

## μCom-10Gb + Micro Connector for High-speed Ethernet



### Description

μCom-Series is a new range of connectors designed to address the latest trends of the industry : miniaturization and high speed, with the highest resistance for use in the harshest environments.

### Main features

#### MAIN CHARACTERISTICS

- Miniature : 15 mm (.59") max external diameter
- Receptacle and in-line receptacle compatible with both thread and push pull plugs
- 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
- Thread and push pull coupling mechanisms with 2000 mating cycles & high vibration resistance
- 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 μCom 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 (Thread version)
- Environmental testing based on MIL-DTL-26482 military specifications (Push Pull version)
- Machined Brass shells : - 500 h with unplated shell ✓  
- 500 h with olive drab cadmium plating  
- 500 h with black nickel plating ✓
- 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



Ground Vehicle



Navy



Commercial Aerospace



Railways



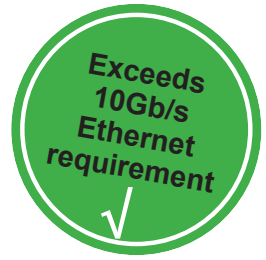
*Applications :*

- › Shipboard
- › In Flight Entertainment\*

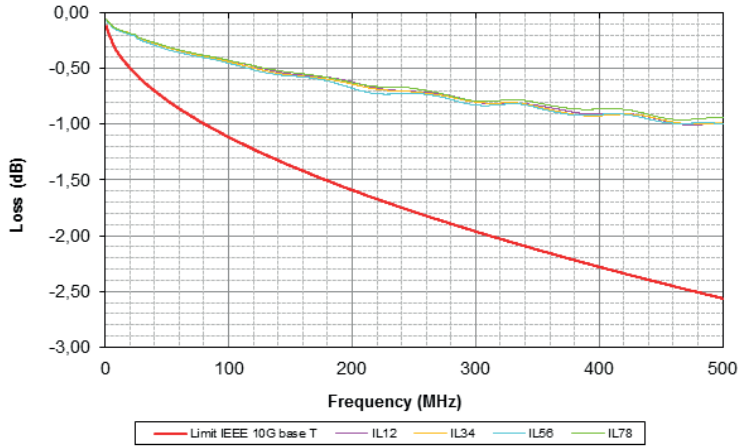
\*μCom approved by GORE

✓ : RoHS compliant

# Transmission Data



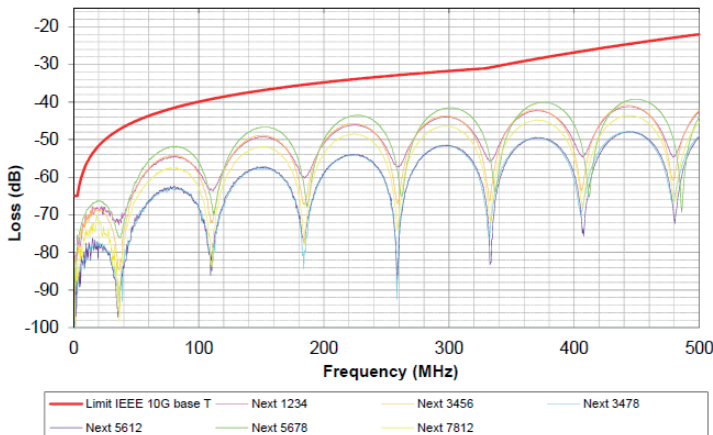
**Insertion Loss (IL) :**



← Amphenol performance

← IEEE 802.3an Standard requirement

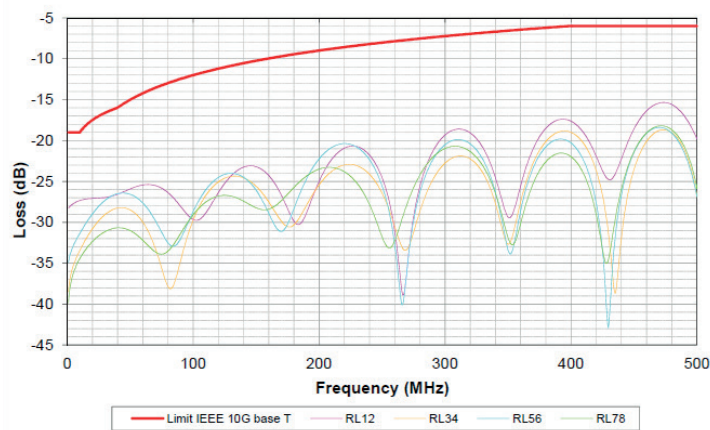
**Near End crosstalk (NEXT) :**



← IEEE 802.3an Standard requirement

← Amphenol performance

**Return Loss (RL) :**



← IEEE 802.3an Standard requirement

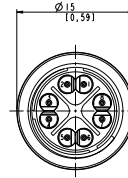
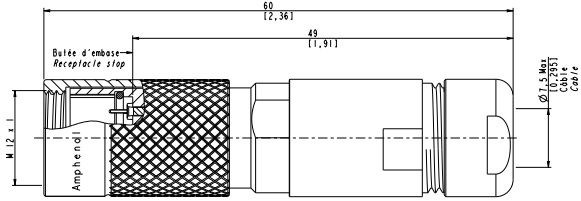
← Amphenol performance

# Overall dimension

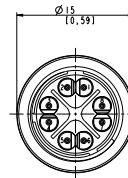
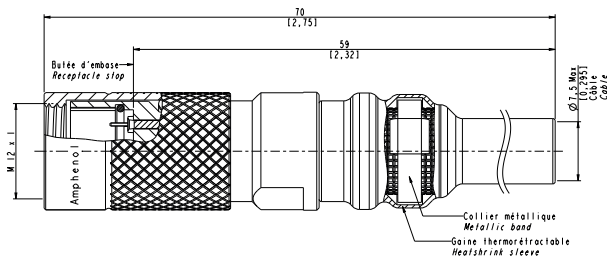


## Plug - Thread version

Part number: **UCOM-10G+ P T X X G A**

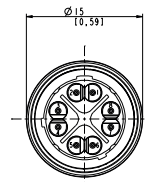
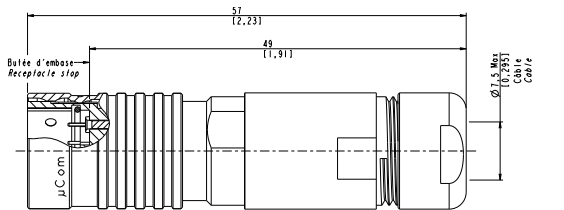


Part number: **UCOM-10G+ P T X X B**

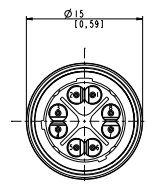
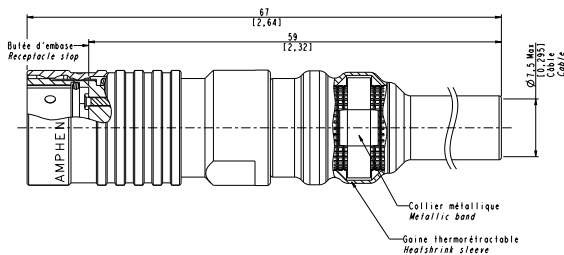


## Plug - Push-pull version

Part number: **UCOM-10G+ P P X X G A**



Part number: **UCOM-10G+ P P X X B**

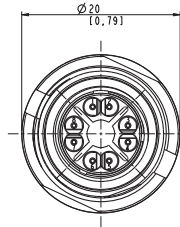
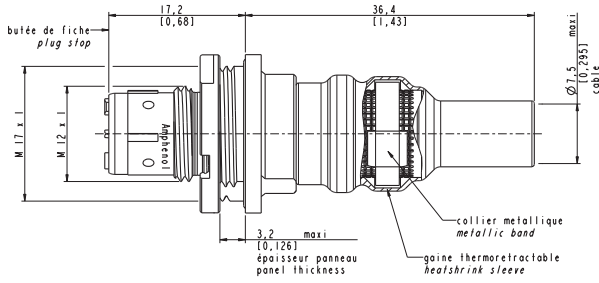


# Overall dimension

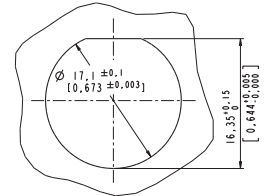


## Receptacle - Panel mount version

Part number: **UCOM-10G+ R X X**

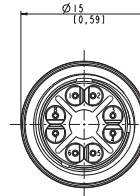
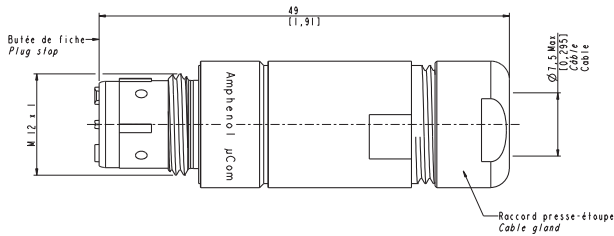


Panel drilling

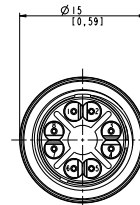
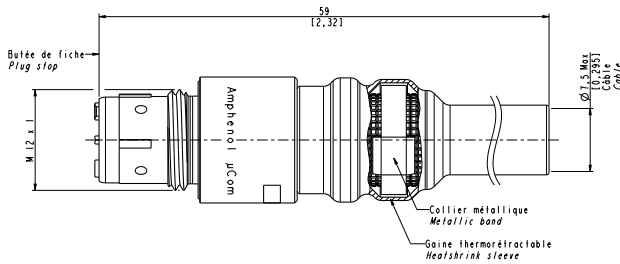


## Receptacle - In line version

Part number: **UCOM-10G+ L S X G A**

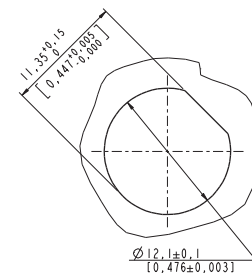
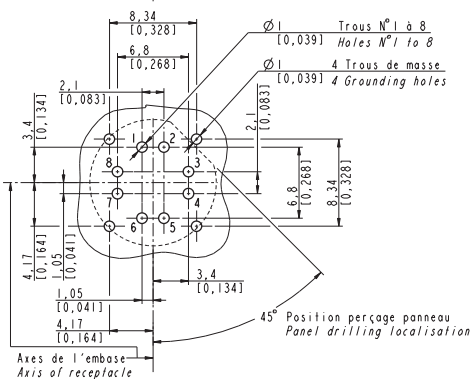
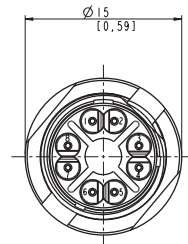
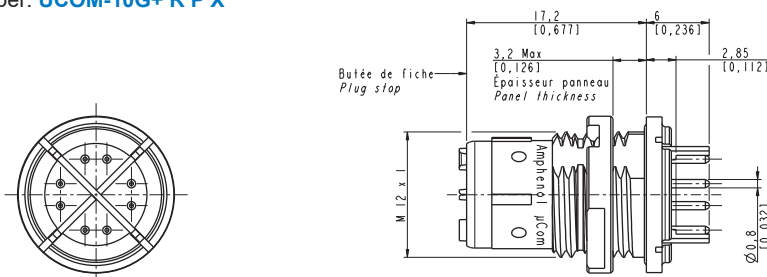


Part number: **UCOM-10G+ L S X B**



## Receptacle - PCB version

Part number: **UCOM-10G+ R P X**



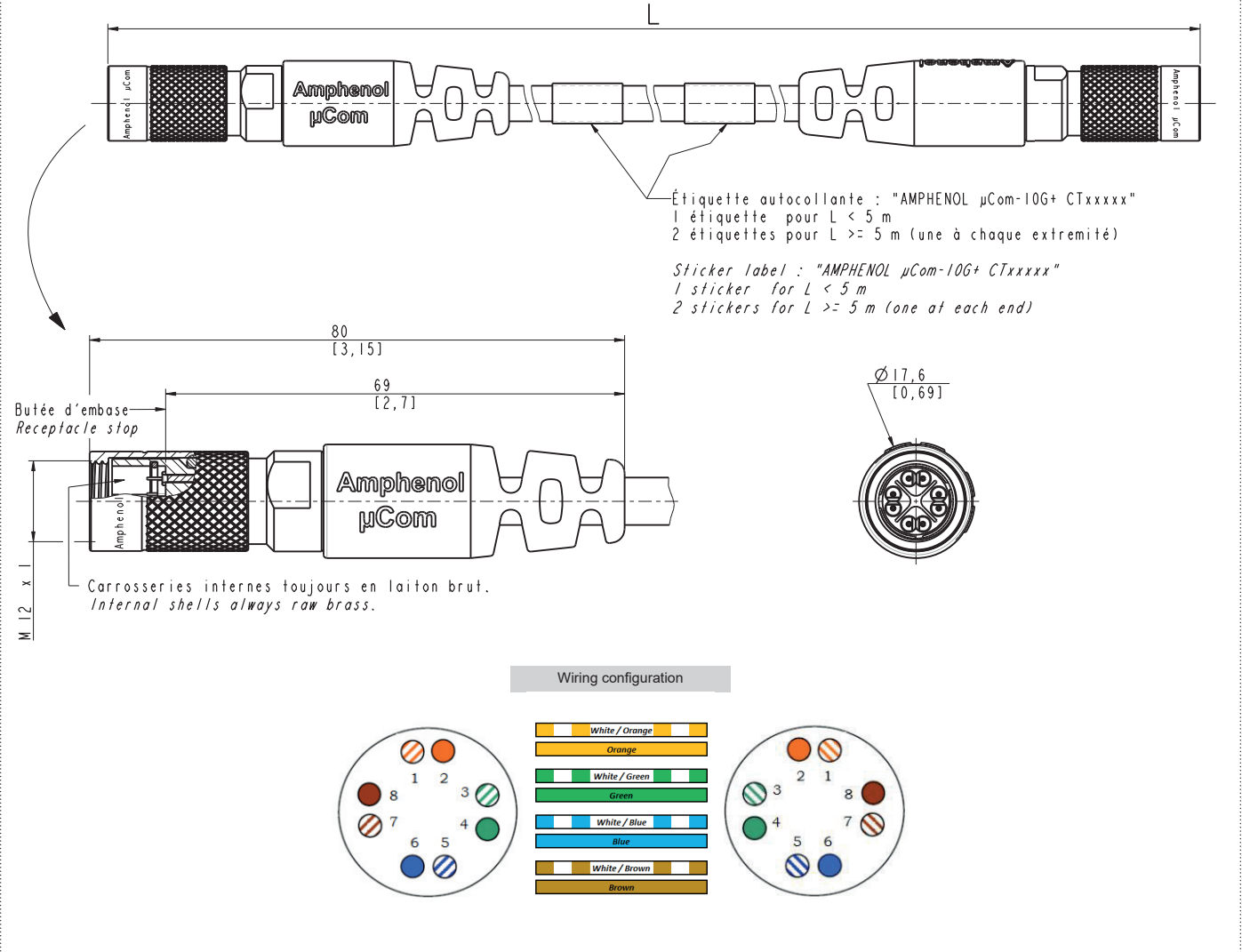
Panel drilling

# Overall dimension



Cordset - Tread plug to thread plug

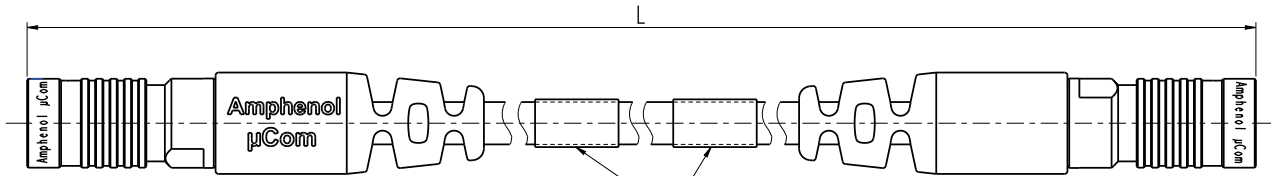
Part number: **UCOM-10G+ C T X X XXX**



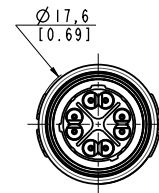
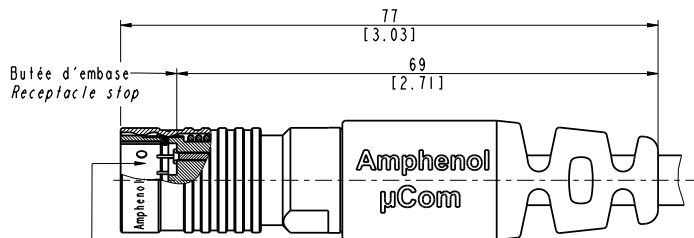
## Overall dimension

### Cordset - Push-pull plug to push-pull plug

Part number: **UCOM-10G+ C P X X XXX**

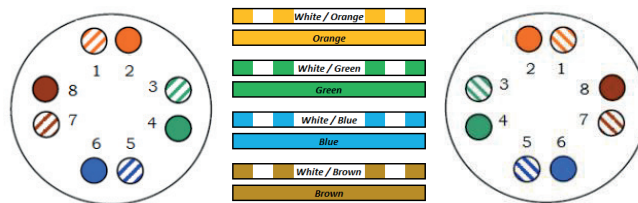


Étiquette autocollante : "AMPHENOL μCom-10G+ CPxxxxx"  
 1 étiquette pour L < 5 m  
 2 étiquettes pour L ≥ 5 m (une à chaque extrémité)  
 Sticker label : "AMPHENOL μCom-10G+ CPxxxxx"  
 1 sticker for L < 5 m  
 2 stickers for L ≥ 5 m (one at each end)



Carrosseries internes toujours en laiton brut.  
 Internal shells always raw brass.

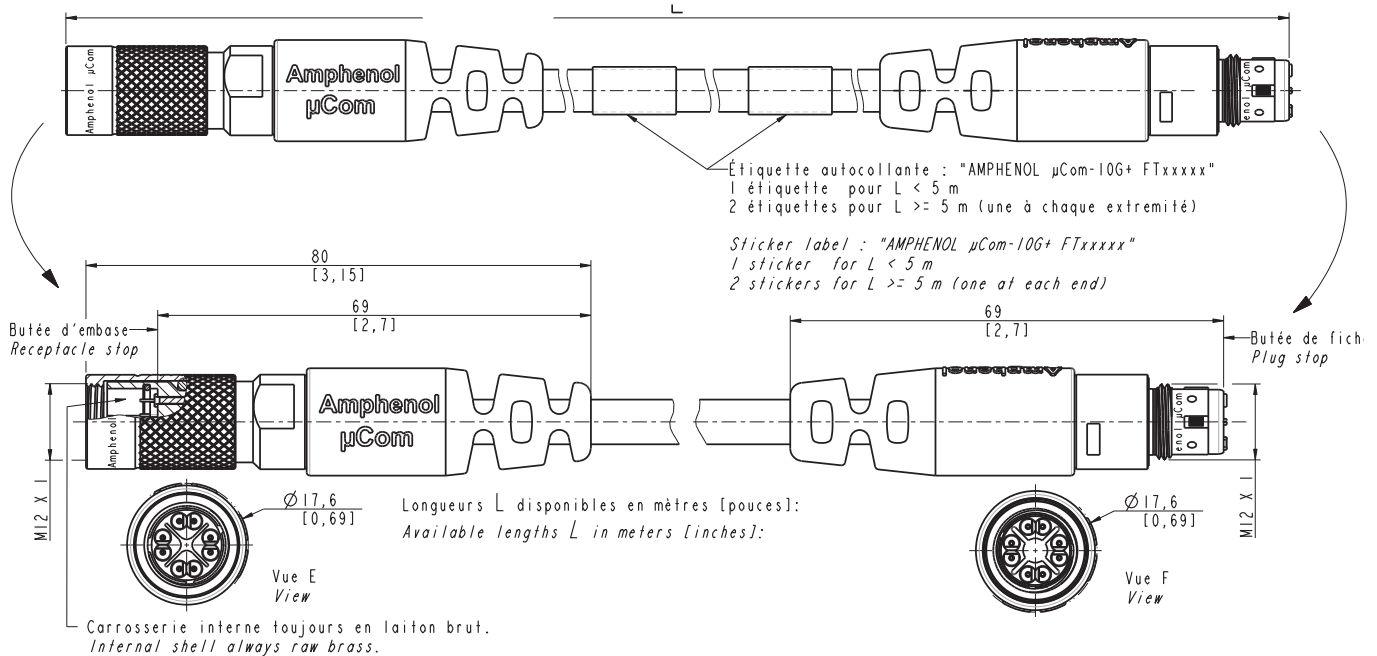
#### Wiring configuration



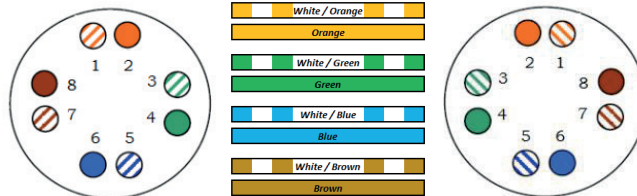
# Overall dimension

## Cordset - Tread plug to in line receptacle

Part number: **UCOM-10G+ F T X X XXX**



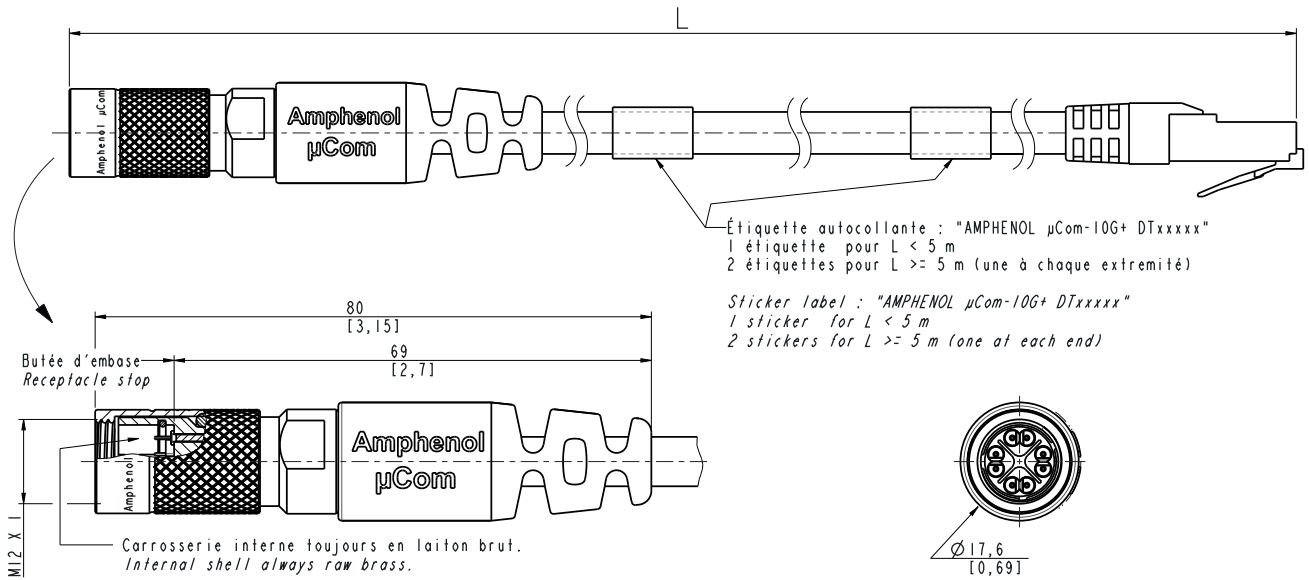
### Wiring configuration



## Overall dimension

Cordset - Thread plug to RJ45 plug

Part number: **UCOM-10G+ D T X X XXX**



### Wiring configuration

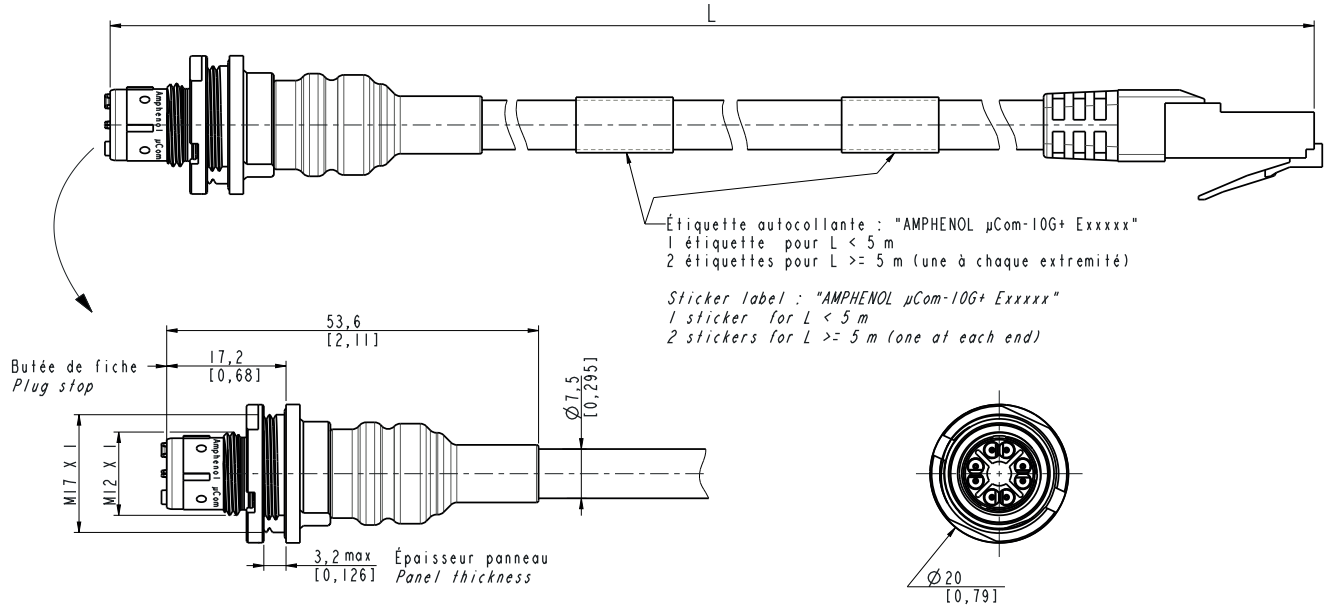




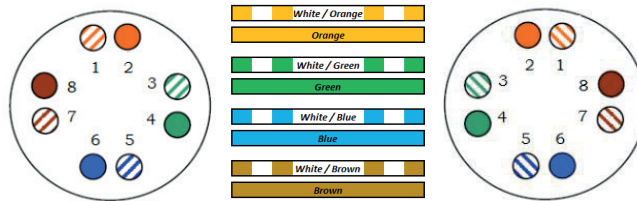
# Overall dimension

## Cordset - Panel mount receptacle to RJ45 plug

Part number: **UCOM-10G+ E X X XXX**



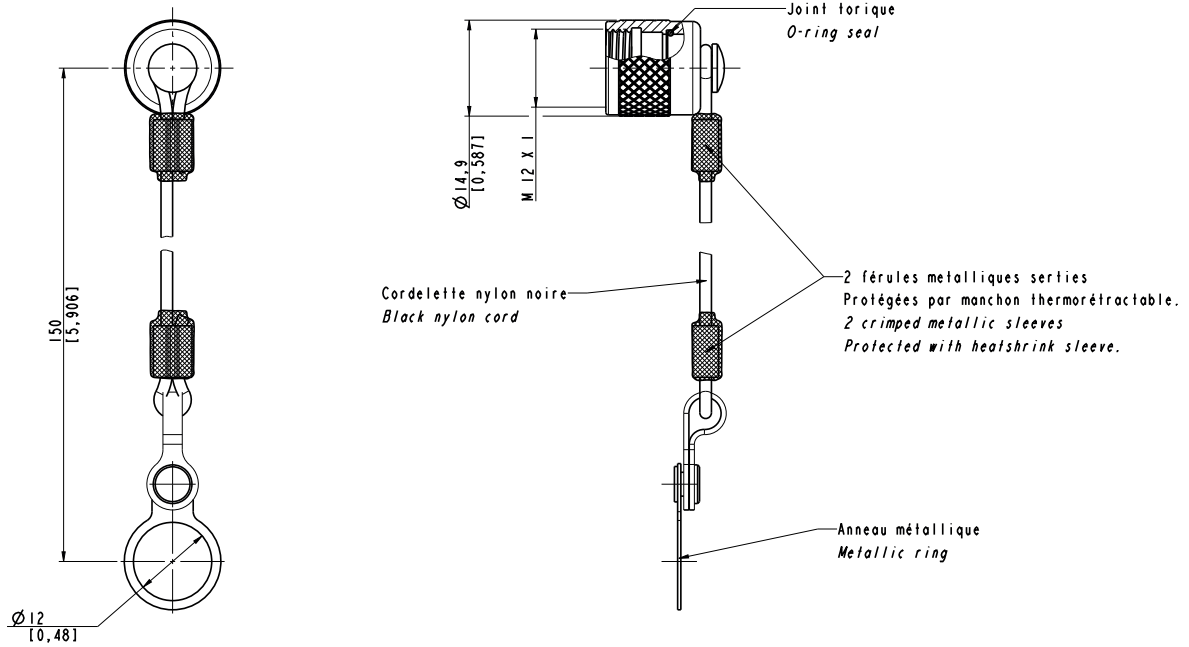
### Wiring configuration



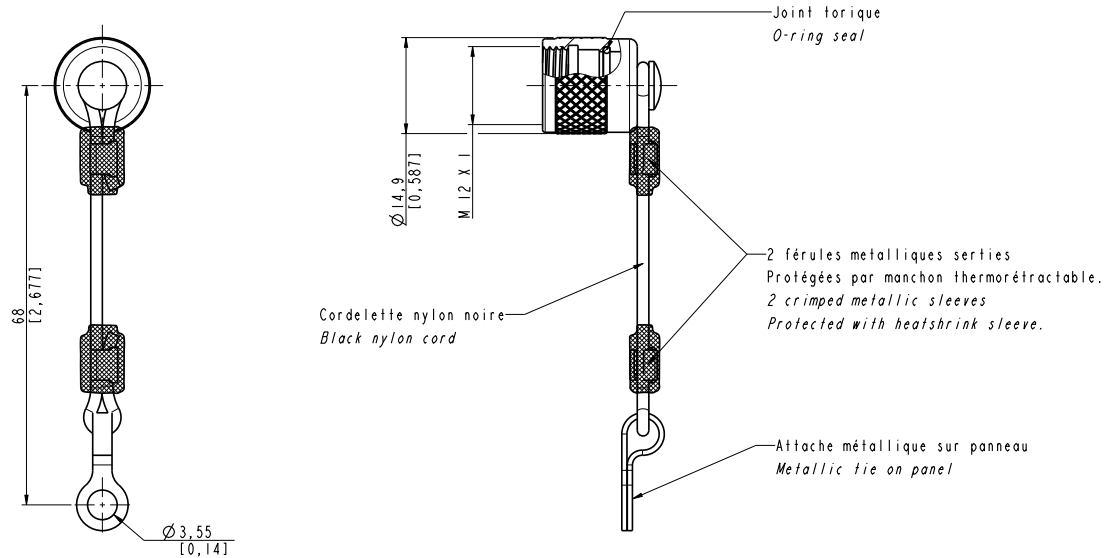
## Overall dimension

### Metallic protective cap - Receptacle

Part number: **31139 X**



Part number: **31037 X**

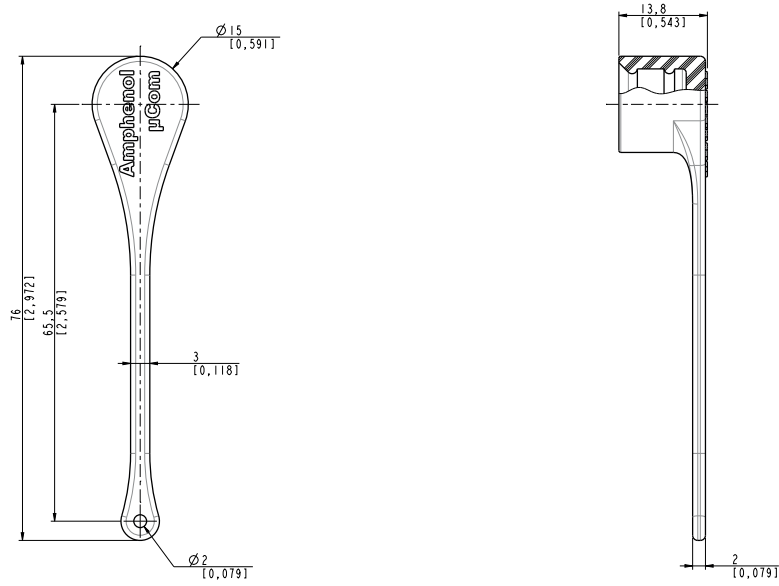


## Overall dimension



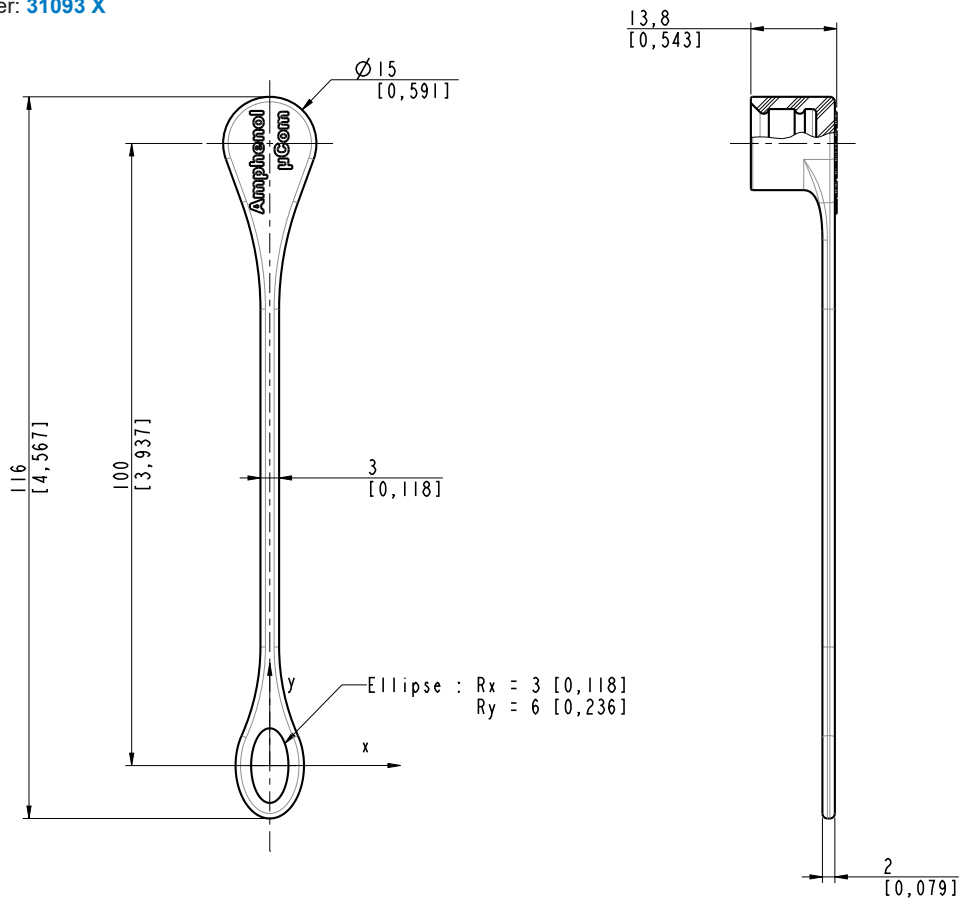
### Neoprene protective cap - for receptacle

Part number: **31091 X**



### Neoprene protective cap - for in line receptacle

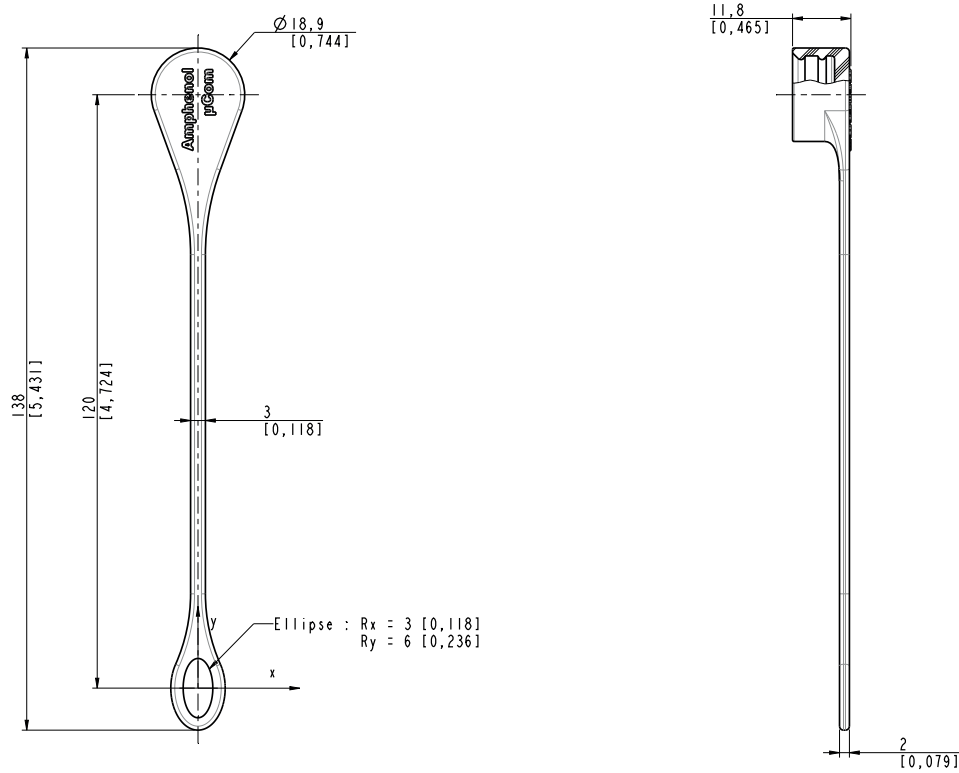
Part number: **31093 X**



## Overall dimension

### Neoprene protective cap - for plug

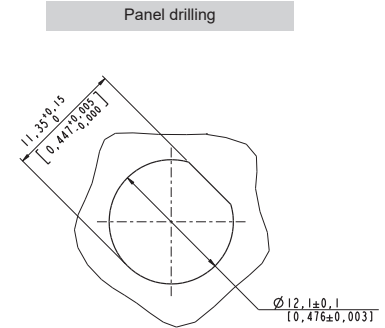
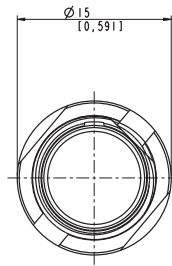
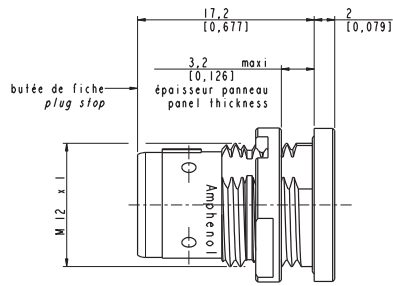
Part number: 31092 X



## Overall dimension

### Dummy receptacle

Part number: **31131 X**



### Contacts

Part number: **31073**

Crimp Pin (10pcs)



Part number: **31074**

Crimp Socket (10pcs)



### Tools

Part number: **31055**

Nut clamping tool for PCB receptacle only



Part number: **31056**

Insertion tool for crimp contacts



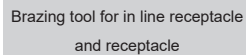
Part number: **31074**

Contact positioner for M22520/2-01 crimping tool



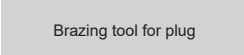
Part number: **31132**

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 !



## Connectors

1.	2.	3.	4.	5.
Series	Shell type	Contact termination	Shells material & finish	Backshell type (avoid for plug and PCB receptacle)
UCOM - 10G+	PT	C	B	GA

### 1. Series

UCOM - 10G+	UCOM - 10G+
-------------	-------------

### 2. Shell type

PT	Plug	Tread mating
PP		Push-pull mating
R	Receptacle	
L	In line receptacle	

### 3. Contact termination

C	Crimp
S	Solder
P	PCB (only for receptacle)

### 4. Shell material and finish

B	Brass shell	Black nickel ✓
G		Olive drab cadmium
U		Unplated ✓

### 5. Backshell type (avoid for plug and PCB receptacle)

GA	Gland for cable diameter of 7,5mm max
B	Band

### Examples :

Part number	Description
UCOM-10G+PTCBGA	UCOM thread mating plug, crimp contacts, black nickel finish over brass shell, gland backshell for cable diameter of 7,5mm max
UCOM-RPG	UCOM PCB receptacle, olive drab cadmium finish over brass shell
UCOM-RSUB	UCOM receptacle, solder contacts, unplated brass shell, band backshell

✓ : RoHS compliant

## Cordsets

1.	2.	3.	4.	5.	6.
Series	Cordset type	Mating (for plug only)	Contact termination	Shell material and finish	Lenght
UCOM - 10G+	C	T	C	B	002

### 1. Series

UCOM - 10G+	UCOM - 10G+
-------------	-------------

### 2. Cordset type

	First end	Second end
C	Plug	Plug
D	Plug	RJ45 Cat6A plug
E	Panel mount receptacle	RJ45 Cat6A plug
F	Plug	In line receptacle
G	Plug	
H	Panel mount receptacle	Open end
J	In line receptacle	

### 3. Mating (for plug only)

T	Tread mating
P	Push-pull mating

### 4. Contact termination

C	Crimp
S	Solder

### 5. Shell material and finish

B		Black nickel ✓
G	Brass shell	Olive drab cadmium
U		Unplated ✓

### 6. Lenght

002	0.2 m
005	0.5 m
010	1.00 m
015	1.50 m
020	2 m
050	5.00 m
100	10.00 m

### Examples :

Part number	Description
UCOM-10G+CTCB002	UCOM cordset, thread mating plug to thread mating plug, black nickel plating over brass shell, lenght of 0,20m.
UCOM-FPCG050	UCOM cordset, push pull plug to in line receptacle, olive drab cadmium plating over brass shell, lenght of 5,00m.
UCOM-HSU100	UCOM cordset, solder in line receptacle to open end, unplated brass shell, lenght of 10,00m.

## Protective cap and accessories

1.

2.

Series	Shells material & finish (avoir for neoprene cap)
UCOM - 10G+	B

1. Series		
31139	Metallic protective cap for receptacle	
31037		
31091	Neoprene protective cap	For receptacle
31093		For in line receptacle
31092		For plug
31131	Dummy receptacle	

2. Shell material and finish (avoir for neoprene cap)		
B		Black nickel ✓
G	Brass shell	Olive drab cadmium
U		Unplated ✓

### Examples :

Part number	Description
31139B	Black nickel metallic protective cap for receptacle
31093	Neoprene protective cap for in line receptacle
31131U	Unplated dummy receptacle

✓ : RoHS compliant





# NOTES

A series of horizontal dotted lines spanning the width of the page, intended for taking notes.

