

## TV $\mu$ Com-10Gb+

### 38999 10Gb Ethernet Connector



## Description

$\mu$ Com-Series is a new range of connectors designed to address the latest trends of the military industry: miniaturization and high speed, with the highest resistance for use in the harshest environments. TV  $\mu$ Com combines  $\mu$ Com-10G+ speed with 38999 Series III size 11 shells robustness.

## Main Features

### MAIN CHARACTERISTICS

- Based on MIL-DTL-38999 series III – Shell size 11
- 4 pairs totally insulated throughout the connector for minimum cross-talk between the four pairs
- Patented special interfacial shapes for minimum perturbation at the interface of each pair
- Machined gold plated crimp and solder contacts design for performances according to the inercontact of M39029/77-429#16 M39029/76-425#16 38999 contact
- Contacts are crimped with standard crimping tool M22520/2-01 + Amphenol  $\mu$ Com positioner
- Crimp contact : AWG 24 to 28
- Solder contact : max AWG24

### DATA TRANSMISSION

- Exceeds 10Gb/s Ethernet following IEEE 802.3an-2006 : 10GBase-T
- Cat.6A connector according to TIA568C.2 and ISO/IEC11801 standard

### ENVIRONMENTAL PROTECTION

- Environmental testing based on MIL-DTL-38999 series III military specifications
- Aluminium shell : - 48 h with nickel plating ✓  
- 500 h with olive drab cadmium plating  
- 500 h with black zinc nickel plating ✓
- Marine bronze shell : - 1 000 h ✓
- IP68 sealing mated and unmated for PCB receptacles
- 1500 Vrms Dielectric Withstanding Voltage
- Temperature range : - 55°C / + 125°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

## Markets & Applications



C4ISR, Battlefield, Ground vehicles



Navy



Commercial Aerospace



Railway

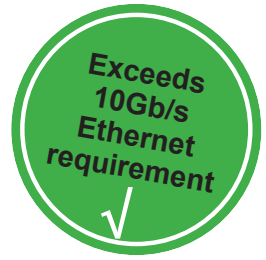


### Applications:

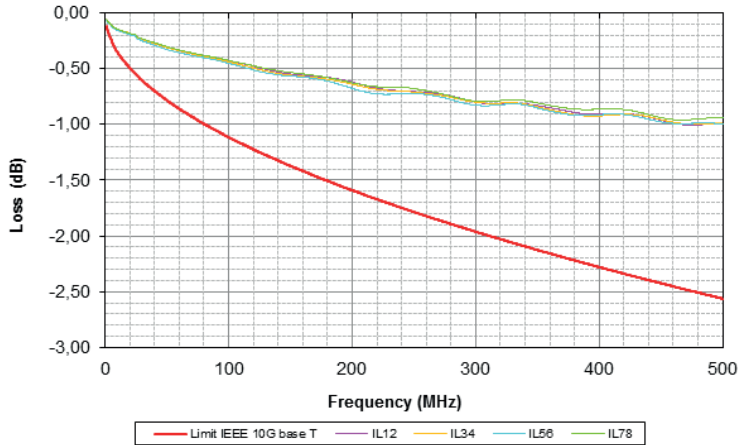
- › Shipboard, In Flight Entertainment \*
- \* $\mu$ Com approved by GORE

✓: RoHS compliant

## Data Transmission



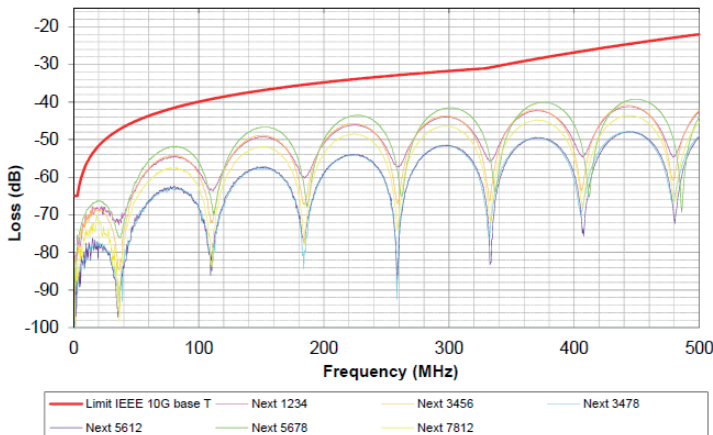
**Insertion Loss (IL) :**



← Amphenol  $\mu$ Com performance

← IEEE 802.3an Standard requirement

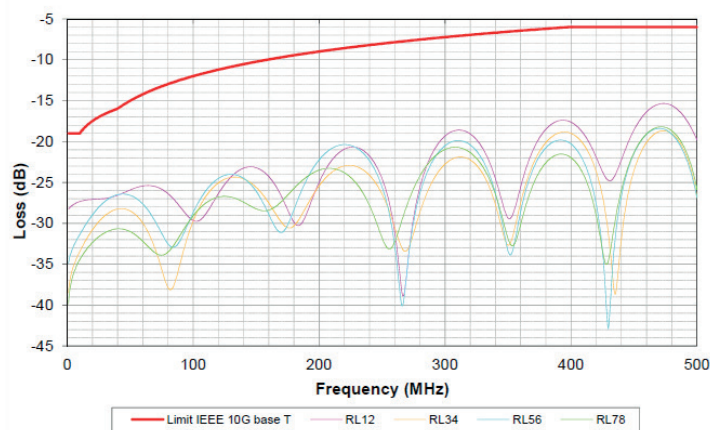
**Near End crosstalk (NEXT) :**



← IEEE 802.3an Standard requirement

← Amphenol  $\mu$ Com performance

**Return Loss (RL) :**



← IEEE 802.3an Standard requirement

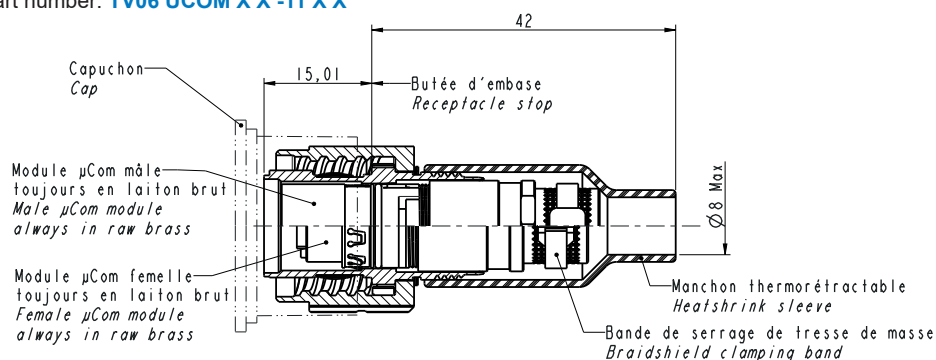
← Amphenol  $\mu$ Com performance



## Overall dimension

### Plug

Part number: **TV06 UCOM X X -11 X X**



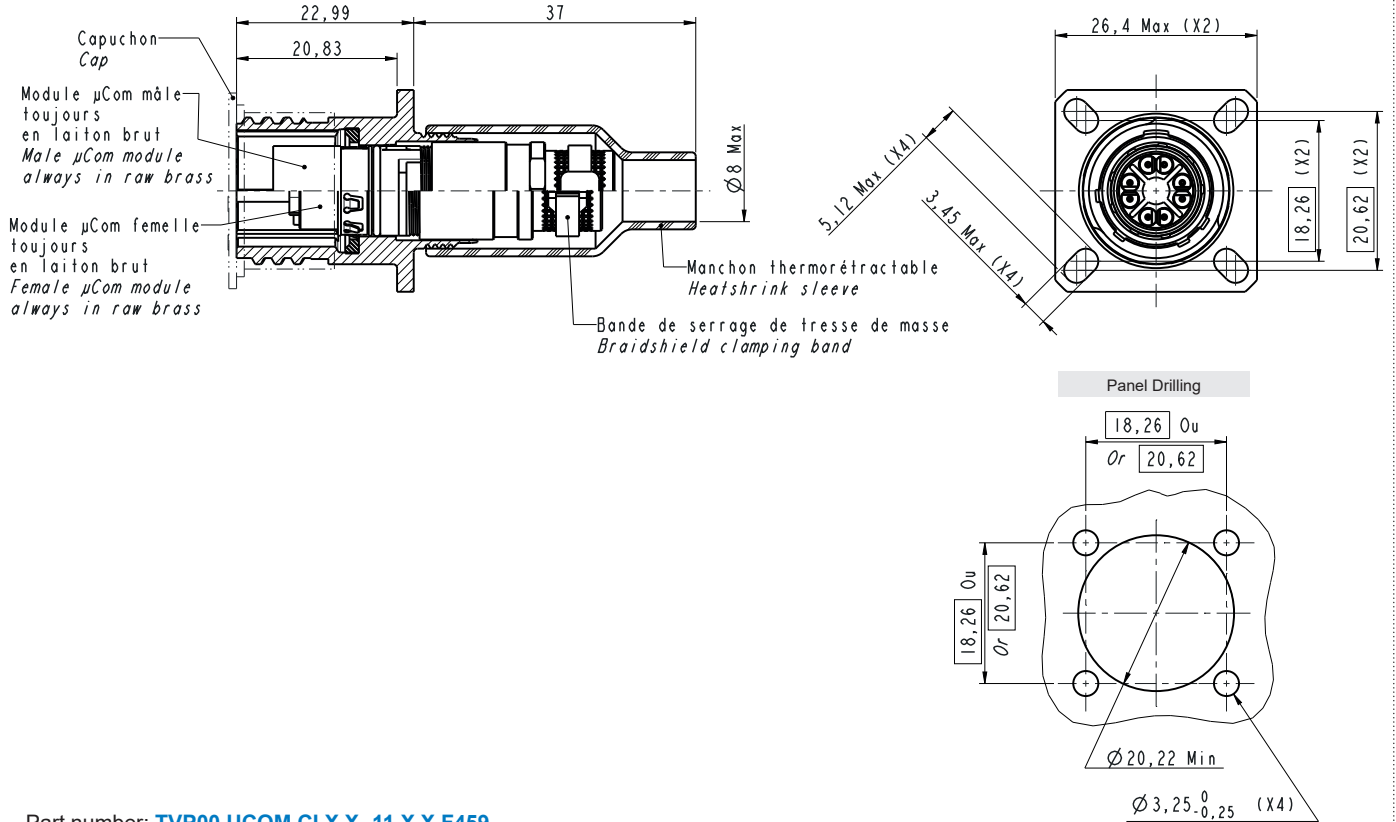
# TV $\mu$ Com-10Gb+



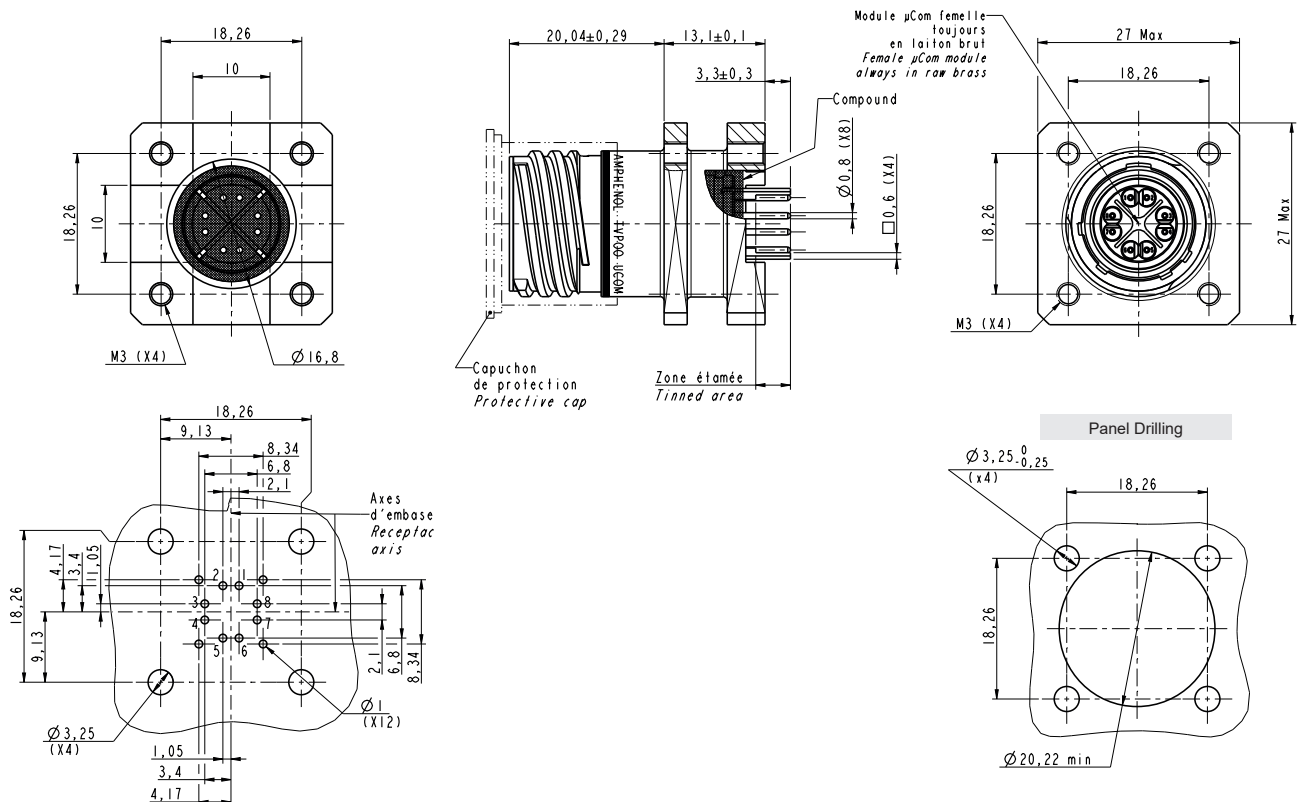
## Overall dimension

Receptacle - Square flange receptacle

Part number: **TVP00 UCOM X X -11 X X**



Part number: **TVP00 UCOM CI X X -11 X X F459**



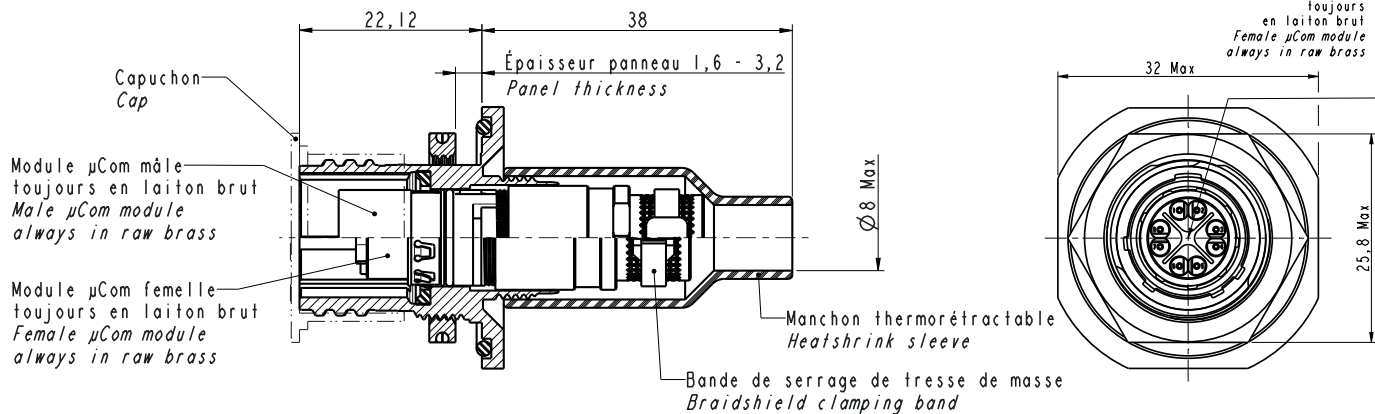
# TV μCom-10Gb+



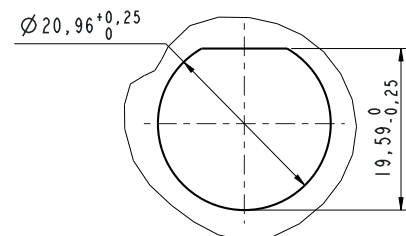
## Overall dimension

### Receptacle - Jam nut receptacle

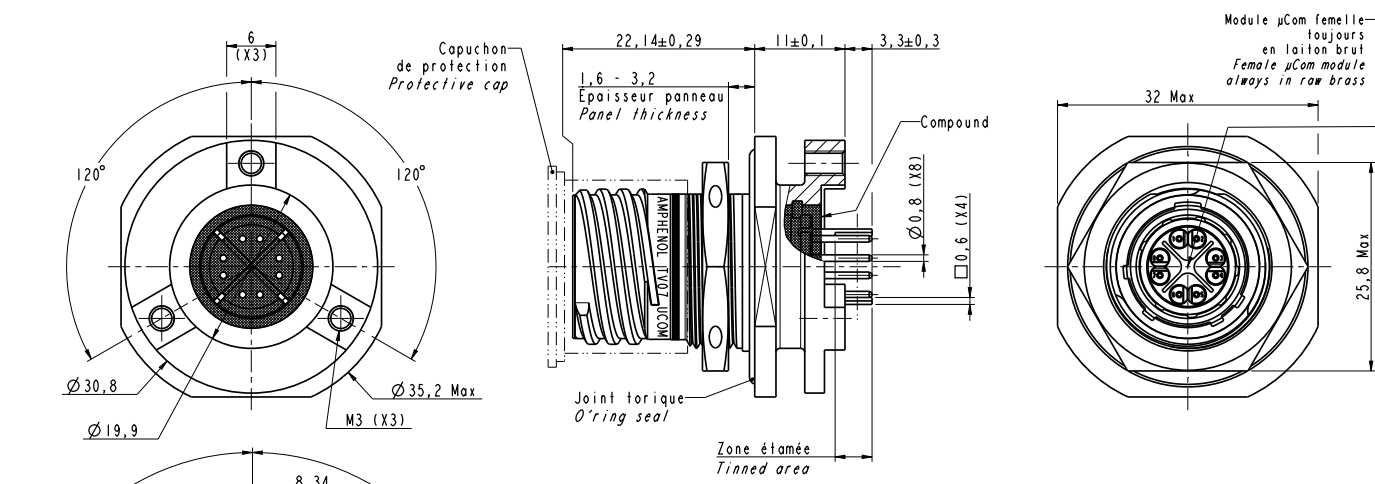
Part number: **TV07 UCOM X X -11 X X**



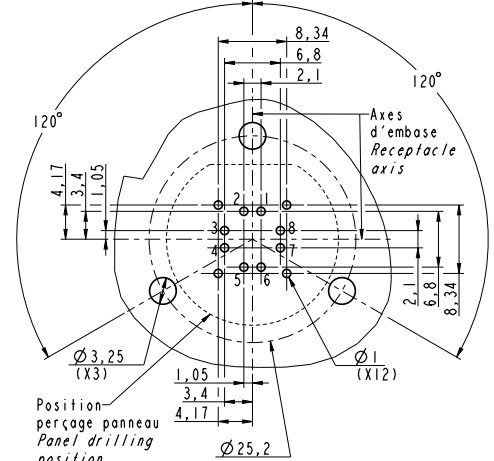
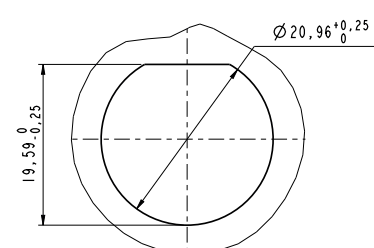
Panel Drilling



Part number: **TV07 UCOM CI X X -11 X X F459**



Panel Drilling



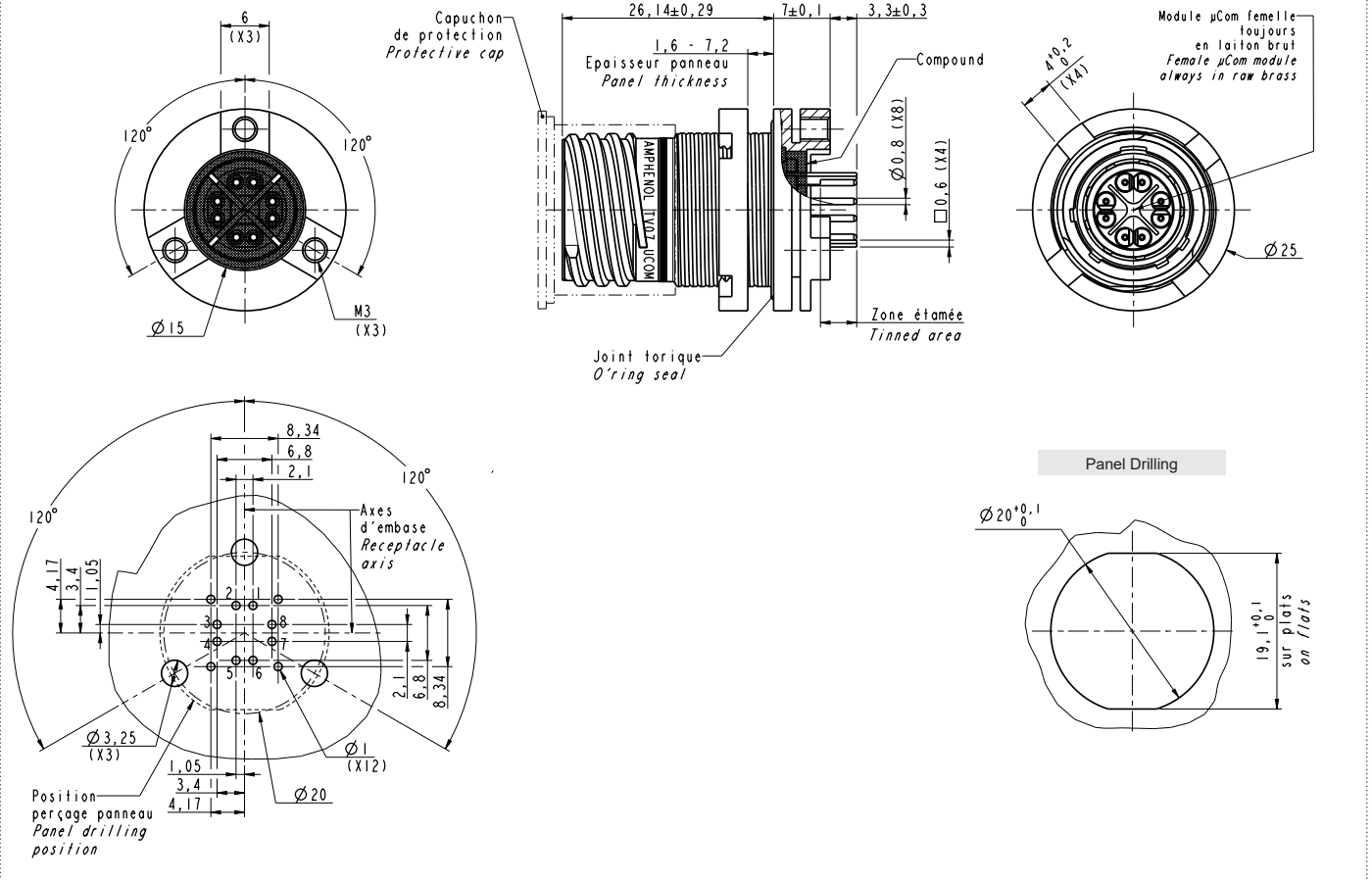
Due to technical modifications, all information provided is subject to change without prior notice  
Designed by Amphenol Socapex



## Overall dimension

Receptacle - Reduced flange jam nut receptacle

Part number: **TVP00 UCOM X X -11 X X**

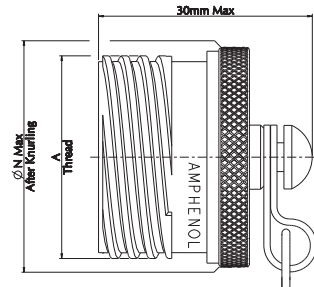




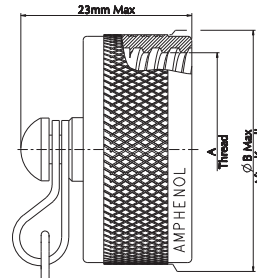
## Overall dimension

### Protective caps

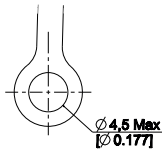
Part number: **BEF X X 11**



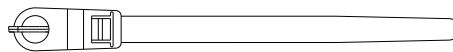
Part number: **BEC X X 11 XXXX**  
**BER X X 11 XXXX**



Small ring for square flange receptacle



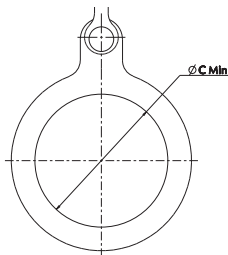
Tie wrap for plug cap



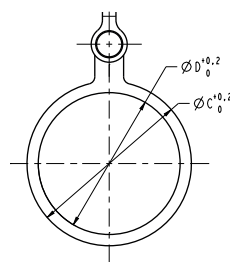
Metallic chain



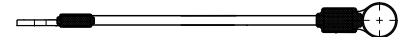
Large ring for jam nut receptacle



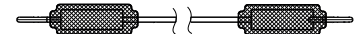
Ring for reduced flange jam nut receptacle



Stainless steel rope



Nylon rope



A thread 0.1P-0.3L-TS Class 2A (External) Class 2B (Internal) (inch)	ØB Max (After Knurling)	ØC Min	ØN Max	Ø B +0,5 0	Ø C +0,2 0	Ø D +0,2 0
.7500	22,60	21,97	20,50	22,60	25,5	20,5

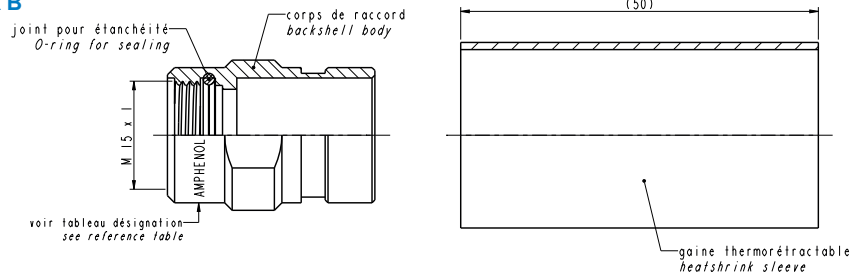
Cap type	Metallic chain length (mm)	Nylon cord length (mm)	Stainless steel rope length (mm)
<b>BEF X X 11</b> <b>BEC X X 11 XXXX</b> <b>BER X X 11 XXXX</b>		127 (+13,-7)	
<b>BEF X X 11</b>		160±5	



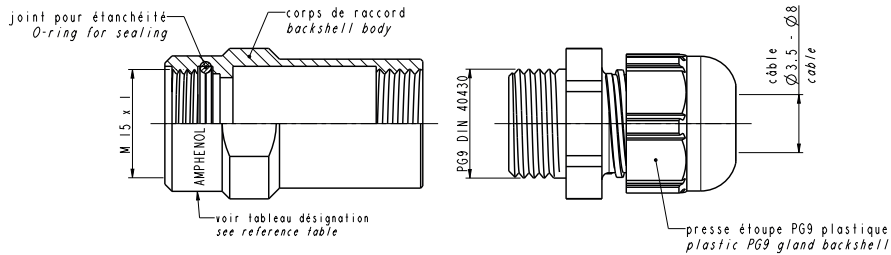
## Overall dimension

### Special backshell

Part number: **TVUCOM X B**



Part number: **TVUCOM X G**



### Contacts

Part number: **31073**



Part number: **31074**



### Tools

Part number: **31055**

Nut clamping tool for PCB receptacle only



Part number: **31056**

Insertion tool for crimp contacts



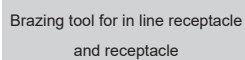
Part number: **31074**

Contact positioner for M22520/2-01 crimping tool



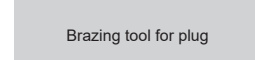
Part number: **31132**

Brazing tool for in line receptacle and receptacle

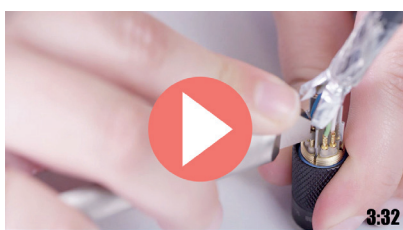


Part number: **31133**

Brazing tool for plug



### Assembly Crimp Version



Scan & discover !



### Assembly Solder Version



Scan & discover !





# TV μCom-10Gb+ - How to order

## Connectors

1.	2.	3.	4.	5.	6.	7.
Shell type	Contacts termination	Shell material & finish	Shell size	Type of contact	Coding	Deviation (Female μCom module only)
TV06UCOM	C	F	11	P		

### 1. Series

TV06UCOM	Plug
TVP00UCOM	Square flange receptacle
TV07UCOM	Jam nut receptacle

### 2. Contact termination

C	Crimp
S	Solder
Cl	PCB Contacts (for receptacle only)

### 3. Shell material and finish

F	Nickel plating ✓
W	Aluminum shell
ZN	Black zinc nickel plating ✓
BZ	Marine bronze shell ✓

### 4. Shell size

11	Mandatory
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### 5. Type of contact

P	Male μCom module
S	Female μCom module

### 6. Coding

	N coding
A	A coding
B	B coding
C	C coding
D	D coding
E	E coding

### 7. Deviation (Female μCom module only)

	No deviation
F459	Stand off
F059	Stand off Reduced Flange (for jam nut receptacle only)

### Examples :

Part number	Description
TV06UCOMCF11P	TVμCom plug, crimp contacts, nickel plating, pin contact
TVP00UCOMCIZN11SF459	TVμCom square flange receptacle, PCB version, black zinc nickel plating, female contact and stand-off deviation
TV07UCOMSBZ11S	TVμCom jam nut receptacle, solder contacts, marine bronze shell, female contact

✓: RoHS compliant

# TV μCom-10Gb+ - How to order

## Special backshell

1.	2.	3.
Series	Shell material and finish	Backshell type
TVUCOM	F	B

1. Protective cap type	
TVUCOM	Backshell for TVμCom

3. Backshell type	
B	Backshell with banding platform
G	Backshell with gland

2. Shell material and finish		
F	Aluminum shell	Nickel plating ✓
W		Olive drab cadmium plating
ZN		Black zinc nickel plating ✓

### Examples :

Part number	Description
TVUCOMFB	TVμCom backshell for banding platform and nickel plating
TVUCOMWB	TVμCom backshell for banding platform and olive drab cadmium plating
TVUCOMZNG	TVμCom backshell with gland and black zinc nickel plating

✓: RoHS compliant

# TV µCom-10Gb+ - How to order

## Standard metallic cap

1.	2.	3.	4.	5.	6.
Protective cap type	Wire type	Connector type	Shell material and finish	Shell size	Deviation
BEF		TV	F	11	

### 1. Protective cap type

BEF	Protective cap for plug
BEC	Protective cap for square flange receptacle
BER	Protective cap for jam nut receptacle

### 2. Wire type

	Metallic chain
N	Nylon cord
R	Jacketed stainless steel rope
RO	Jacketed stainless steel rope with washer end (only for plug)

### 3. Connector type

TV	TV shell
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### 4. Shell material and finish

F		Nickel plating ✓
W	Aluminum shell	Olive drab cadmium plating
ZN		Black zinc nickel plating ✓
B	Marine bronze shell ✓	

### 5. Shell size

11	Shell size 11
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### 6. Deviation

	No deviation
F057	Protective cap for Reduced flange jam nut receptacle

### Examples :

Part number	Description
BEFTVF11	Plug protective cap, metallic chain and nickel plating
BECNTVZN11	Square flange receptacle protective cap, nylon cord and black zinc nickel plating
BERTVB11F057	Reduced flange jam nut receptacle protective cap, metallic chain and marine bronze shell

✓: RoHS compliant

