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 & caps
- 3 platings: Olive Drab Cadmium, Nickel, Black Zn Ni
- USB3.0
- 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

C4ISR, Battlefield, Ground vehicles

Navy

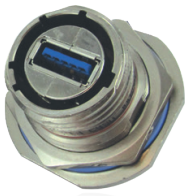
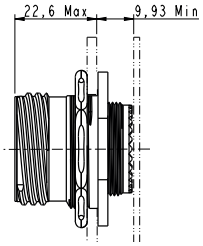
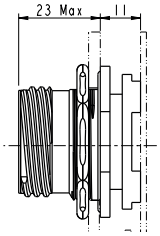
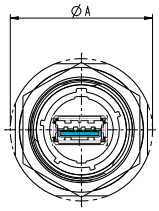
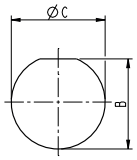
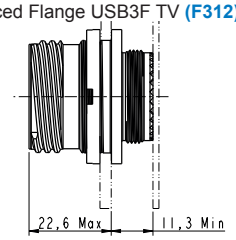
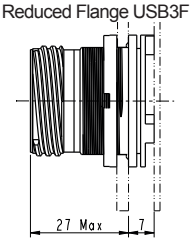
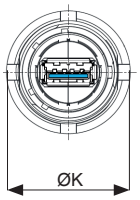
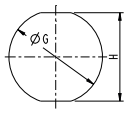
Railway

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
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

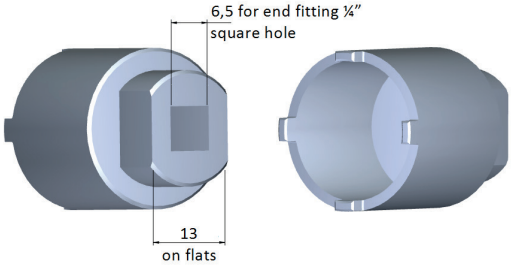
	USB3F TV Standard		USB3F TV Reduced Flange	
Size	$B\ ^{0}_{-0,25}$ (mm)	$ØC\ ^{+0,25}_{0}$ (mm)	$ØG\ ^{+0,1}_{0}$ (mm)	$H\ ^{+0,1}_{0}$ (mm)
15	27,56	28,83	27	25,5

Tools

Need of a specific tool for castle nut:

Size	Tool Part Number
15	809684

Max torque value: 8.5 N.m



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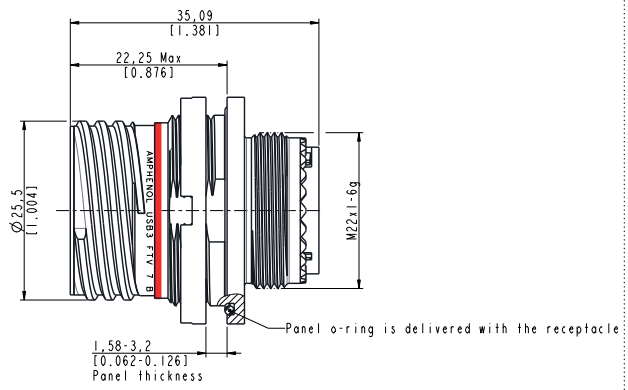
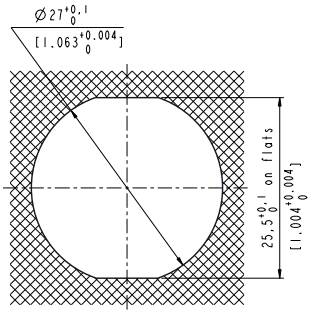
USB3F TV - Reduced Flange

Receptacle

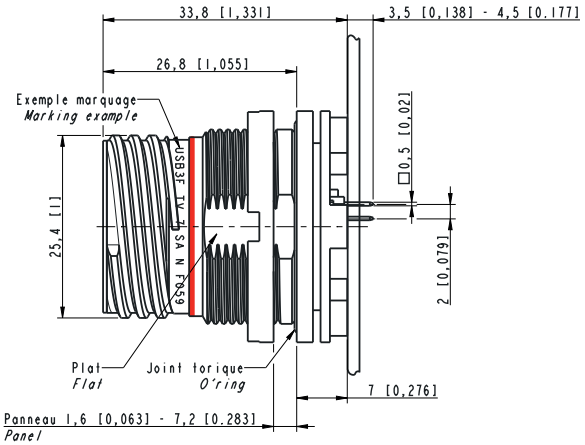


USB3F TV 7 X X F312

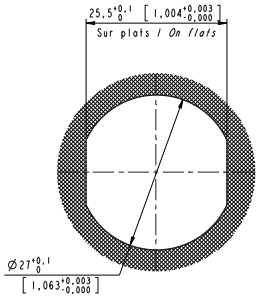


Panel Drilling

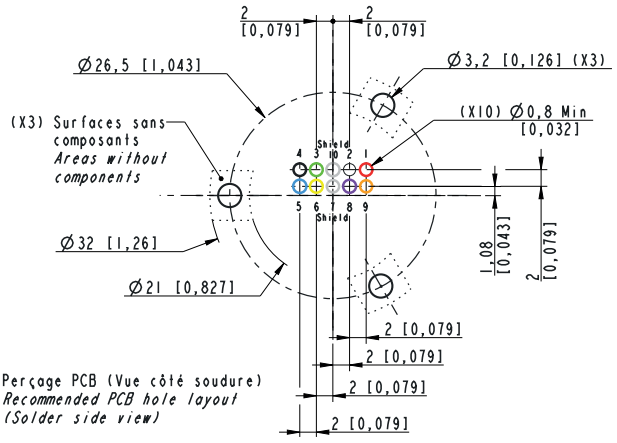
Stand off receptacle



USB3F TV 7S X X F059



Panel Drilling



PCB Layout

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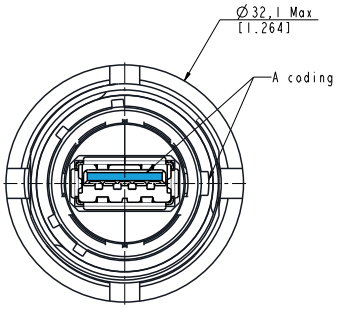
USB3F TV - Reduced Flange

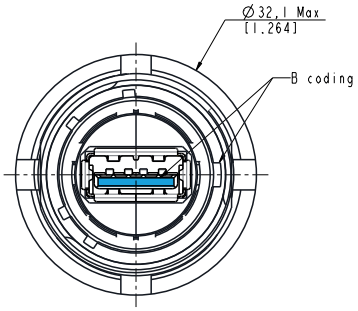
Coding

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

Coding A:



Coding B:



How to order

Series	USB3F TV	7	A	ZN	F312

Shell type
7: Jam nut receptacle
7S: Transversally sealed jam nut receptacle for F059 or F058 only

Coding
A or **B**

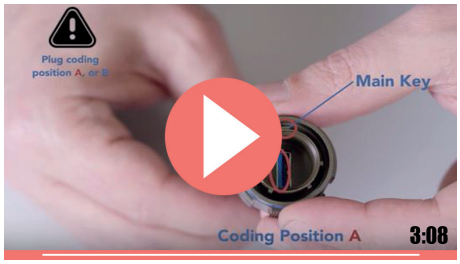
Shells material & Finish (inserts are metallized)
N: Aluminium shell - nickel plating ✓
G: Aluminium shell - olive drab cadmium plating
ZN: Aluminium shell - black zinc nickel plating ✓

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

Watch our video

Rugged USB Plug Assembly



http://opn.to/a/Azd09

Scan
& discover !

Amphenol Socapex
948, promenade de l'Arve BP29
74311 Thyez Cedex - France
Phone: +33 (0)4 50 89 28 00
contact@amphenol-socapex.fr

Amphenol PCD (Contact in North America)
72 Cherry Hill Drive
Beverly, MA 01915
978-624-34000
www.amphenol-pcd.com

www.amphenol-socapex.com
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DOC-001012-ANG - February 2018

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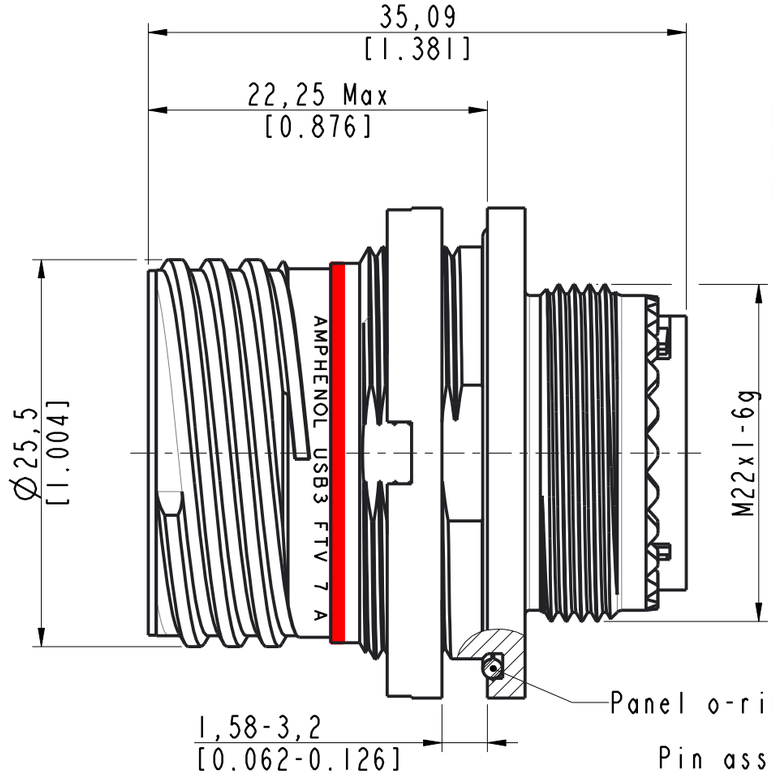
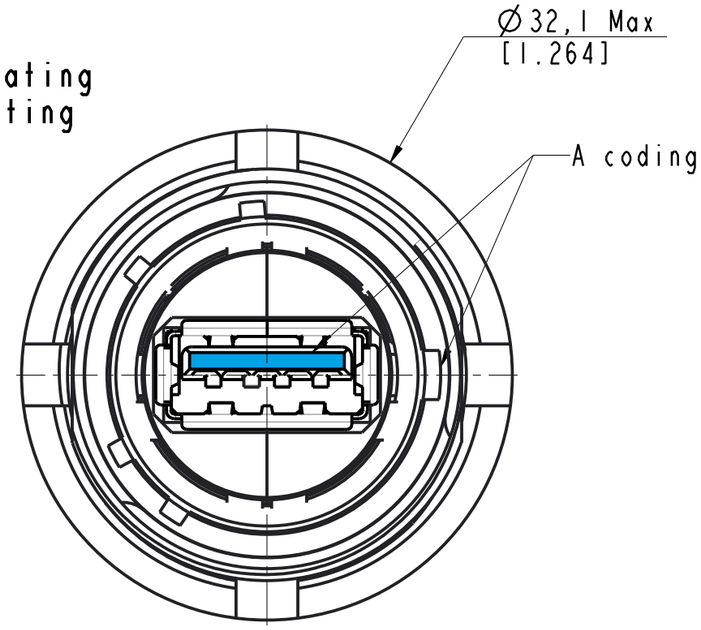


Possible references:

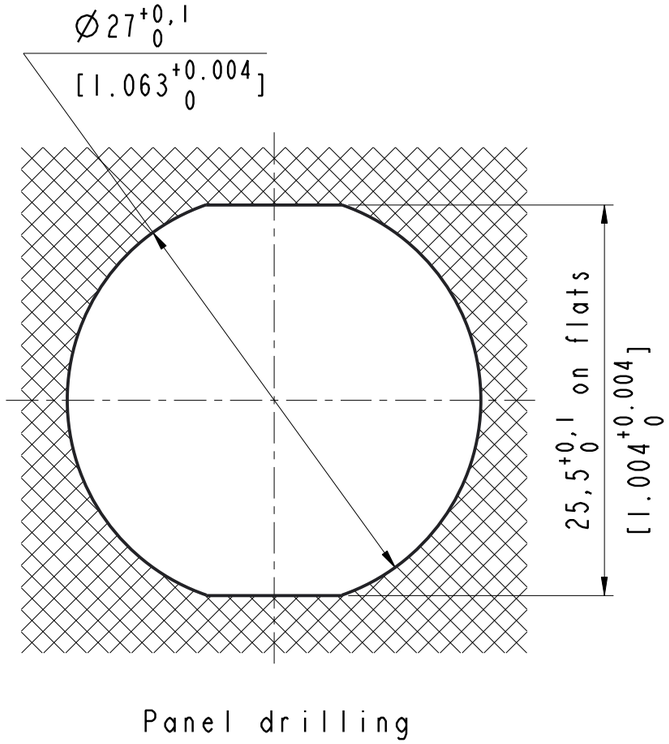
USB3 FTV 7 A N F312 Nickel plating
USB3 FTV 7 A G F312 Olive drab cadmium plating
USB3 FTV 7 A ZN F312 Black zinc nickel plating

⚠ For PC to peripheral application
use a "CROS" USB3 crossed cord set

⚠ For PC to PC application
use a "STR" USB3 straight cord set



Panel o-ring is delivered with the receptacle



Panel drilling

Pin assignments:

USB 3.0 Standard A front coupling side connector to USB 3.0 Standard A back side connector					
Pin number	Signal name	Description	Sequence	Pin number	Signal name
1	VBUS	Power	Second	1	VBUS
2	D-	USB 2.0 differential pair	Third	2	D-
3	D+			3	D+
4	GND	Ground for power return	Second	4	GND
5	StdA_SSRX-	Superspeed receiver differential pair	Last	8	StdB_SSTX-
6	StdA_SSRX+			9	StdB_SSTX+
7	GND_DRAIN	Ground for signal return		7	GND_DRAIN
8	StdA_SSTX-	Superspeed transmitter differential pair		5	StdB_SSRX-
9	StdA_SSTX+			6	StdB_SSRX+
Shell	Shield	Connector metal shell	First	Shell	Shield

Always crossed

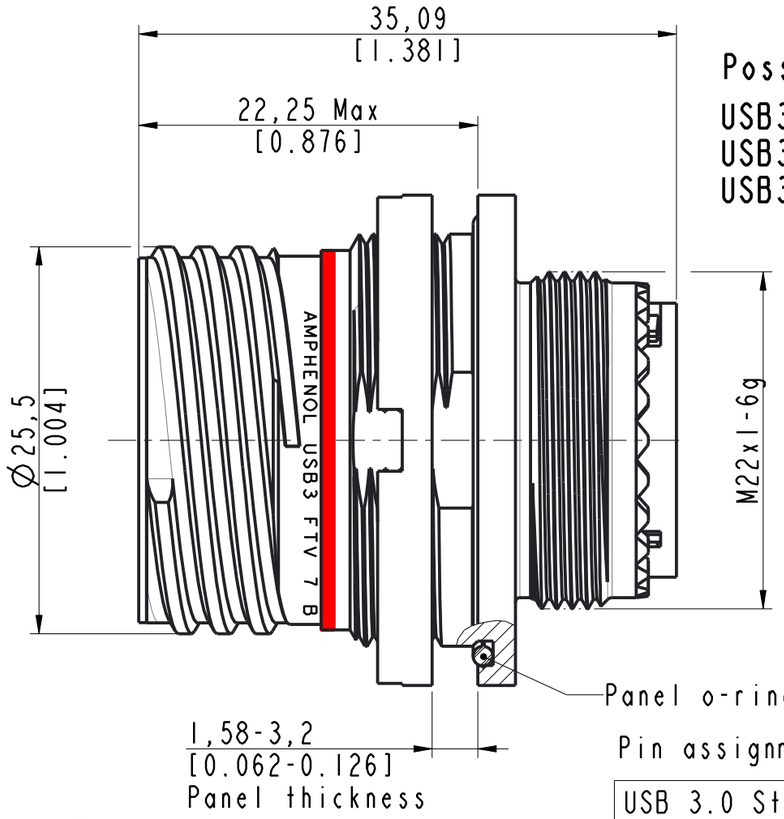
Reduced Flange

USB3 FTV 7 A X F312

USB3.0 Standard A Receptacle

Customer Approval _____

MODIFICATIONS					
A	Plan originel	ECHELLE 2,5	Amphenol Socapex BP 29 - 74311 THYEZ CEDEX	DESSIN: M.Peters LE: 11/01/17 TECHNIQUE: L.Guyomar LE: 11/01/17	
				A	
				191-PLC-742-00	1/2



Possible references:

USB3 FTV 7 B N F312 Nickel plating
USB3 FTV 7 B G F312 Olive drab cadmium plating
USB3 FTV 7 B ZN F312 Black zinc nickel plating

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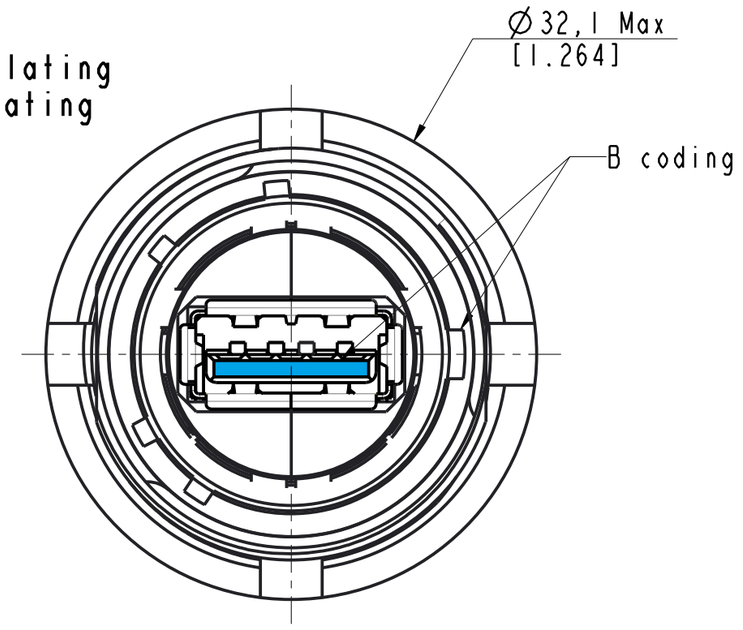
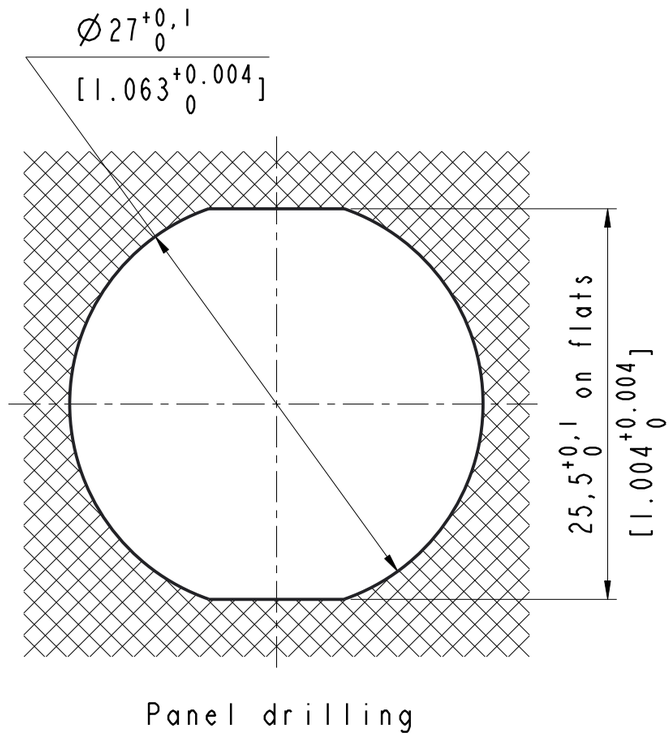


Panel o-ring is delivered with the receptacle



Panel drilling

Pin assignments:

USB 3.0 Standard A front coupling side connector to USB 3.0 Standard A back side connector					
Pin number	Signal name	Description	Sequence	Pin number	Signal name
1	VBUS	Power	Second	1	VBUS
2	D-	USB 2.0 differential pair	Third	2	D-
3	D+			3	D+
4	GND	Ground for power return	Second	4	GND
5	StdA_SSRX-	Superspeed receiver differential pair	Last	8	StdB_SSTX-
6	StdA_SSRX+			9	StdB_SSTX+
7	GND_DRAIN	Ground for signal return		7	GND_DRAIN
8	StdA_SSTX-	Superspeed transmitter differential pair		5	StdB_SSRX-
9	StdA_SSTX+			6	StdB_SSRX+
Shell	Shield	Connector metal shell	First	Shell	Shield

Always crossed

Reduced Flange

USB3 FTV 7 B X F312

USB3.0 Standard A Receptacle

Customer Approval _____

MODIFICATIONS					
	A	Plan originel	ECHELLE 2,5	Amphenol Socapex BP 29 - 74311 THYEZ CEDEX	DESSIN: M.Peters LE: 11/01/17 TECHNIQUE: L.Guyomar LE: 11/01/17 A 191-PLC-742-00 2/2