEM: Jam nut receptacle metal gland (only for soldering back termination type 2)				
Back Terminations *(Receptacles only)*				
1: Female USB-A				
2: Solder (4 tinned holes)				
Shells Material & Finish				
N: Aluminium shell - Nickel plating - ROHS compliant				
G: Aluminium shell - Olive Drab Cadmium plating				

Examples: - Plug-cadmium plating: USBBF TV 6G
- Square FlangeReceptacle-USB-A back terminat° -cadmium plating: USBBF TV 21G
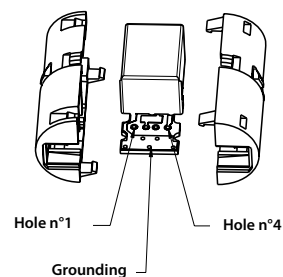- JamNut Receptacle, solder terminat° -nickel plating: USBBF TV 72N

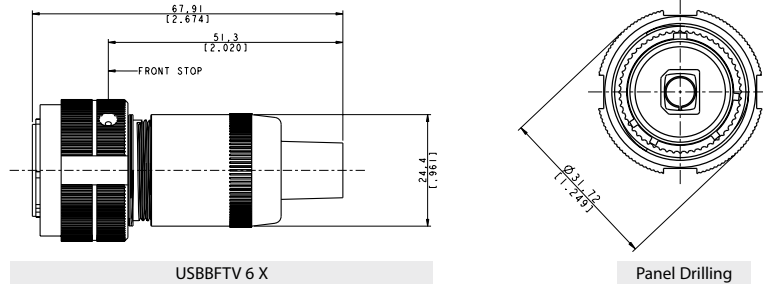## Back terminations
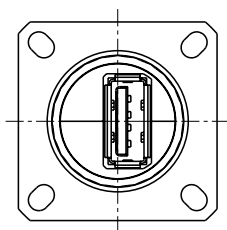
Type 1: Female USB-A
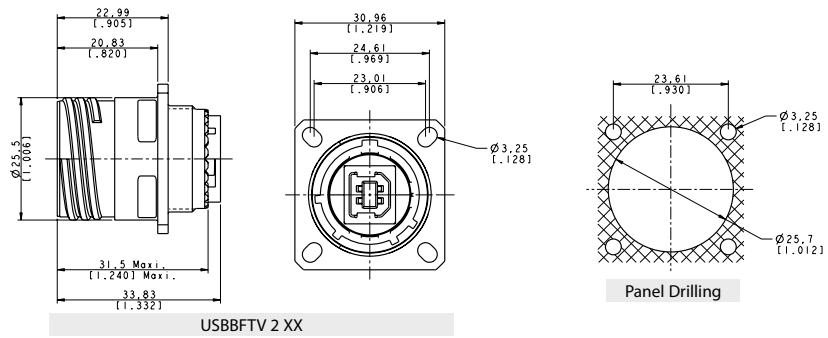
Type 2: Solder (4 tinned holes)

Hole n°1   Hole n°4

Grounding

Plug

- Shell type 6

USBBFTV 6 X

Panel Drilling

Receptacles

- Shell type 2 - Square flange receptacle

USBBFTV 2 XX

Panel Drilling

- Shell type 7 - Jam nut receptacle

USBBFTV 7 XX

Panel Drilling
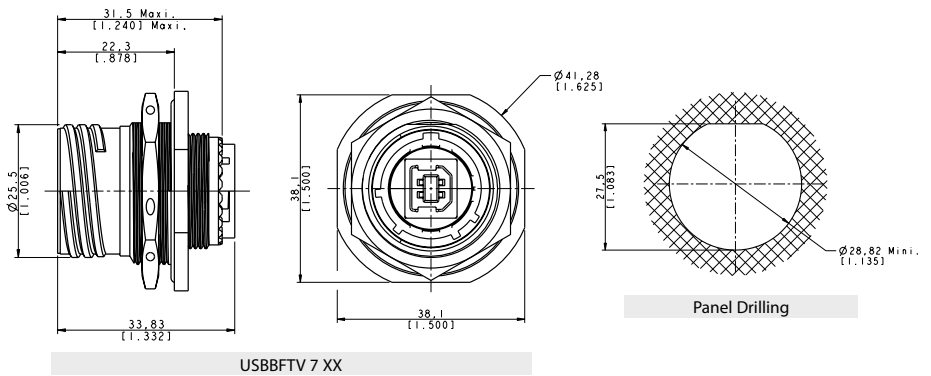
- «2PEM» and «7PEM» Shells with Backshell to protect Back termination from dust, shocks and vibration.

Backshell used with back termination type 1:
USB A receptacle (Not sealed)

Same panel drilling as USBBFTV 2xx

USBBF TV 2PE / 7PE-1

Backshell used with
back termination type 2:
Solder (Sealed – IP68)

USBBF TV 2PE(M) / 7PE(M)-2

PERCAGE PANNEAU
PANEL DRILLING

Panel Drilling (*for type 2 only*)

Amphenol

87
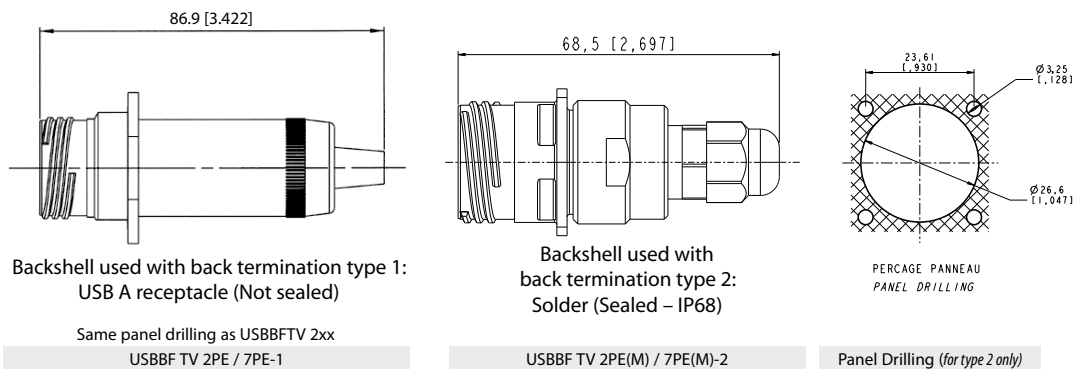
Accessories

■ **Metallic Caps** (same as USB-A version - see page 74)

	USBF TVC	2	G
Connector Type **6:** Plug **2:** Square Flange Receptacle **7:** Jam Nut Receptacle			
Shells Material & Finish **N:** Nickel plating - ROHS compliant **G:** Olive Drab Cadmium plating			
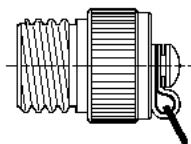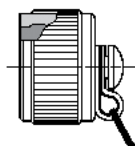
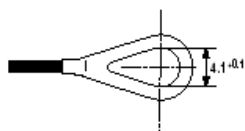Plug Cap   Receptacle Cap
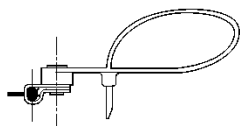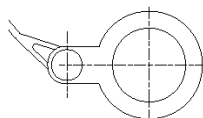
Plug Cap end   Square flange   Jam Nut receptacle
                      receptacle cap end   cap end

■ Panel Gasket for square flange receptacle
   (Thickness: 0,8 mm [.031]): JE15