Amphenol SOCAPEX



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*)



standard castle nut



* *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

C5ISR, Battlefield, Ground Vehicles

Naval

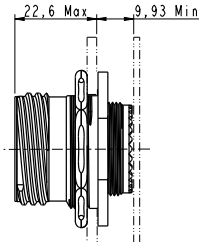
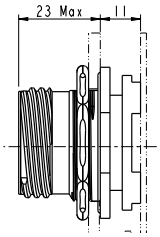
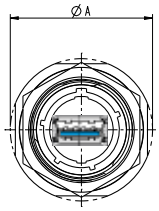
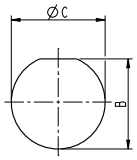
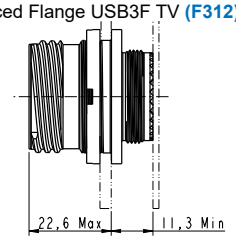
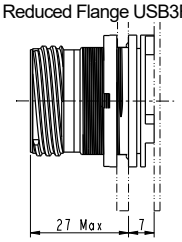
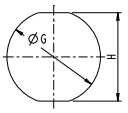
Railway

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
Standard USB3F TV	Standard USB3F TV	Standard stand off USBF TV	Standard USB3F TV	Standard USB3F TV
				
Reduced Flange USB3F TV	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

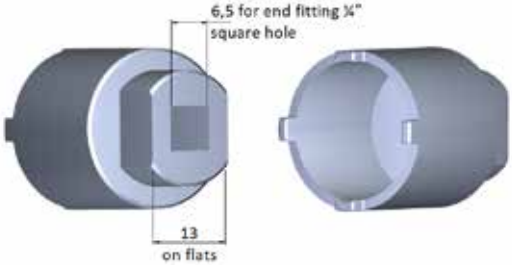
	USB3F TV Standard		USB3F TV Reduced Flange	
Size	$B\ ^{0}_{-0,25}$ (mm)	$ØC\ ^{+0,25}_{0}$ (mm)	$ØG\ ^{+0,1}_{0}$ (mm)	$H\ ^{+0,1}_{0}$ (mm)
15	27,56	28,83	27	25,5

Tools

Need of a specific tool for castle nut:

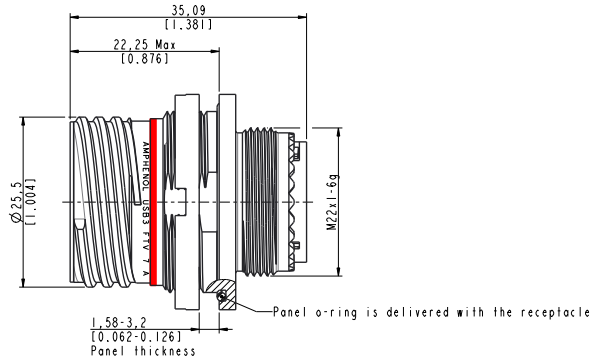
Size	Tool Part Number
15	809684

Max torque value: 8.5 N.m

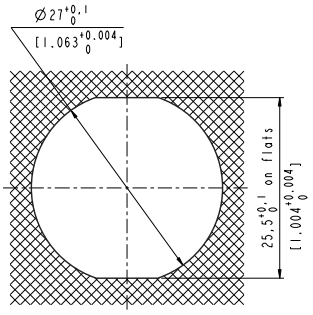


USB3F TV - Reduced Flange

Receptacle

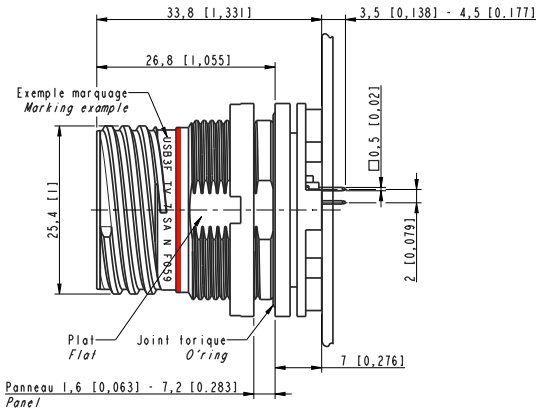


USB3F TV 7 X X F312

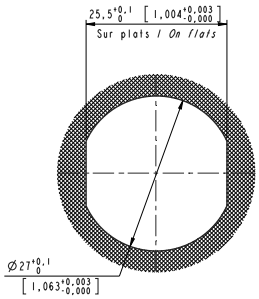


Panel Drilling

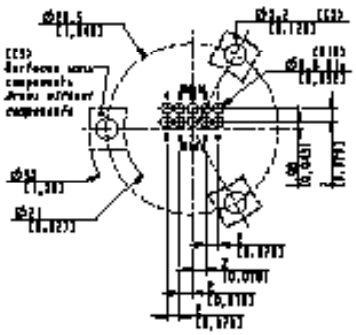
Stand off receptacle



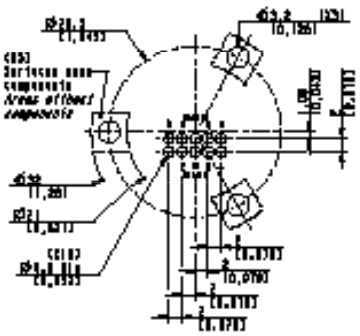
USB3F TV 7S X X F059



Panel Drilling



PCB Layout
Coding A

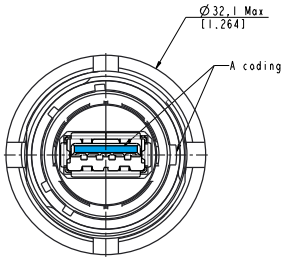


PCB Layout
Coding B

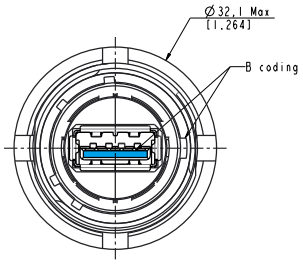
USB3F TV - Reduced Flange

Coding

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

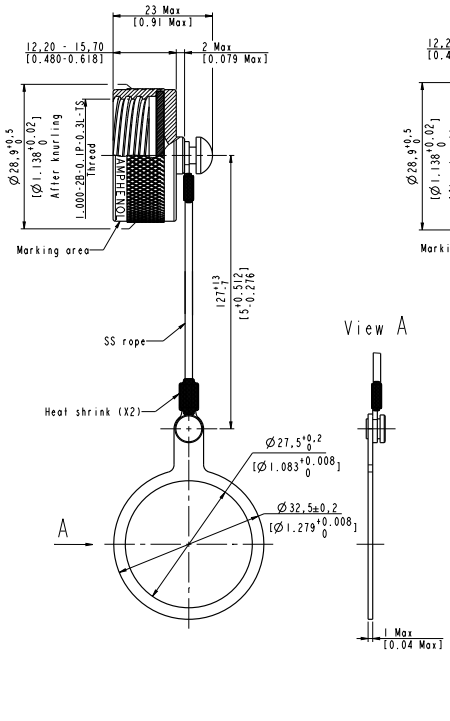


Coding A

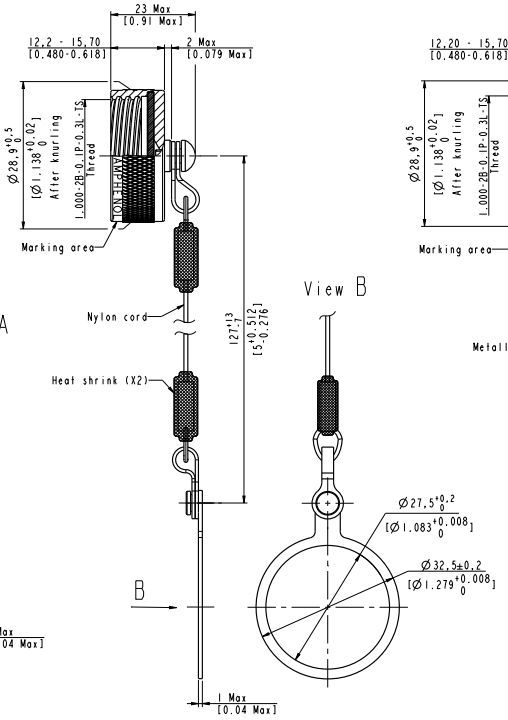


Coding B

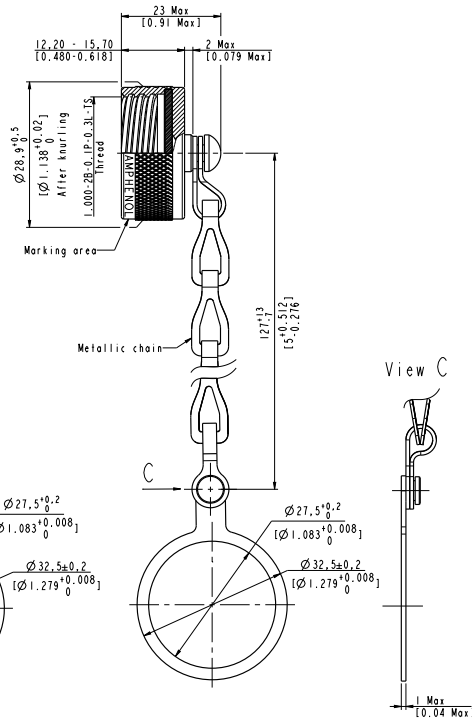
Metallic cap for reduced flange receptacle



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

Shell type
7: Jam nut receptacle
7S: Transversally sealed jam nut receptacle

Coding
A or **B**

Shells material & Finish
N: Aluminium shell - nickel plating ✓
G: Aluminium shell - olive drab cadmium plating
ZN: Aluminium shell - black zinc nickel plating ✓

Deviation
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

Connector type
7: Jam nut receptacle

Wire type:
Blank: Nylon cord
M: Metallic chain
MR: S.S rope - Transparant (white) teflon jacket
BMR: S.S rope - Black teflon jacket

Finish
N: Nickel ✓
G: Olive drab cadmium
ZN: Black zinc nickel ✓

Deviation
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

Scan
& discover !

NOTES

NOTES

NOTES

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