

## USB3F TV - Reduced Flange

### Smaller and Lighter



Dataspeed  
10 x higher than USB2.0

### Description

Derived from standard USB3F TV, Reduced Flange USB3F TV is ideal for applications where small dimensions and lower weight are critical.

With USB field, you can insert a standard USB 3.0 cordset into a metallic plug which will protect it from shocks, dust and fluids. No hazardous on-field cabling and grounding!

### Main Features

- Smaller: **40% footprint surface reduction**
- Lighter: **15% lighter than standard USB3F TV receptacles**
- MIL-DTL-38999 coupling mechanism
- Mates with standard USB3F TV plugs
- 3 platings: Olive Drab Cadmium, Nickel, Black Zn Ni
- Reduced Flange Deviation (to be added at the end of your part number):
  - **F312** for standard versions (**F311** with safety castle nut\*)
  - **F059** for Stand Off versions (**F058** with safety castle nut\*)



#### 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 - shell size 15**

**2 mechanical coding / polarization possibilities (receptacle insert rotation)**

**Mating cycles: 500 minimum**

#### Environmental protection

**Sealing: IP68** when mated with cap or potted version without cap

**Salt spray:**

- > 48h with aluminium shell - Nickel ✓
- > 500h with aluminium shell - Olive drab cadmium plating
- > 500 h with aluminium shell - Black zinc nickel ✓

**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**

### Data transmission

USB specification 3.0  
Data rate: up to 5Gb/s for high speed USB  
Power supply: up to 4.5 W

### Markets & Applications



C4ISR, Battlefield, Ground vehicles



Navy



Railway

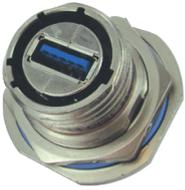
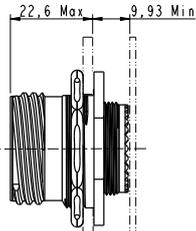
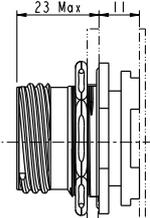
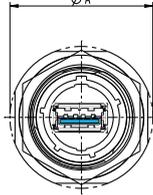
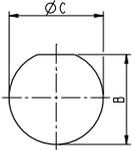
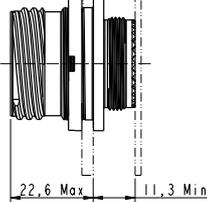
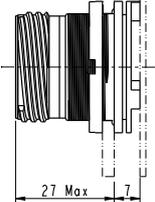
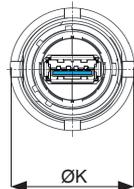
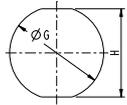


Applications:

- › Embedded computers, data acquisition and transmission in harsh environment, battlefied communication

# USB3F TV - Reduced Flange

## Smaller Dimensions and 15% lighter

Product	Length (mm)		Footprint (mm)	Panel dimension
<b>Standard USB3F TV</b> 	Standard USB3F TV 	Standard stand off USBF TV 	Standard USB3F TV 	Standard USB3F TV 
<b>Reduced Flange USB3F TV</b> 	Reduced Flange USB3F TV (F312) 	Stand off Reduced Flange USB3F TV (F059) 	Reduced Flange USB3F TV 	Reduced Flange USB3F TV 
	Increase of internal length by 1,37 mm	Reduction of internal length by 4mm and increase of external length by 4mm	40% footprint surface reduction	

## Footprint Saving

40% footprint surface reduction:

Shell Size	USB3F TV standard diameter ØA max (mm)	USB3F TV Reduced Flange diameter ØK max (mm)	Footprint surface reduction Reduced Flange vs standard
15	41,6	32,1	40%

## Panel Dimension

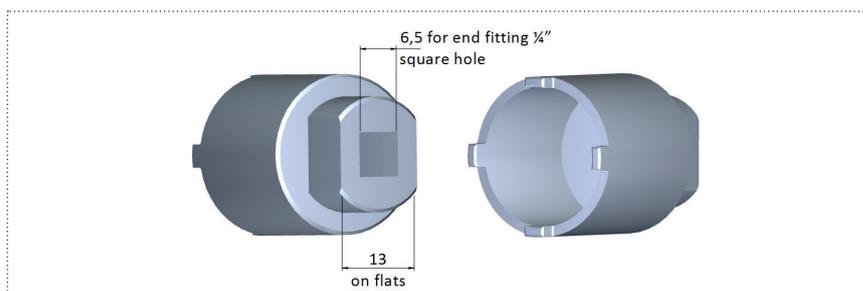
Size	USB3F TV Standard		USB3F TV Reduced Flange	
	B <sup>0</sup> <sub>-0,25</sub> (mm)	ØC <sup>+0,25</sup> <sub>0</sub> (mm)	ØG <sup>+0,1</sup> <sub>0</sub> (mm)	H <sup>+0,1</sup> <sub>0</sub> (mm)
15	27,56	28,83	27	25,5

## Tools

Need of a specific tool for castle nut:

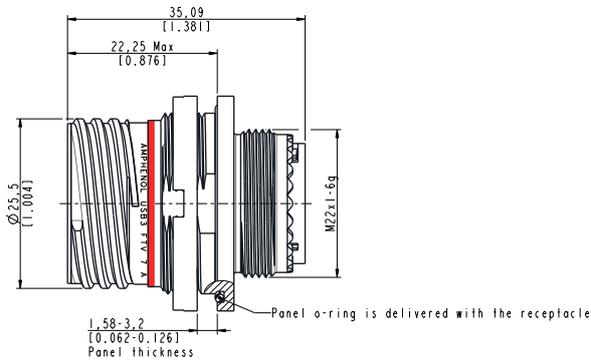
Size	Tool Part Number
15	809684

Max torque value: 8.5 N.m

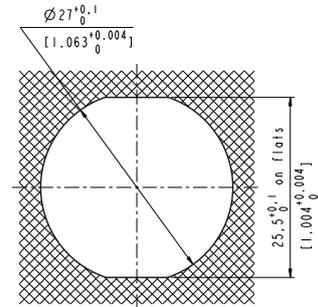


# USB3F TV - Reduced Flange

## Receptacle

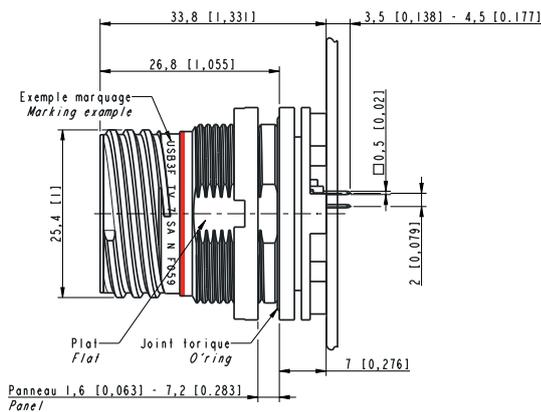


USB3F TV 7 X X F312

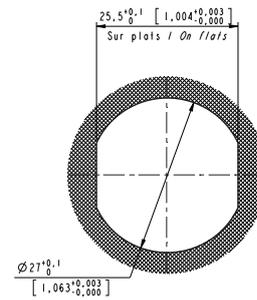


Panel Drilling

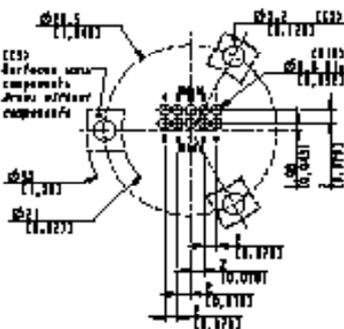
## Stand off receptacle



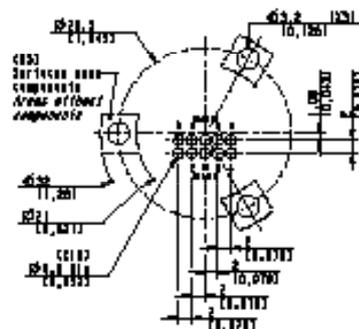
USB3F TV 7S X X F059



Panel Drilling



PCB Layout Coding A

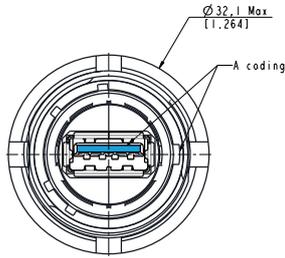


PCB Layout Coding B

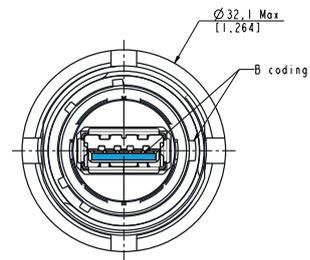
# USB3F TV - Reduced Flange

## Coding

To be specified in the part number: A or B.

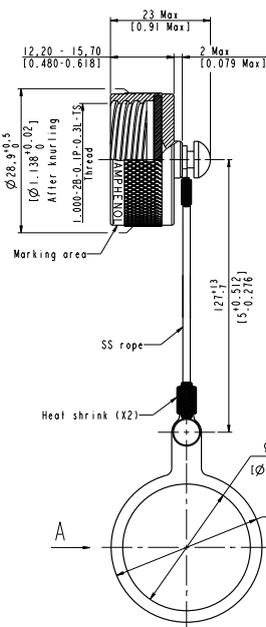


Coding A

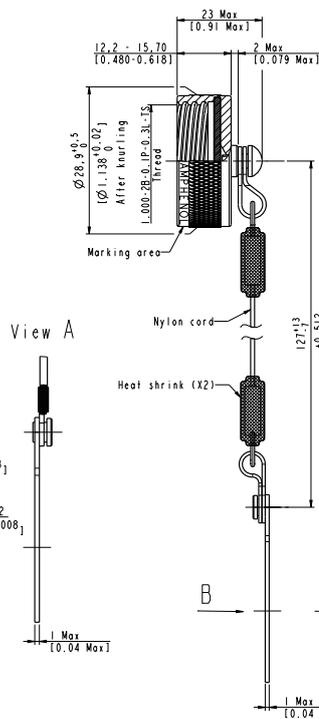


Coding B

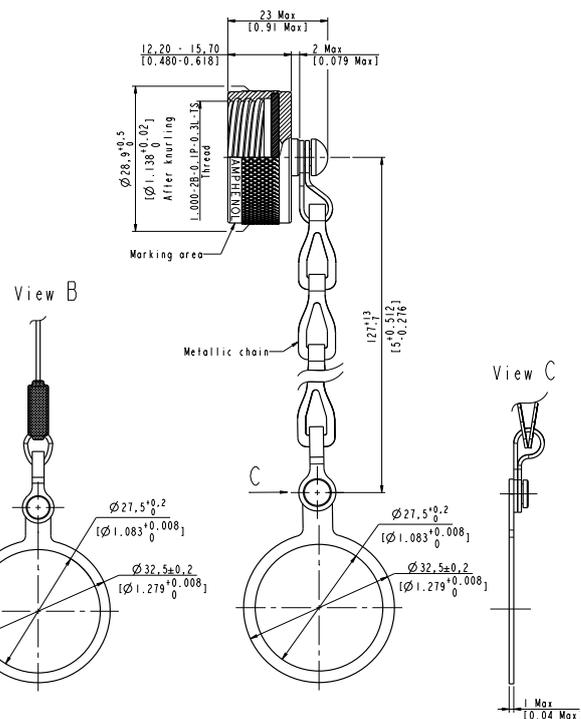
## Metallic cap for reduced flange receptacle



USBF TVC 7 MR / BMR XX F057  
With S.S. rope



USBF TVC 7 XX F057  
With nylon rope



USBF TVC 7 M F057  
With metallic chain

# USB3F TV - Reduced Flange

## How to order reduced flange receptacle

Series	USB3F TV	7	A	ZN	F312
<b>Shell type</b> 7: Jam nut receptacle 7S: Transversally sealed jam nut receptacle					
<b>Coding</b> A or B					
<b>Shells material &amp; Finish</b> N: Aluminium shell - nickel plating ✓ G: Aluminium shell - olive drab cadmium plating ZN: Aluminium shell - black zinc nickel plating ✓					
<b>Deviation</b> F312: Reduced Flange F059: Stand off Reduced Flange (only in transversally sealed version) F311: Reduced Flange with safety castle nut F058: Stand off Reduced Flange with safety castle nut (only in transversally sealed version)					

Examples: USB3FTV7AZNF312 ; USB3FTV7SBGF059

✓: RoHS compliant

## How to order metallic cap for reduced flange receptacle

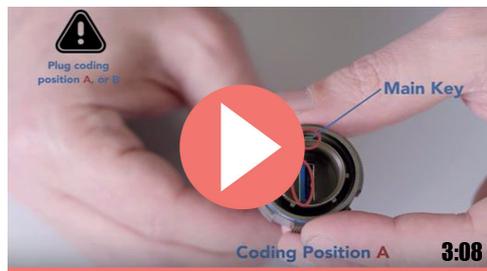
Series	USBF TVC	7	M	ZN	F057
<b>Connector type</b> 7: Jam nut receptacle					
<b>Wire type:</b> Blank: Nylon cord M: Metallic chain MR: S.S rope - Transparant (white) teflon jacket BMR: S.S rope - Black teflon jacket					
<b>Finish</b> N: Nickel ✓ G: Olive drab cadmium ZN: Black zinc nickel ✓					
<b>Deviation</b> F057: Protective cap for reduced flange "TV07" connectors (F058, F059, F311, F312)					

Examples: USBFTVC7NF057 ; USBFTVC7MRZNF057

✓: RoHS compliant

## Watch our video

### Rugged USB Plug Assembly



<http://opn.to/a/Azd09>



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# NOTES

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