

# USBFTV™



## Description

USBFTV™ is a complete ruggedized solution around USB2.0 Type-A standard using a Tri Start Thread coupling mechanism (MIL-DTL-38999 series III type) to connect the plug and receptacle.

This solution allows you to insert a standard USB 2.0 cordset into a metallic plug which will protect it from shocks, dust and fluids. The assembly of this ruggedized plug doesn't require any tools and is easily assembled on the field. Perfectly adapted to the USB2.0 standard, you have two coding possibilities to facilitate coupling when you have several receptacles on a panel.

The corresponding USBFTV™ receptacle dedicated to be mounted on your panel enables you to reinforce and protect your system against leakage, shocks, vibrations and much more. This receptacle part is delivered with a defined coding when ordered but can be conveniently changed with our dedicated USBF ODE tool.

## Main features

### MAIN CHARACTERISTICS

- Tri Start Thread coupling mechanism (MIL-DTL-38999 series III type) with anti-decoupling device - Shell size 15
- Sealed against fluids and dusts (IP68)
- Shock, vibration and traction resistant
- No cabling operation in field and no tools required
- Improved EMI protection
- 2 mechanical coding / polarization possibilities by the user (receptacle insert rotation)
- USBFTV™ plug retention in the receptacle: 100 N in the axis
- Mating cycles: 500 minimum

### DATA TRANSMISSION

- USB-A
- USB specification 2.0
- Data rate: up to 480 Mbps for high speed USB

### ENVIRONMENTAL PROTECTION

- Sealing (when mated): IP68 (temporary immersion)
- Salt spray:
  - 48 h with nickel plating ✓
  - 500 h black zinc nickel ✓
  - 500 h with olive drab cadmium
  - 500 h with Tin-zinc plating ✓
  - 1000 h with marine bronze shell ✓
- Fire retardant / low smoke: UL94 V0 and EN45545
- 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)
- Temperature range: - 40°C / +85°C

### APPLICATIONS

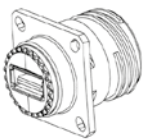
- Battlefield communication systems
- C5ISR
- Data acquisition and transmission in harsh environment
- Navy
- Rail Mass Transit
- Industrial process control
- Robotics
- CNC machines
- Oil & Gas

✓ : RoHS compliant

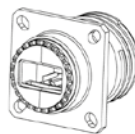
**How to order :** Please refer to page 121

## Back terminations

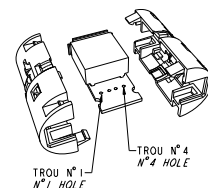
Type 1:  
female USB-A



Type 2:  
solder 4 Tinned holes to solder your cable



View of the PCB of the Type 2 version with  
4 tinned holes for solder termination



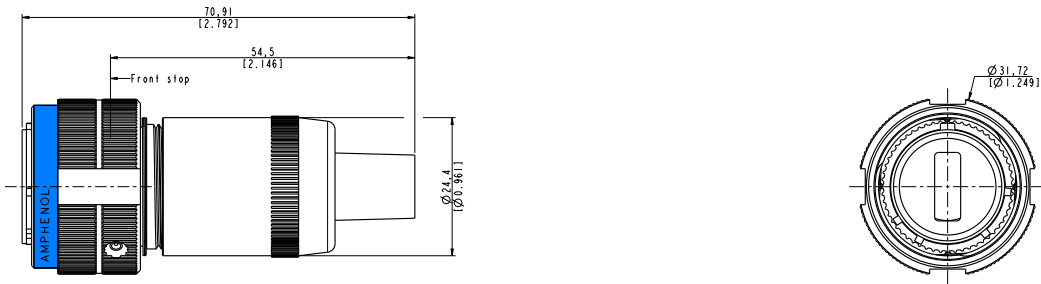
# USBFTV™



## Overall dimension

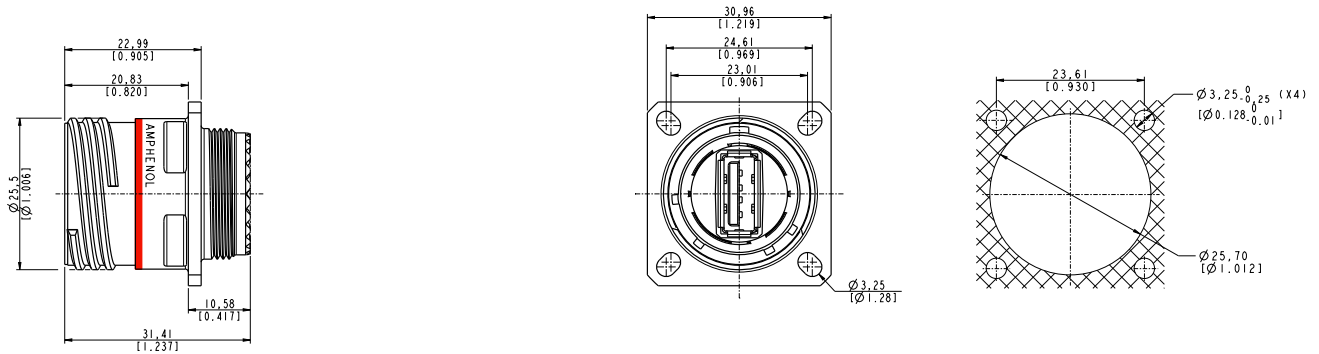
Plug - Shell type 6

Part number type: **USBFTV 6 X**



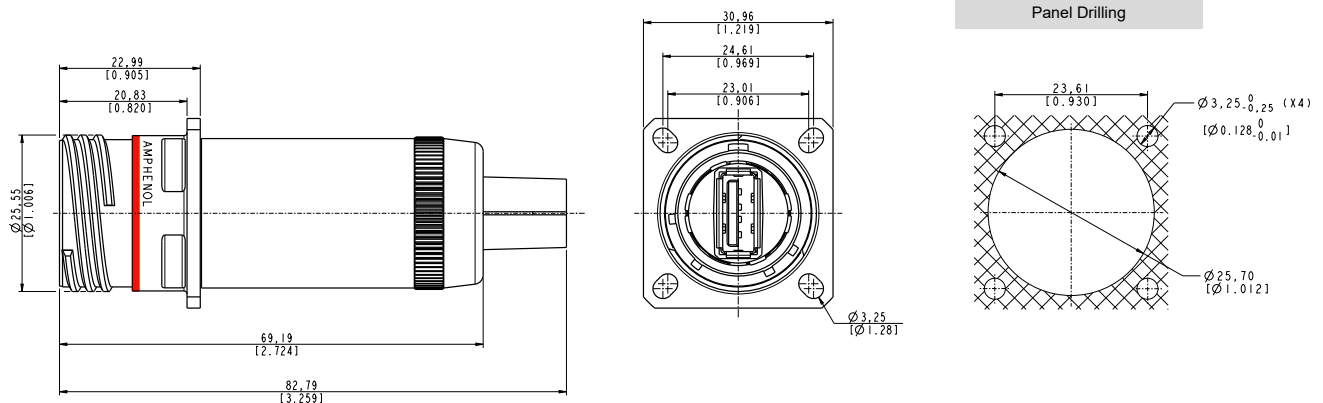
Receptacle - Square flange receptacle - 4 mounting holes - Shell type 2 - Back termination type 1

Part number type: **USBFTV 2 1 X**



Receptacle - Square flange receptacle - 4 mounting holes - Shell type 2 - Back termination type 1 - Metal backshell

Part number type: **USBFTV 2 PE 1 X**



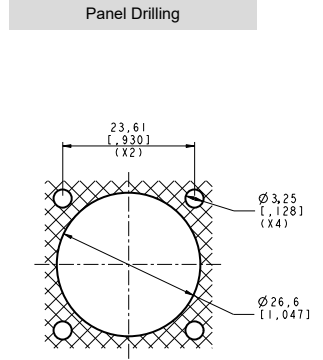
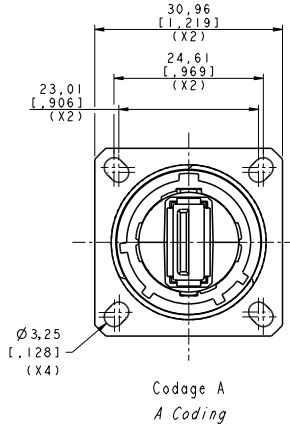
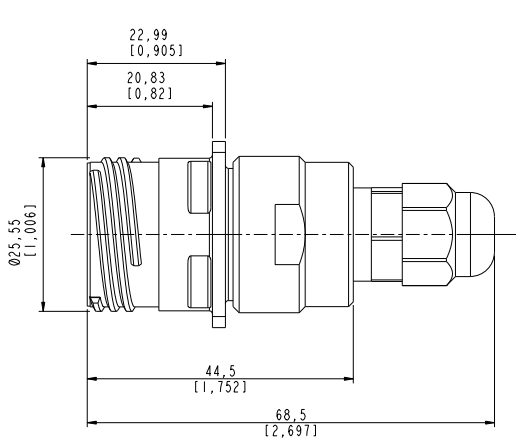
# USBFTV™



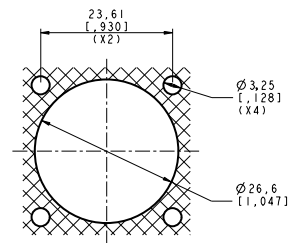
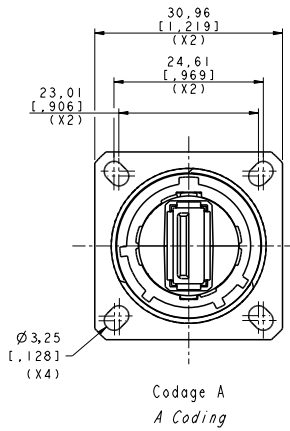
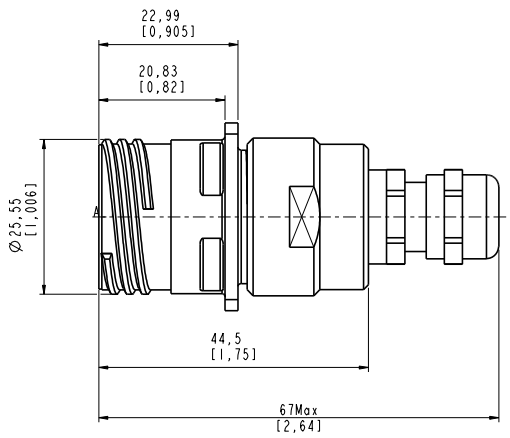
## Overall dimension

**Receptacle** - Square flange receptacle - 4 mounting holes - Shell type 2 - Back termination type 2 - Metal backshell

Part number type: **USBFTV 2 PE 2 X**



Part number type: **USBFTV 2 PEM 2 X**

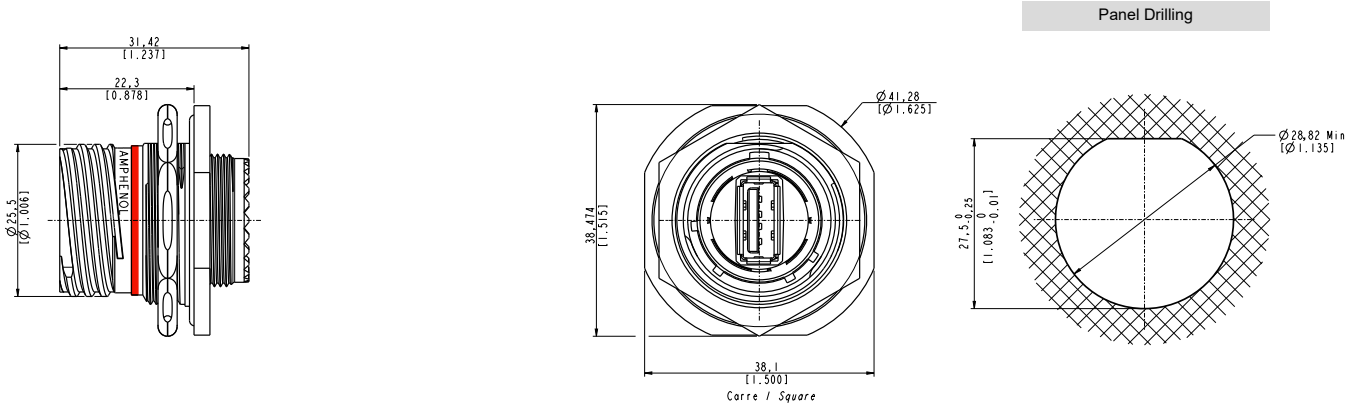




## Overall dimension

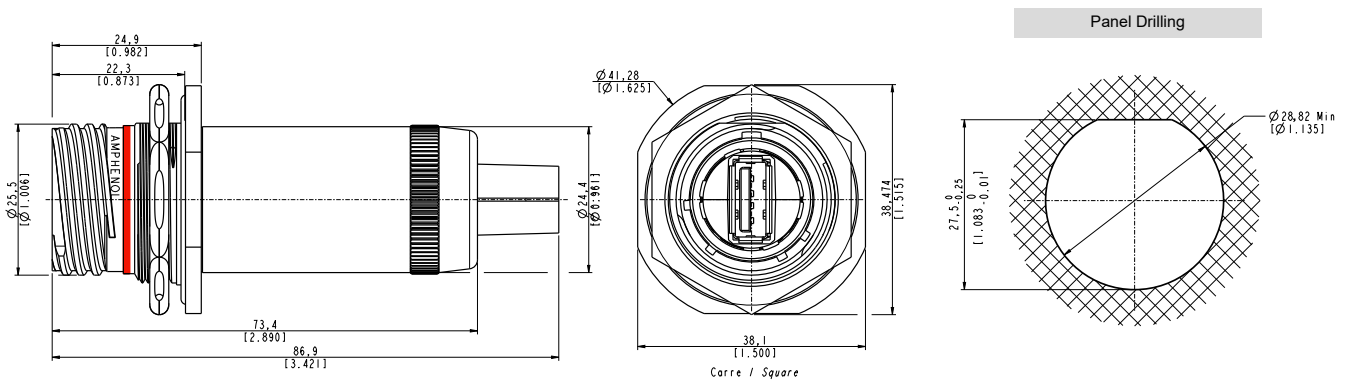
Receptacle - Jam nut receptacle - Hexagonal nut mounting - Shell type 7 - Back termination type 1

Part number type: **USBFTV 7 1 X**



Receptacle - Jam nut receptacle - Hexagonal nut mounting - Shell type 7 - Back termination type 1 - Metal backshell

Part number type: **USBFTV 7 PE 1 X**



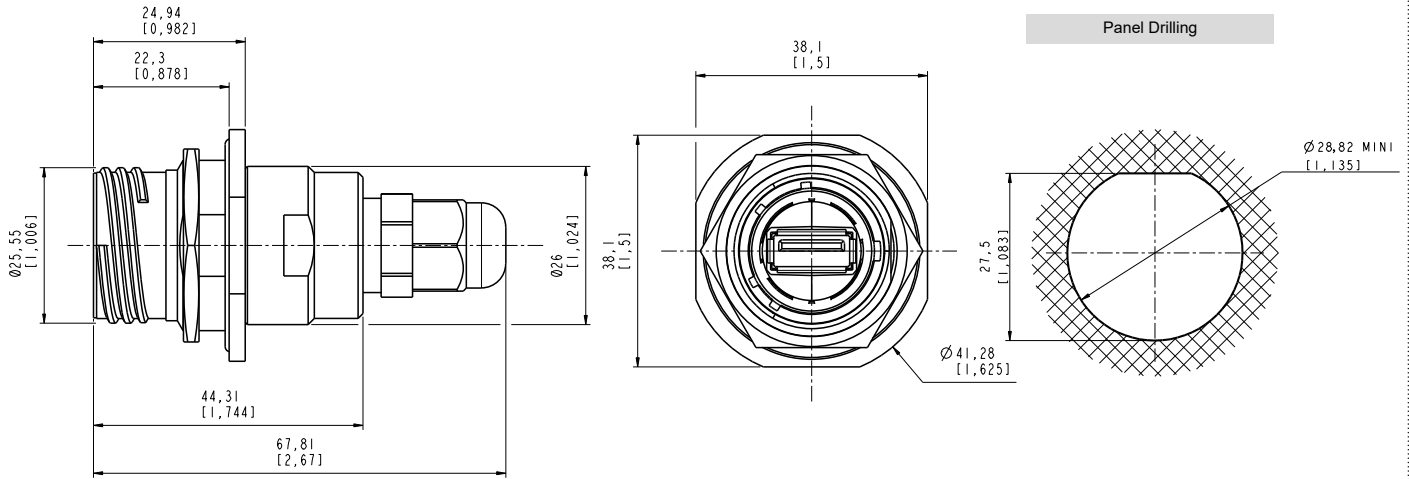
# USBFTV™



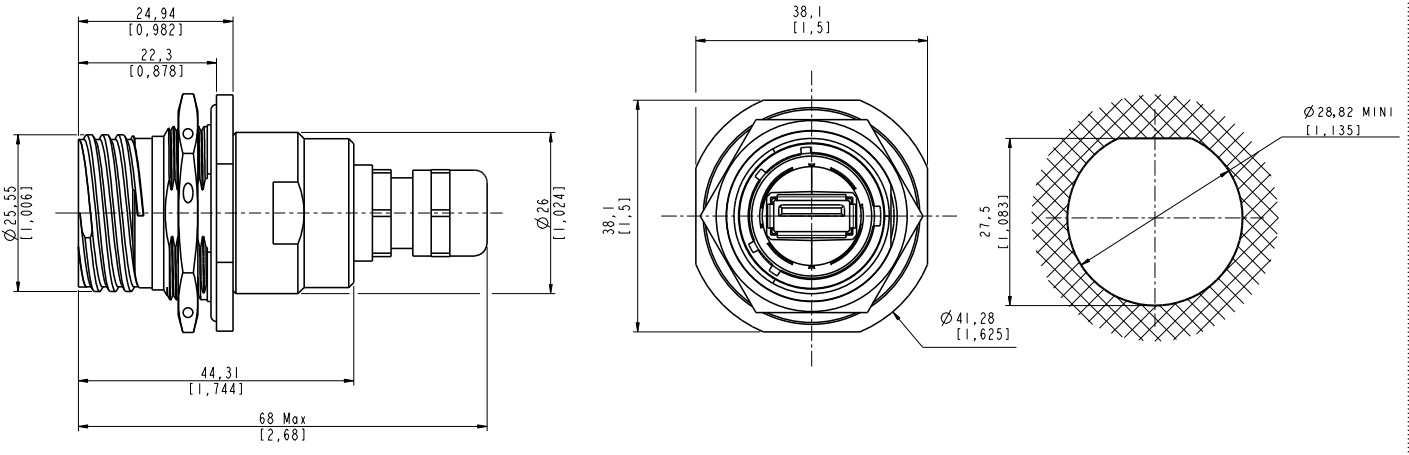
## Overall dimension

Receptacle - Jam nut receptacle - Hexagonal nut mounting - Shell type 7 - Back termination type 2 - Metal backshell

Part number type: **USBFTV 7 PE 2 X**



Part number type: **USBFTV 7 PEM 2 X**



- USB3.2
- USB2.0**
- Cables and cordsets
- Adapters and access points
- Rugged electronics
- Accessories
- Assembly instructions
- How to order

# USBFTV™ - TRANSVERSALLY SEALED AND HERMETIC RECEPTACLE

## Description



The transversally sealed receptacle is in all aspect equivalent to the standard and in addition, is improved with compound at the rear of the receptacle. This will prevent the sealing of the receptacle when unmated with his plug or protective cap.

The hermetic solution, as the transversally sealed one, is compounded 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. The test is performed on all hermetic receptacles.

## Main features

### MAIN CHARACTERISTICS

- Tri Start Thread coupling mechanism (MIL-DTL-38999 series III type) with anti-decoupling device - Shell size 15
- 2 mechanical coding/polarization possibilities by the user (receptacle insert rotation)
- Sealed against fluids and dusts (IP68)
- Shock, vibration and traction resistant
- No cabling operation in field and no tools required
- Improved EMI protection
- USBFTV™ plug retention in the receptacle: 100 N in the axis
- Mating cycles: 500 minimum

### DATA TRANSMISSION

- USB-A
- USB specification 2.0
- Data rate: up to 480 Mb/s for high speed USB

### ENVIRONMENTAL PROTECTION

- Sealing (when mated): IP68 (temporary immersion)
- Salt spray:
  - 48 h with nickel plating ✓
  - 500 h with olive drab cadmium
  - 500 h with black zinc nickel ✓
  - 500 h with Tin-zinc plating ✓
  - 1000 h with marine bronze shell ✓
- Fire retardant / Low smoke: UL94 V0 and EN45545
- 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)
- Temperature range: - 40°C / +85°C

### APPLICATIONS

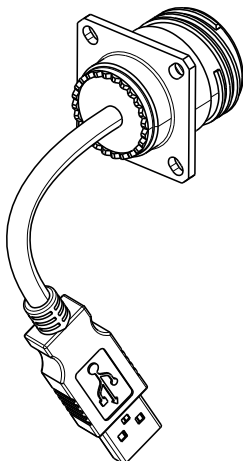
- Battlefield communication systems
- C5ISR
- Data acquisition and transmission in harsh environment
- Navy
- Rail Mass Transit
- Industrial process control
- Robotics
- CNC machines
- Oil & Gas

✓ : RoHS compliant

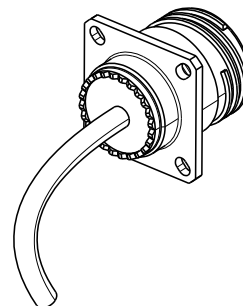
**How to order :** Please refer to page 122

## Back terminations

USB cable end type A



USB cable end type «OPEN»



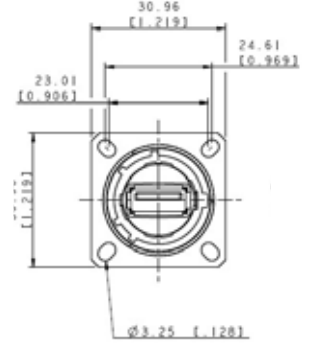
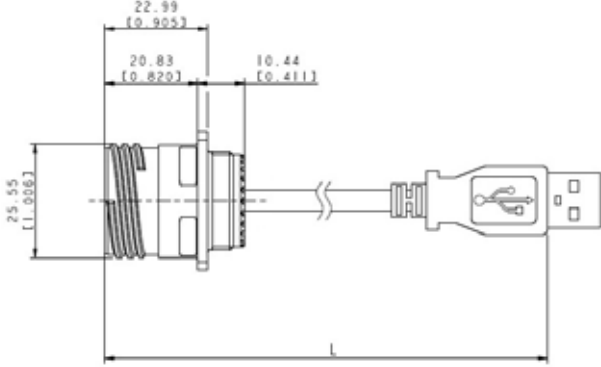
# USBFTV™ - TRANSVERSALLY SEALED AND HERMETIC RECEPTACLE

## Overall dimension

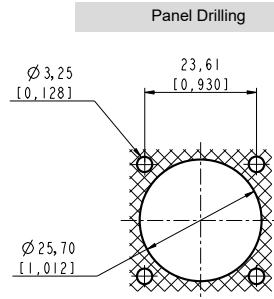
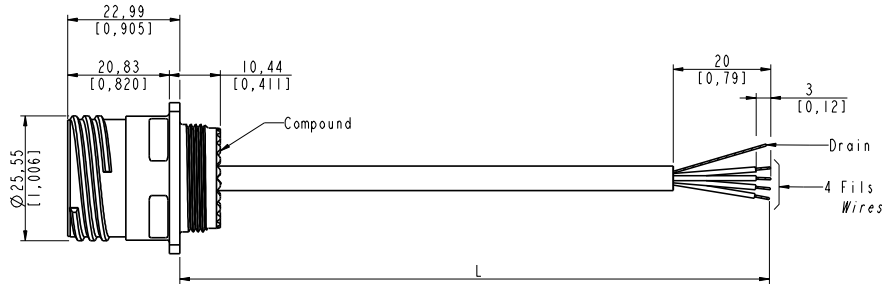


**Receptacle** - Square flange receptacle - 4 mounting holes - Shell type 2 - USB-A or Open cordset

Part number type: **USBFTV 2 SA 2 X XX A**

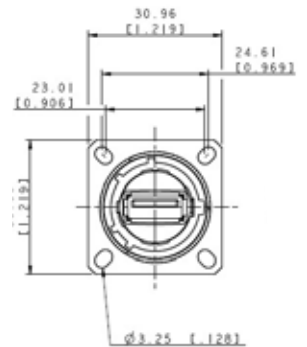
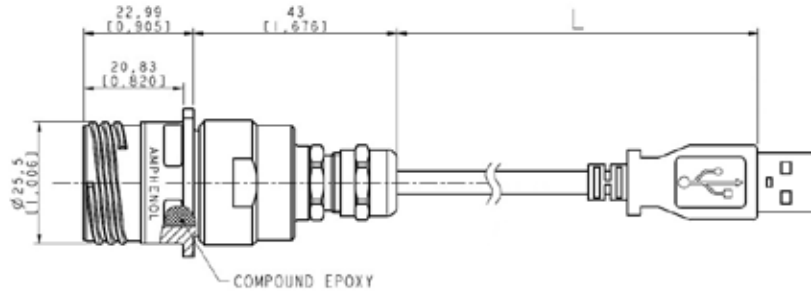


Part number type: **USBFTV 2 SA 2 X XX OPEN**

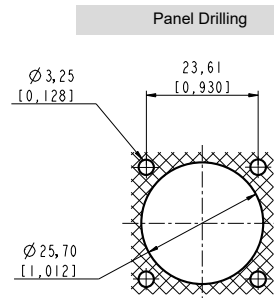
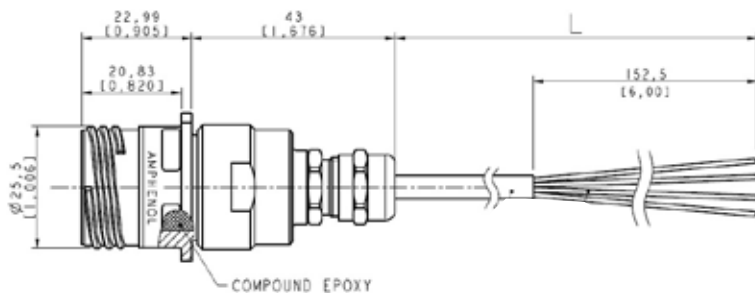


**Receptacle** - Square flange receptacle - 4 mounting holes - Shell type 2 - USB-A or Open cordset

Part number type: **USBFTV 2 PE SA 2 X XX A**  
**USBFTV 2 PEM SA 2 X XX A**



Part number type: **USBFTV 2 PE SA 2 X XX OPEN**  
**USBFTV 2 PEM SA 2 X XX OPEN**



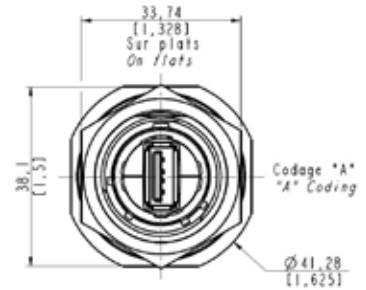
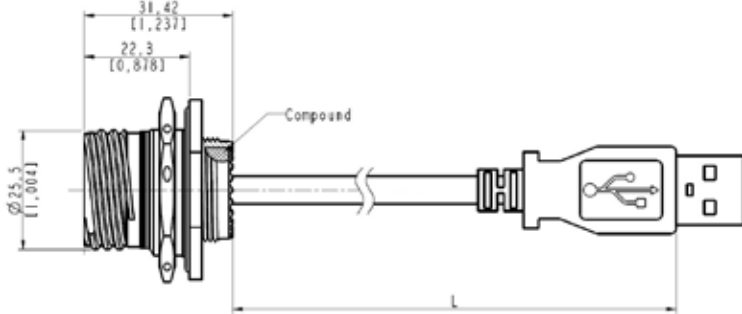
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## Overall dimension

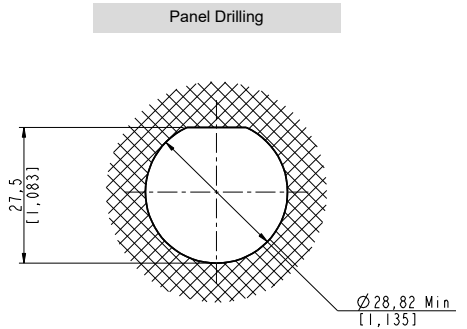
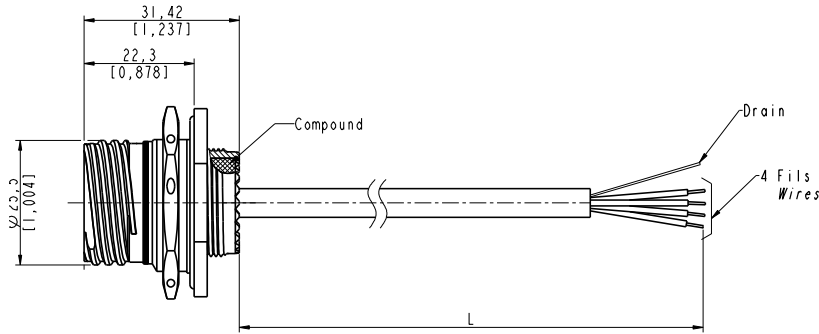


**Receptacle** - Jam nut receptacle - Hexagonal nut mounting - Shell type 7 - USB-A or Open cordset

Part number type: **USBFTV 7 SA 2 X XX A**

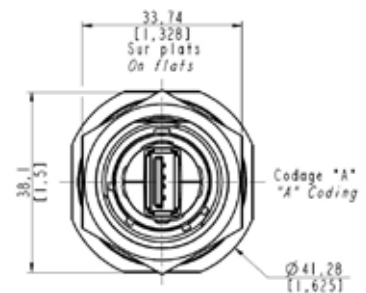
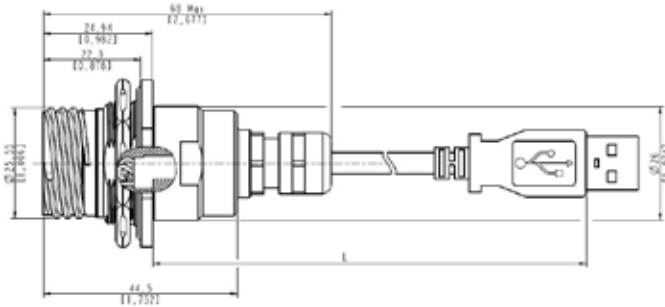


Part number type: **USBFTV 7 SA 2 X XX OPEN**

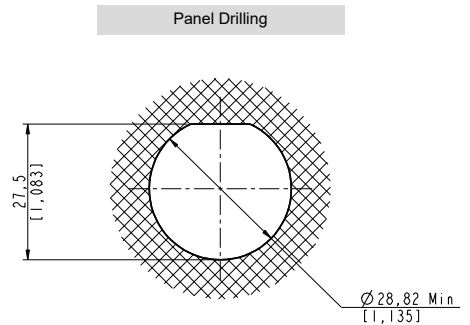
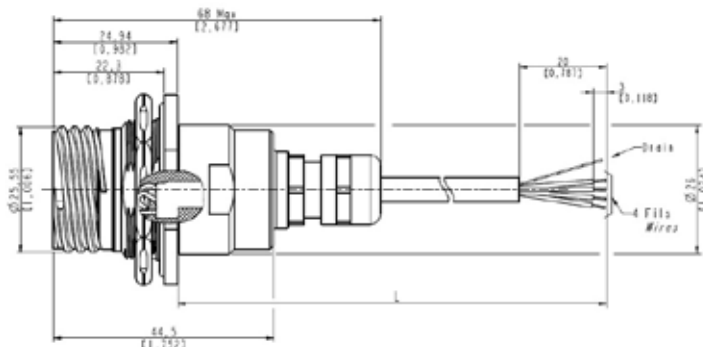


**Receptacle** - Jam nut receptacle - Hexagonal nut mounting - Shell type 7 - USB-A or Open cordset

Part number type: **USBFTV 7 PE SA 2 X XX A**  
**USBFTV 7 PEM SA 2 X XX A**



Part number type: **USBFTV 7 PE SA 2 X XX OPEN**  
**USBFTV 7 PEM SA 2 X XX OPEN**





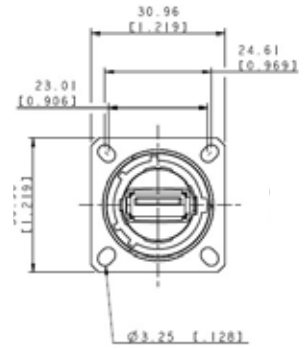
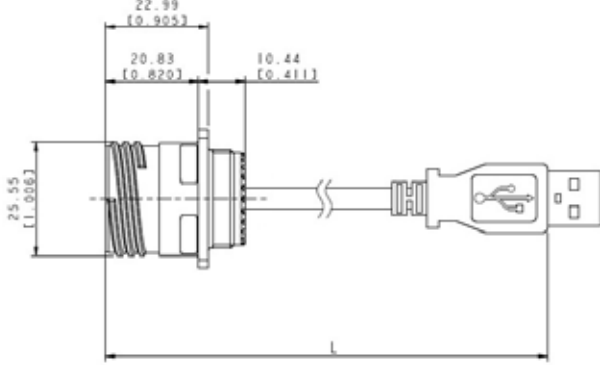
# USBFTV™ - TRANSVERSALLY SEALED AND HERMETIC RECEPTACLE

## Overall dimension

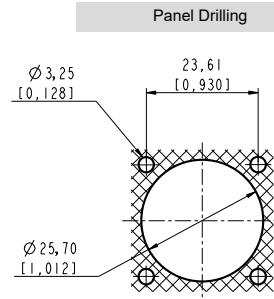
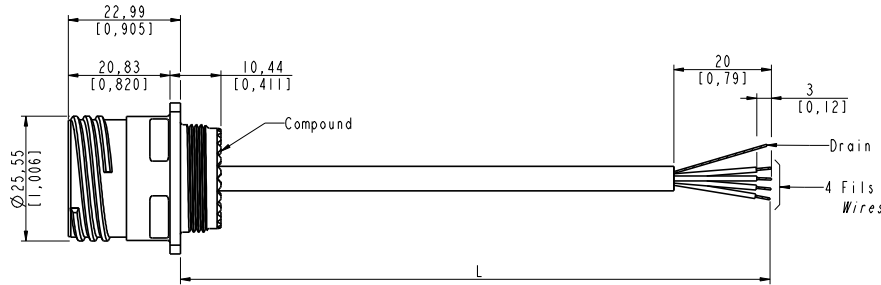


**Receptacle** - Square flange receptacle - 4 mounting holes - Shell type 2- USB-A or Open cordset

Part number type: **USBFTV 2 HA 2 X XX A**

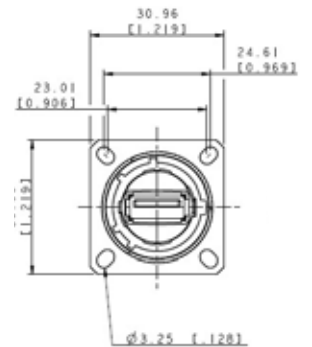
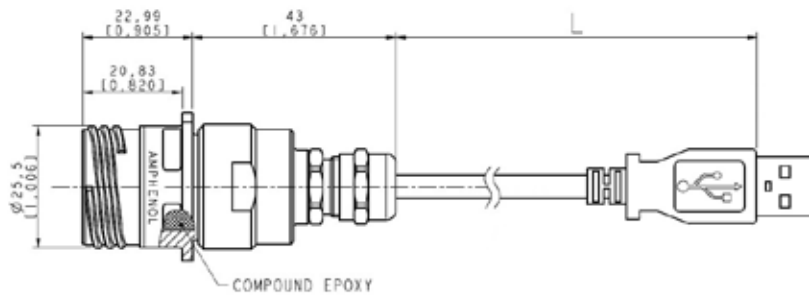


Part number type: **USBFTV 2 HA 2 X XX OPEN**

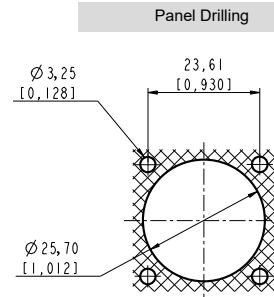
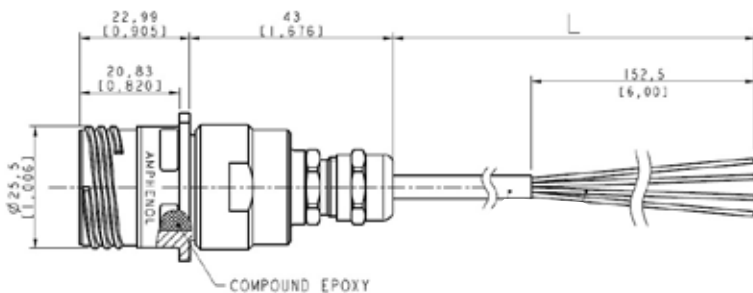


**Receptacle** - Square flange receptacle - 4 mounting holes - Shell type 2 - Metal backshell - USB-A or Open cordset

Part number type: **USBFTV 2 PE HA 2 X XX A**  
**USBFTV 2 PEM HA 2 X XX A**



Part number type: **USBFTV 2 PE HA 2 X XX OPEN**  
**USBFTV 2 PEM HA 2 X XX OPEN**



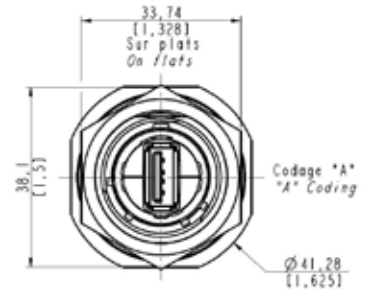
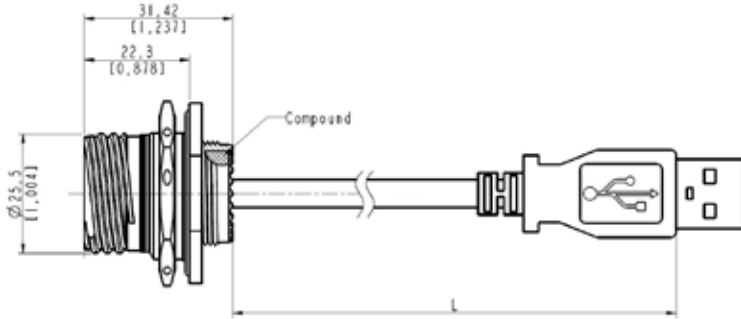
# USBFTV™ - TRANSVERSALLY SEALED AND HERMETIC RECEPTACLE

## Overall dimension

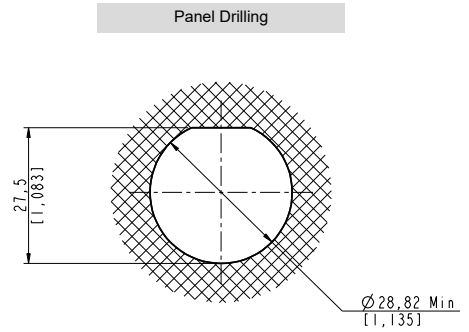
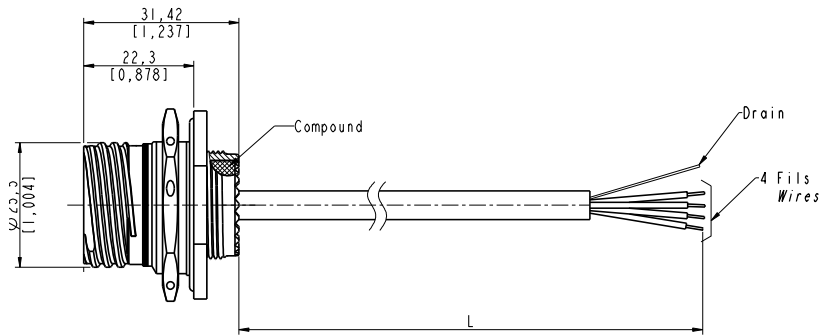


**Receptacle** - Jam nut receptacle - Hexagonal nut mounting - Shell type 7 - USB-A or Open cordset

Part number type: **USBFTV 7 HA 2 X XX A**

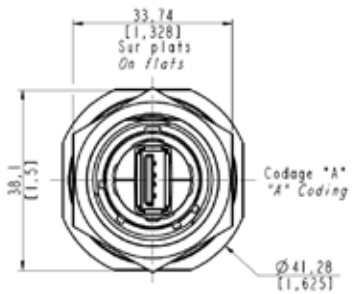
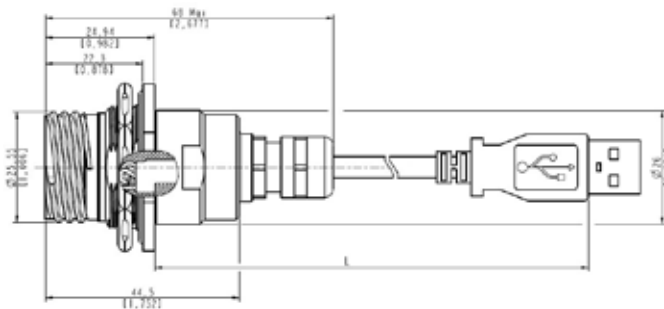


Part number type: **USBFTV 7 HA 2 X XX OPEN**

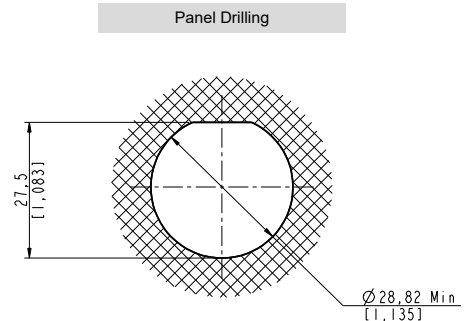
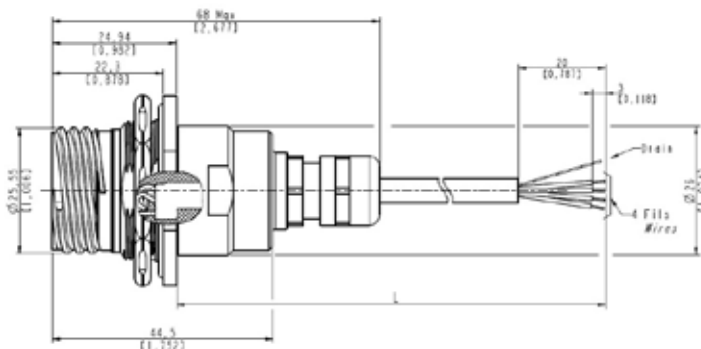


**Receptacle** - Jam nut receptacle - Hexagonal nut mounting - Shell type 7 - Metal backshell - USB-A or Open cordset

Part number type: **USBFTV 7 PE HA 2 X XX A**  
**USBFTV 7 PEM HA 2 X XX A**



Part number type: **USBFTV 7 PE HA 2 X XX OPEN**  
**USBFTV 7 PEM HA 2 X XX OPEN**



# USBFTV™ - STAND OFF RECEPTACLE

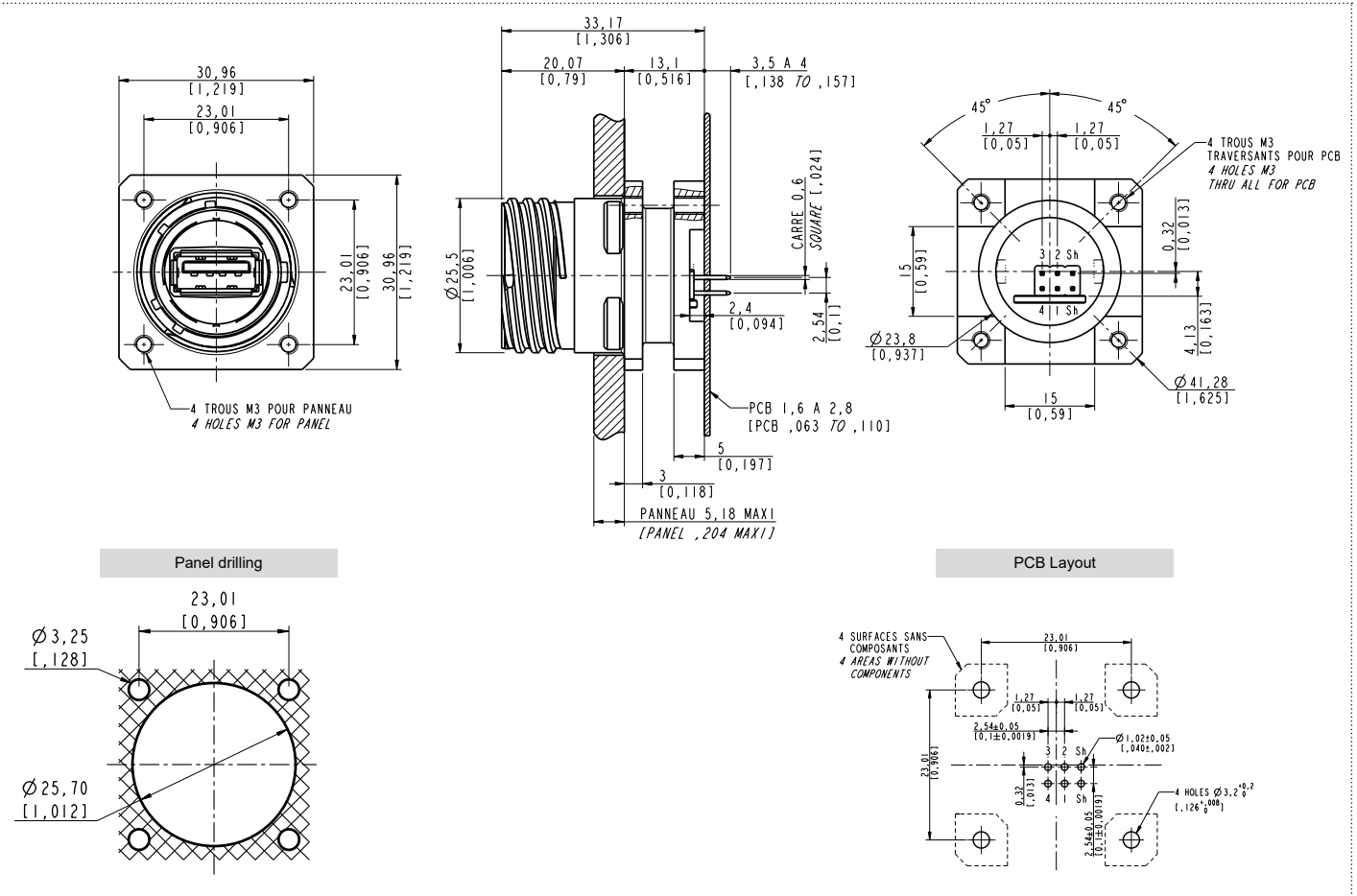


## Description

This enhanced design allows you to mount the connector shell directly on your PC board. Soldering your contacts directly on the board will help to save you a lot of space inside of your system. As this double-flange of this connector is directly fixed on the board, mechanical stresses are absorbed by the shell and not the contacts. In addition to this benefit, the sealing is improved by the compounded receptacle.

## Overall dimension

Receptacle - Square flange receptacle - 4 mounting holes - Shell type 2 - PC Tails contacts



Part number for coding A	Part number for coding B	Plating
USBFTV 2S A 5 N F459	USBFTV 2S B 5 N F459	Nickel ✓
USBFTV 2S A 5 G F459	USBFTV 2S B 5 G F459	Olive drab cadmium
USBFTV 2S A 5 ZN F459	USBFTV 2S B 5 ZN F459	Black zinc nickel ✓

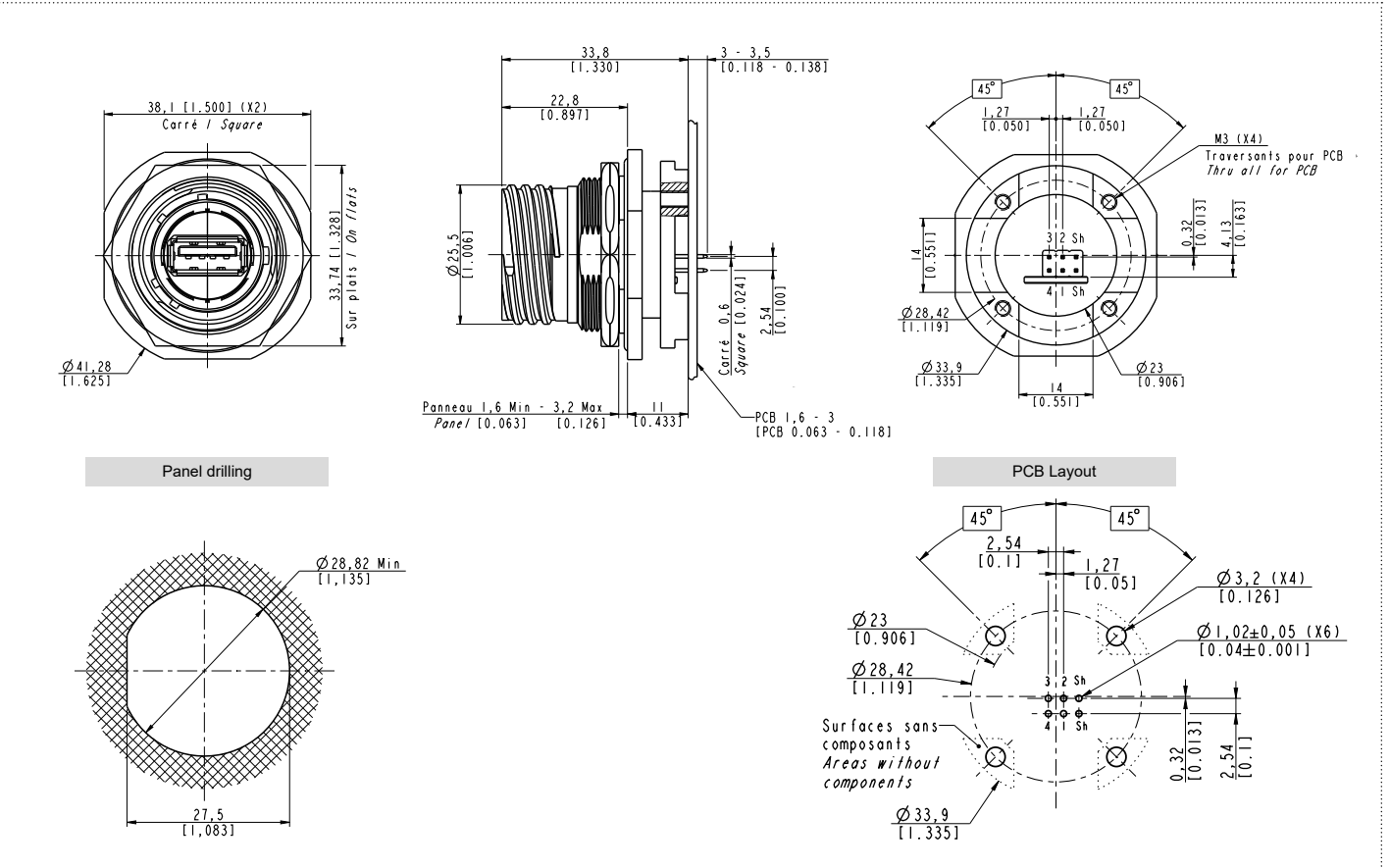
✓ : RoHS compliant

# USBFTV™ - STAND OFF RECEPTACLE



## Overall dimension

Receptacle - Jam nut receptacle - Hexagonal nut mounting - Shell type 7 - PC Tails contacts



Part number for coding A	Part number for coding B	Plating
USBFTV 7 SA 5 N F459	USBFTV 7S B 5 N F459	Nickel ✓
USBFTV 7 SA 5 G F459	USBFTV 7S B 5 G F459	Olive drab cadmium
USBFTV 7 SA 5 ZN F459	USBFTV 7S B 5 ZN F459	Black zinc nickel ✓

✓ : RoHS compliant

USB3.2  
USB2.0  
Cables and cordsets  
Adapters and access points  
Rugged electronics  
Accessories  
Assembly instructions  
How to order

# USBFTV™ - THROUGH-BULKHEAD RECEPTACLE

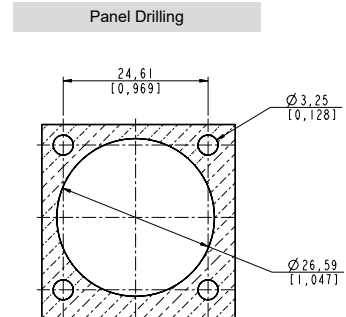
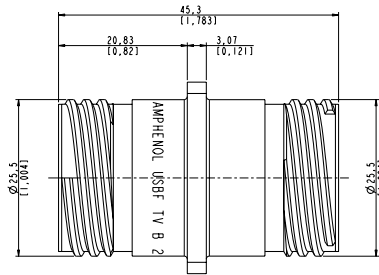
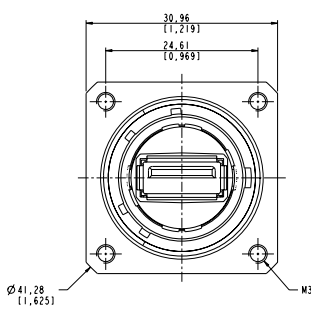


## Description

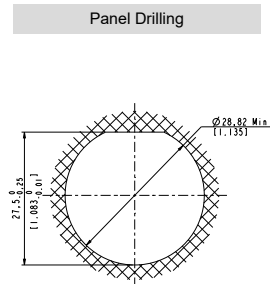
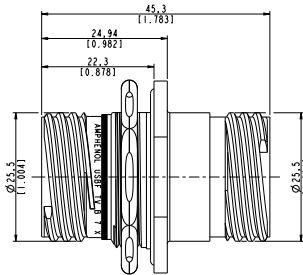
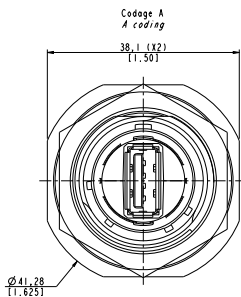
The USBFTV™ Through-bulkhead is a double-ended receptacle that enables you to connect two USBFTV plugs on both sides of your panel. In your system, it provides you the best protection and remains very easy to assemble.

## Overall dimension

Receptacle - Square flange receptacle - 4 mounting holes - Shell type 2



Receptacle - Jam nut receptacle - Hexagonal nut mounting - Shell type 7



Part number for square flange receptacle	Part number for Jam nut receptacle	Plating
USBFTV B 2 N	USBFTV B 7 N	Nickel ✓
USBFTV B 2 G	USBFTV B 7 G	Olive drab cadmium
USBFTV B 2 ZN	USBFTV B 7 ZN	Black zinc nickel ✓

✓ : RoHS compliant

USB3.2  
 USB2.0  
 Cables and cordsets  
 Adapters and access points  
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 Accessories  
 Assembly instructions  
 How to order

# USBFTV™ - RECEPTACLE WITH 360° EMI BACKSHELL

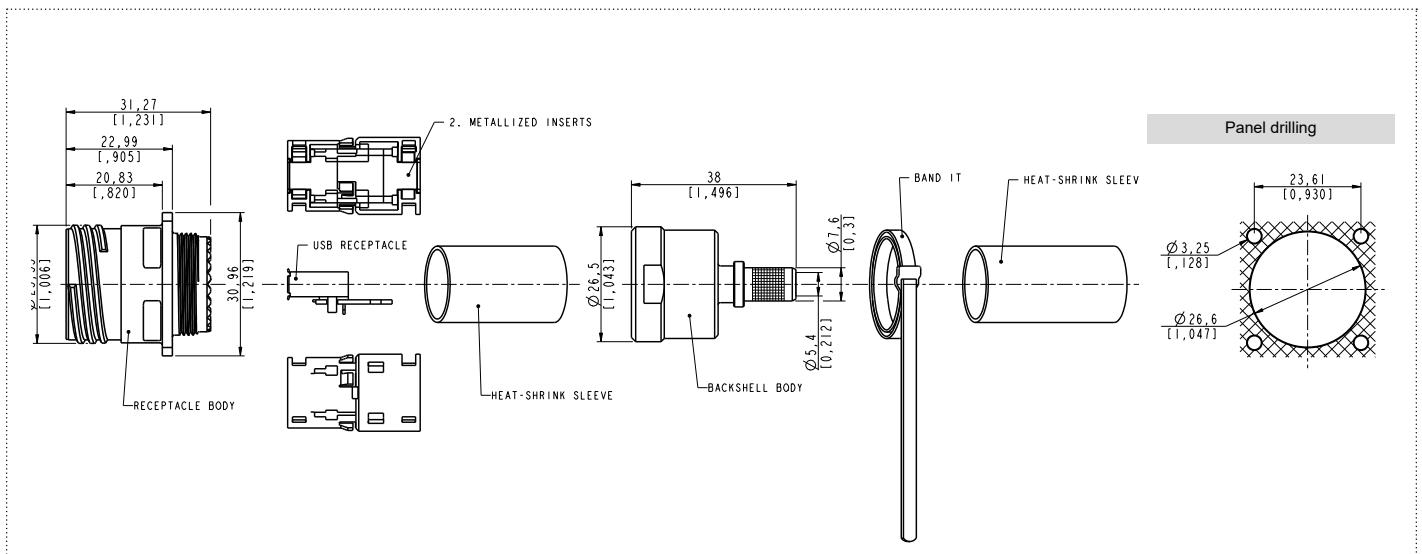


## Description

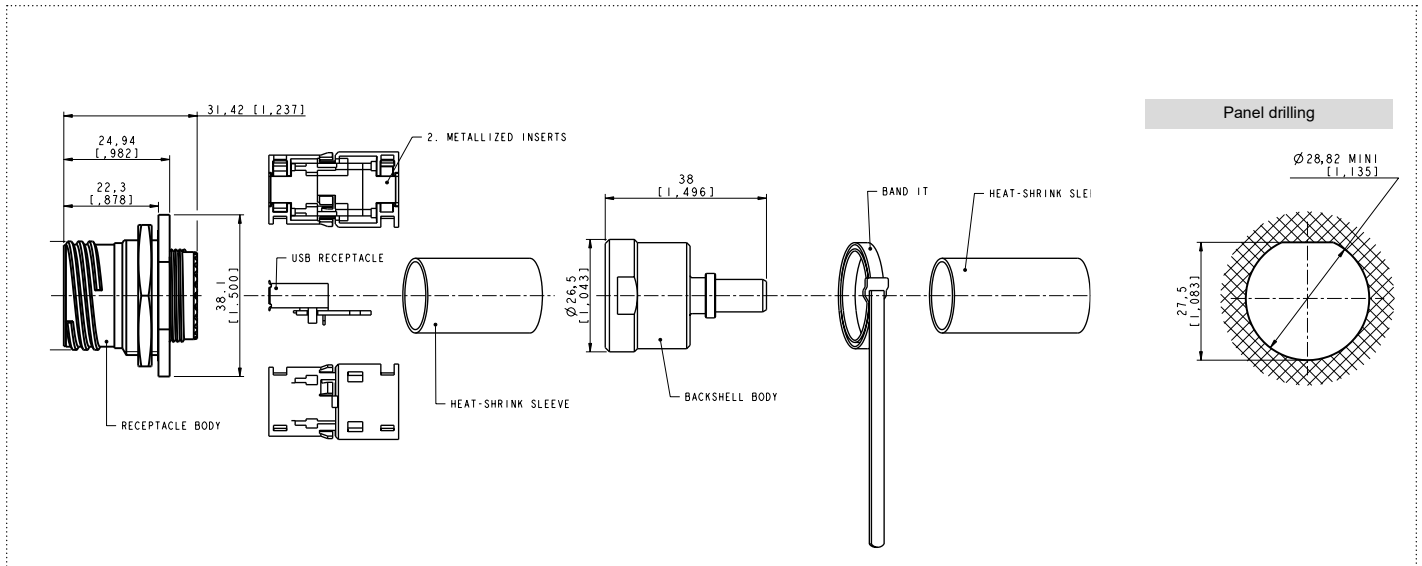
This USBFTV™ kit includes all components necessary to build up a totally 360° EMI shielded receptacle. This kit is mainly composed of an 360° backshell and the USB receptacle with PCB with 4 tinned holes for solder termination. With this receptacle kit provided without cable, you have to solder the cable on the PCB. You can find below, wires and shielding wire cabling specifications. We recommend to use our reinforced USB cable page 53. If you prefer to use your own cable, please check with us to see if your USB cable is compatible. In the case you need a complete 360° EMI shield receptacle already mounted with a define length of cable, please consult us.

## Overall dimension

Receptacle - Square flange receptacle - 4 mounting holes - Shell type 2 - Back terminations type 2



Receptacle - Jam nut receptacle - Hexagonal nut mounting - Shell type 7 - Back terminations type 2



Part number for Square flange receptacle	Part number for Jam nut receptacle	Plating
KIT40263	KIT40245	Nickel ✓
KIT40263G	KIT40245G	Olive drab cadmium
KIT40263ZN	KIT40245ZN	Black zinc nickel plating ✓

✓ : RoHS compliant

# USBFTV™ - ATEX ZONE 2



## Description

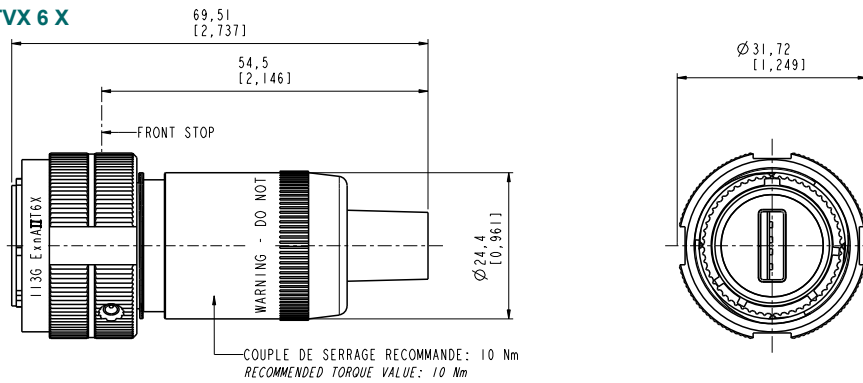
USBFTVX connectors are the same as the standard USBFTV™, but in addition, they are certified for use in explosive environments. This range is fitted to be used in Atex zone 2 environments and 100% tested at 500V during 1 minute without sparking.

**How to order :** Please refer to page 123

## Overall dimension

Plug - Shell type 6

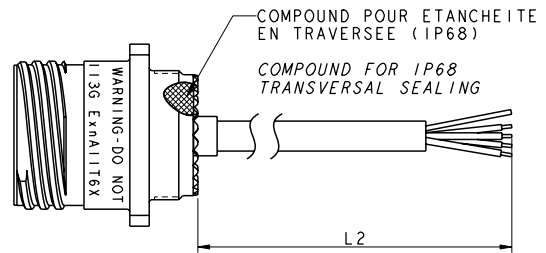
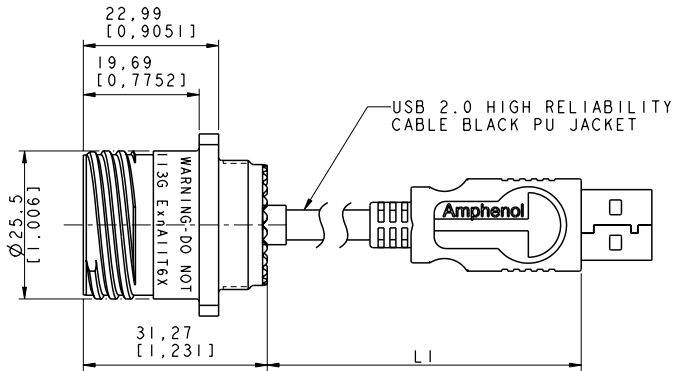
Part number type: **USBFTVX 6 X**



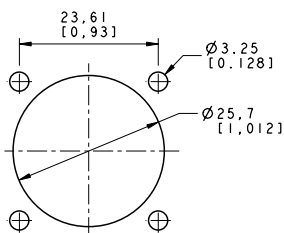
Receptacle - Square flange receptacle - 4 mounting holes - Shell type 2 - USB-A or Open cordset

Part number type: **USBFTVX 2S X 2 X XX A**

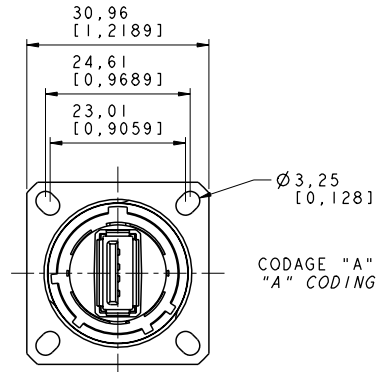
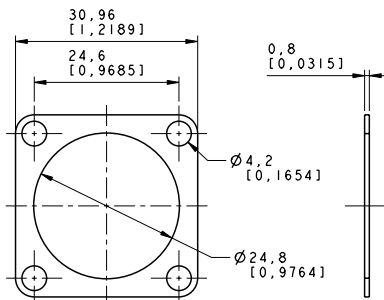
Part number type: **USBFTVX 2S X 2 X XX OPEN**



Panel drilling



JE15 Panel Gasket



# USBFTV™ - ATEX ZONE 2



## Overall dimension

**Receptacle** - Jam nut receptacle - Hexagonal nut mounting - Shell type 7 - USB-A or Open cordset

Part number type: **USBFTVX 7S X 2 X XX A**

Part number type: **USBFTVX 7S X 2 X XX OPEN**

