

μCom-10Gb + Harsh Environment 10Gb Ethernet Micro Connectors



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:

- 10Gb+: exceeds 10Gb/s Ethernet following IEEE 802.3an-2006 : **10GBase-T**
 - Cat.6A connector according to TIA568C.2 and ISO/IEC11801 standard
 - 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)
 - Miniature : **15 mm(.59") max** external diameter
 - Receptacle and in-line receptacle compatible with both thread and Push Pull plugs
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- 4 pairs totally insulated throughout the connector
→minimum cross-talk between the four pairs
 - Patented special interfacial shapes
→minimum perturbation at the interface of each pair
 - Thread and Push Pull coupling mechanisms
→2000 mating cycles & high vibration resistance
 - Machined Brass shells
→Plating available:
Olive Drab Cadmium→not ROHS compliant
Black Nickel, and unplated brass→ROHS compliant
→shell to shell continuity and 500h salt spray resistance
 - Machined & gold plated Solder and Crimp contacts
→design & performance according to the
-
- innercontact of M39029/77-429#16 M39029/76-425#16 38999 contact
→contacts are crimped with standard crimping tool M22520/2-01 + Amphenol μCom positioner
 - Solder contact : max AWG24
 - Crimp contact : AWG 24 to 28
 - IP68 sealing mated and unmated for PCB receptacles
 - 1500 Vrms Dielectric Withstanding Voltage
 - Temperature range : - 55°C / + 125°C

Markets & Applications



C4ISR



Ground Vehicle



Navy



Commercial Aerospace



Railways

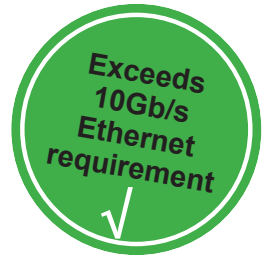


Applications :

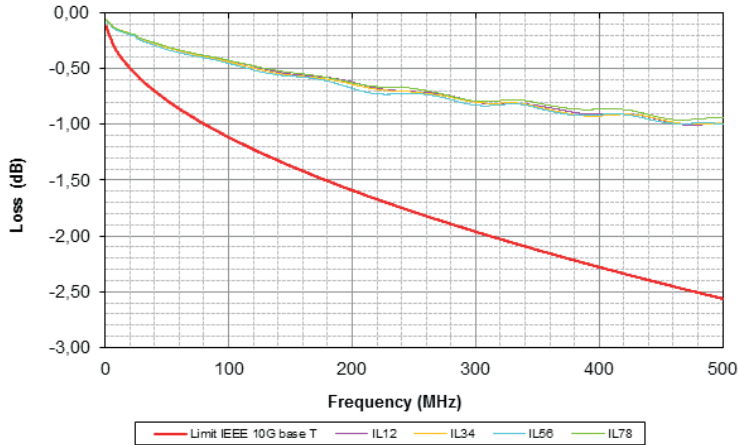
- Shipboard
- In Flight Entertainment*

*μCom approved by GORE

Transmission Data



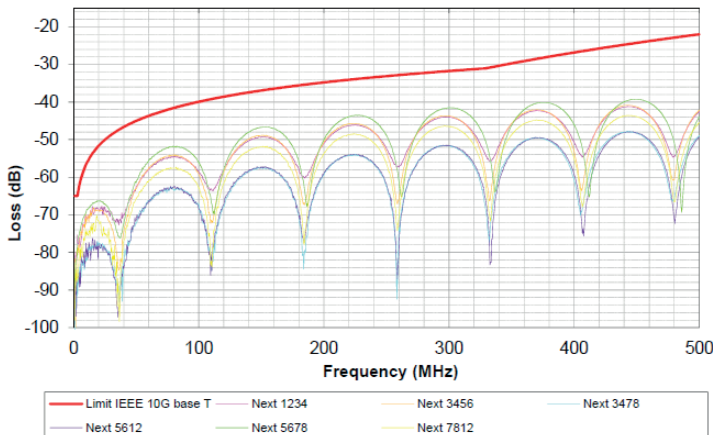
Insertion Loss (IL) :



← Amphenol performance

← IEEE 802.3an Standard requirement

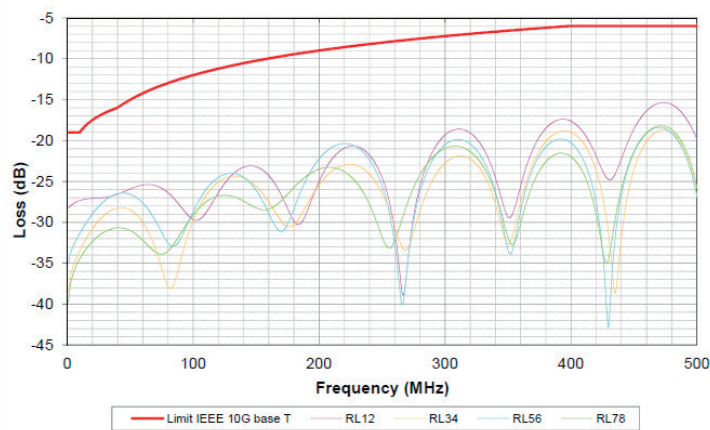
Near End crosstalk (NEXT) :



← IEEE 802.3an Standard requirement

← Amphenol performance

Return Loss (RL) :



← IEEE 802.3an Standard requirement

← Amphenol performance

Female Receptacles

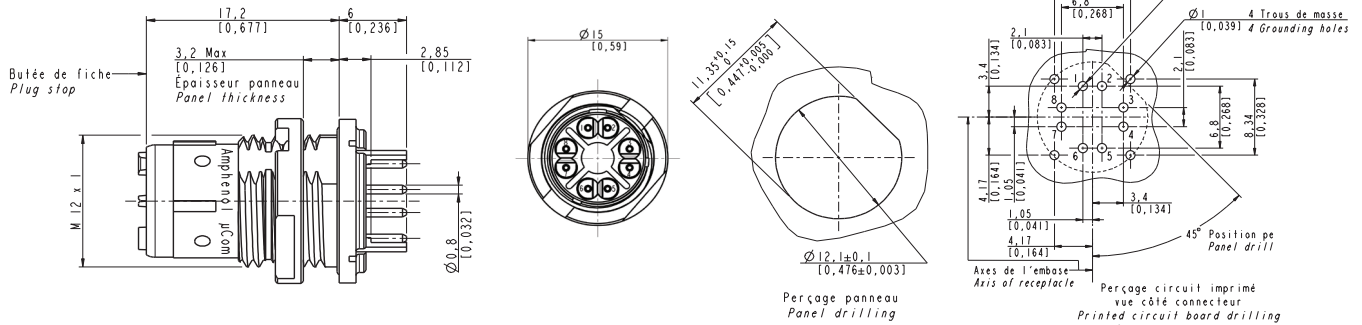


Female receptacle for printed circuit board

Compatible with both thread & push pull plugs

Part number: UCOM-10G+ R P X

X: see the 'How to order' below to complete your part number

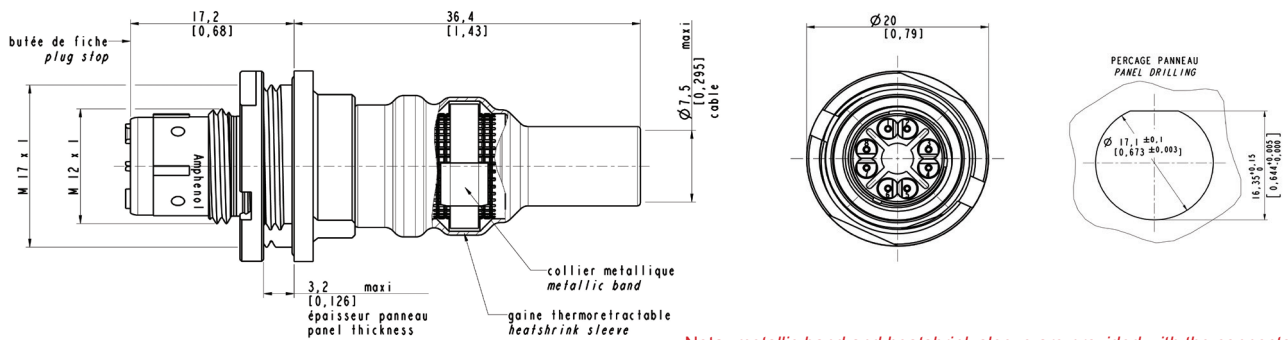


Panel mount female receptacle with metallic band backshell

Compatible with both thread & push pull plugs

Part number: UCOM-10G+ R X X

X: see the 'How to order' below to complete your part number



Nota: metallic band and heatshrink sleeve are provided with the connector

How to Order Female Receptacles

UCOM - 10G+ R P B

Shell

R: receptacle (push pull or thread)

Contacts termination

P: PCB

S: solder

C: crimp

Shell plating

B: black nickel

G: olive drab cadmium

U: unplated brass

NOTA:

- UCOM for order designation
- μCom for marking on connectors

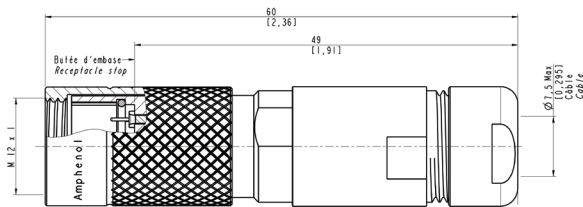
Male Plugs



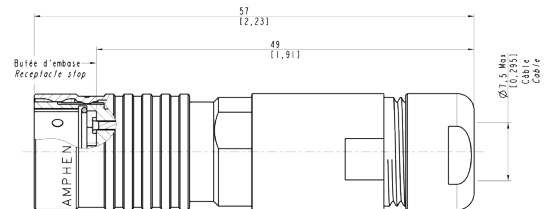
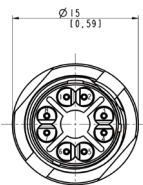
Plug with cable gland backshell

Part number: **UCOM-10G+ P T x x G x**
x: see the 'How to order' below to complete your part number

Part number: **UCOM-10G+ P P x x G x**
x: see the 'How to order' below to complete your part number



Thread version



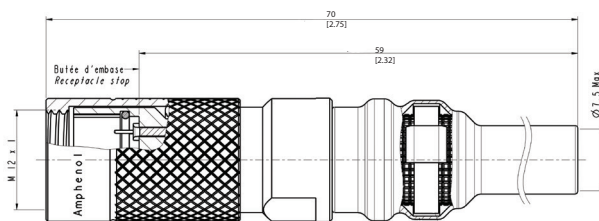
Push Pull version



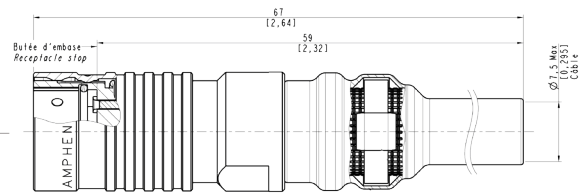
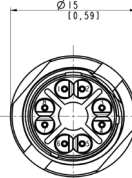
Plug with metallic band backshell

Part number: **UCOM-10G+ P T x x B**
x: see the 'How to order' below to complete your part number

Part number: **UCOM-10G+ P P x x B**
x: see the 'How to order' below to complete your part number



Thread version



Push Pull version

Nota: Metallic band and heatshrink sleeve are provided with the connector

How to Order Male Plugs

UCOM - 10G+ P T C B G A

Shell

P: plug

Mating (for plugs only)

T: thread

P: push-pull

Contacts termination

C: crimp

S: solder

Shell plating

B: black nickel

G: olive drab cadmium

U: unplated brass

Backshell type

G: gland

B: band

Cable diameter (for gland backshell only)

A: for cable diam 7.5mm

NOTA:

- UCOM for order designation
- μCom for marking on connectors

For other cable diameter, please consult us

Female in-line Receptacles

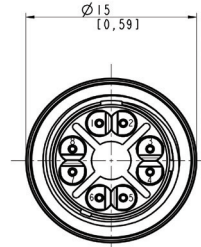
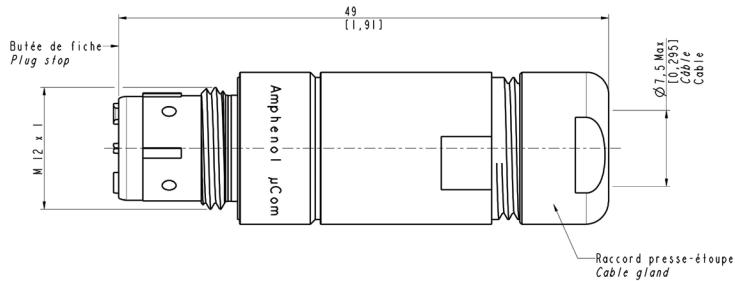


Female in-line receptacle with cable gland backshell

Compatible with both thread & push pull plugs

Part number: UCOM-10G+ L x x G x

x: see the 'How to order' below to complete your part number

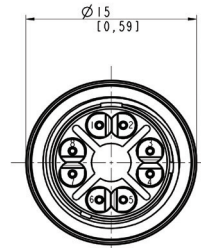
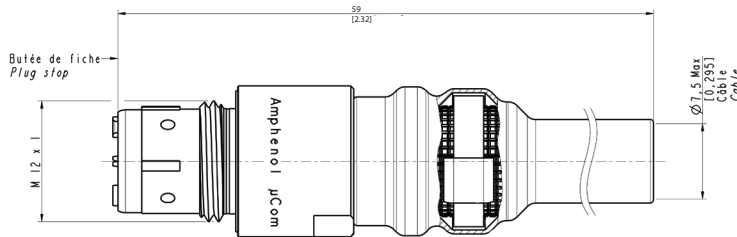


Female in-line receptacle with metallic band backshell

Compatible with both thread & push pull plugs

Part number: UCOM-10G+ L x x B

x: see the 'How to order' below to complete your part number



Nota: Metallic band and heatshrink sleeve are provided with the connector

How to Order Female in-line Receptacles

UCOM - 10G+ L S B G A

Shell

L: in line receptacle (push pull or thread)

Contacts termination

C: crimp

S: solder

Shell plating

B: black nickel

G: olive drab cadmium

U: unplated brass

Backshell type

G: gland

B: band

Cable diameter (for gland backshell only)

A: for cable diam 7.5mm

NOTA:

- UCOM for order designation
- μCom for marking on connectors

For other cable diameter, please consult us

Cordsets

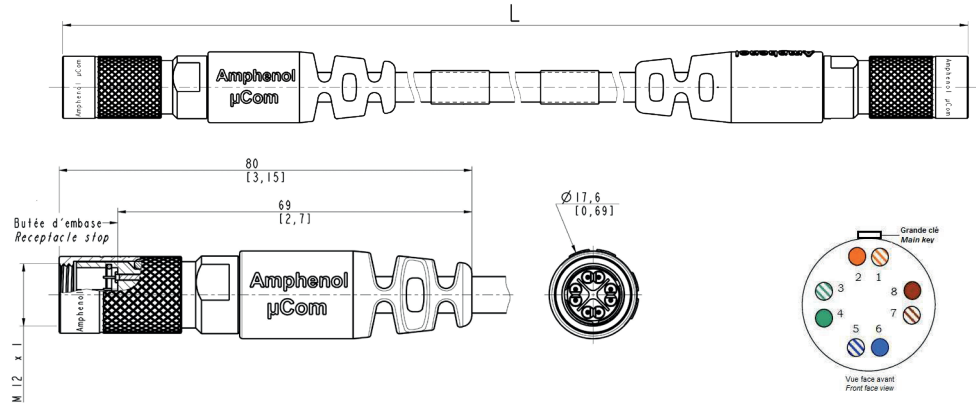
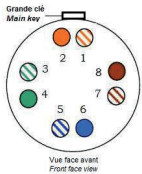


New cabling configuration		
Cable number		Connector number
1	White / Orange	1
2	Orange	2
3	White / green	3
6	Green	4
5	White / Blue	5
4	Blue	6
7	White / Brown	7
8	Brown	8

μCom plug - μCom plug cordset

Part number:
UCOM-10G+ C x x x xxx

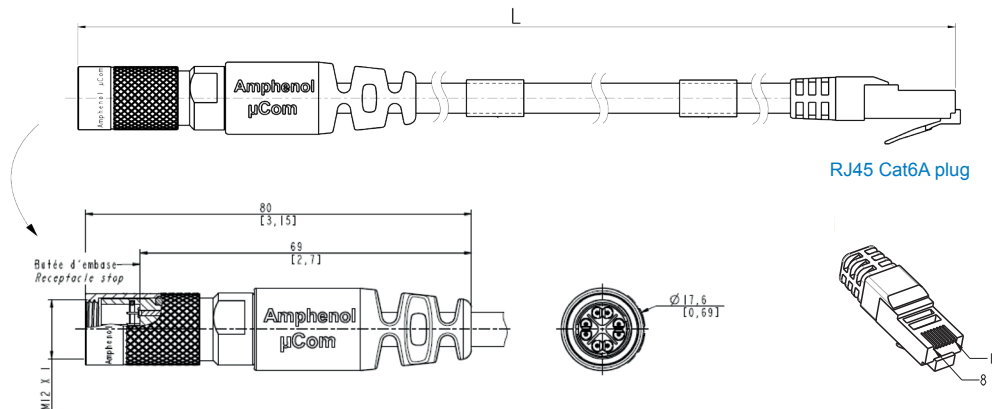
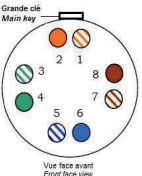
x: see the 'How to order' on the next page to complete your part number



μCom plug - RJ45 Cat6A plug cordset

Part number:
UCOM-10G+ D x x x xxx

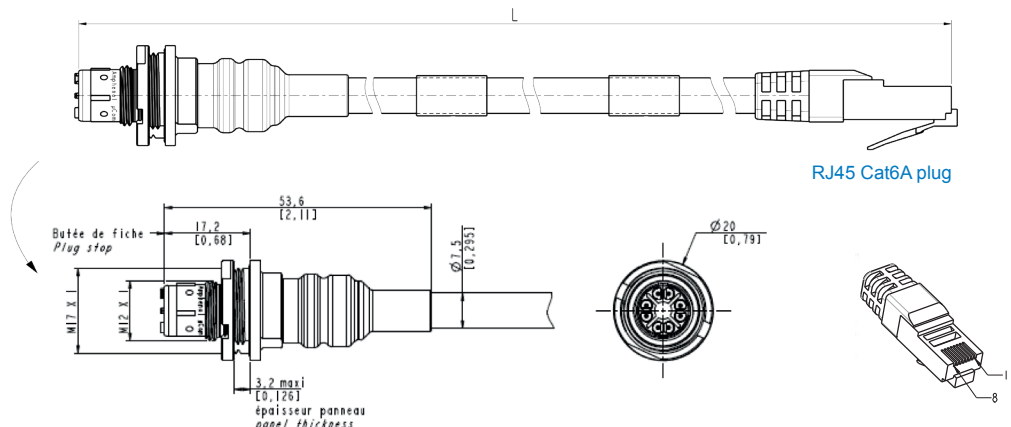
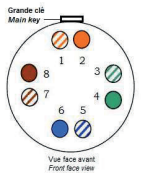
x: see the 'How to order' on the next page to complete your part number



μCom panel mount receptacle - RJ45 Cat6A plug

Part number:
UCOM-10G+ E x x xxx

x: see the 'How to order' on the next page to complete your part number

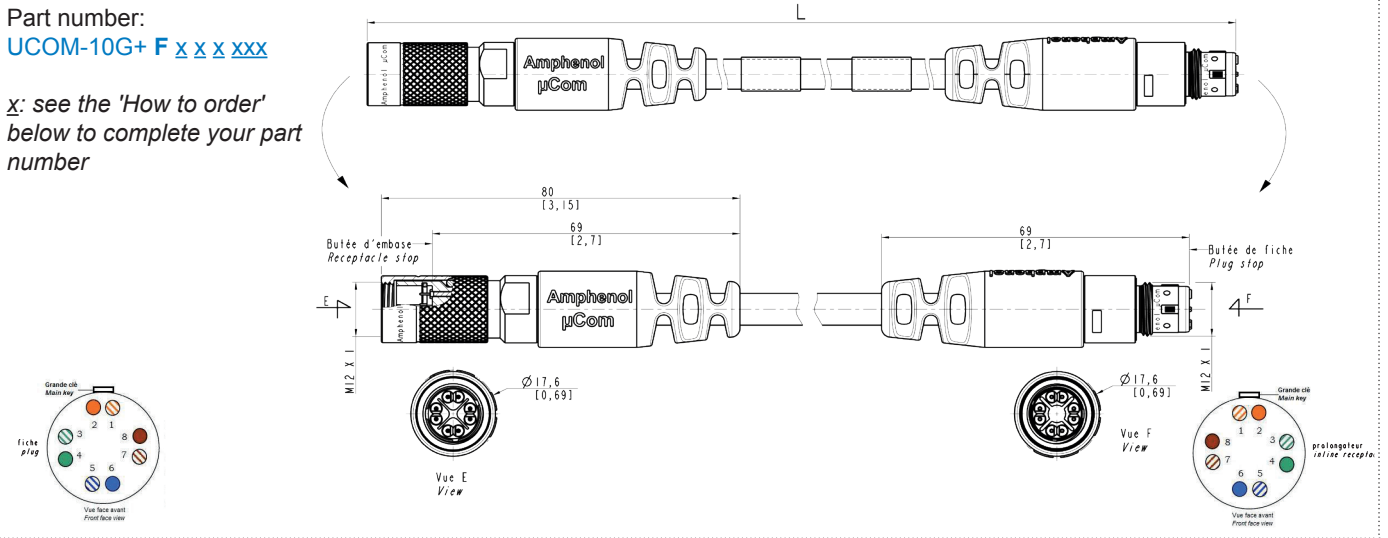


μCom plug - μCom inline receptacle

Part number:

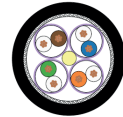
UCOM-10G+ F x x x xxx

x: see the 'How to order' below to complete your part number



Type of cable used: CAT 7 HFFR - According to EN 50288-4-2

- Stranded bare copper wire (26 AWG)
- 4 screened twisted pairs: 2 wires twisted to a pair, Alulaminated foil overlapped
- Shield braiding of tinned copper wires, about 80% coverage
- Strain member of Kevlar
- Jacket in black Polyurethane (PUR), glossy finish, acc to DIN VDE 0282
- External diameter 7.0 +/-0.3 mm
- UV & Hydrolysis resistant, Halogen free, RoHS compliant
- Max Pull force: 800 N, Weight : about 54 kg/km
- Temperature : - 40°C / + 85°C
- Min. bending radius allowed: repeated 8 x Ø, single 4 x Ø



GORE® has approved μCom assembled onto their cat6A cable P/N : RCN9034-24. Information available on GORE® website.

How to Order Cordsets

UCOM - 10G+ C T C B 015

Shell

- C:** μCom plug - μCom plug cordset
 - D:** μCom plug - RJ45 Cat6A plug cordset
 - E:** μCom panel mount receptacle - RJ45 Cat6A plug cordset
 - F:** μCom plug - μCom inline receptacle cordset
- Open versions:
- G:** μCom plug - no connector at the end
 - H:** μCom panel mount receptacle - no connector at the end
 - J:** μCom inline receptacle - no connector at the end

Mating (for plugs only)

T: thread

Contacts termination

- C:** crimp
 - S:** solder
- ### Shell plating
- B:** black nickel
 - G:** olive drab cadmium
 - U:** unplated brass

Total length - For other lengths, please consult us.

- 002:** 20 cm [7.87]
- 005:** 50 cm [19.68]
- 010:** 1.0 m [39.37]
- 015:** 1.5 m [59.05]
- 020:** 2.0 m [78.74]
- 050:** 5.0 m [196.85]
- 100:** 10.0 m [393.70]

NOTA:

- UCOM for order designation
- μCom for marking on connectors

Accessories

CAPS for receptacles

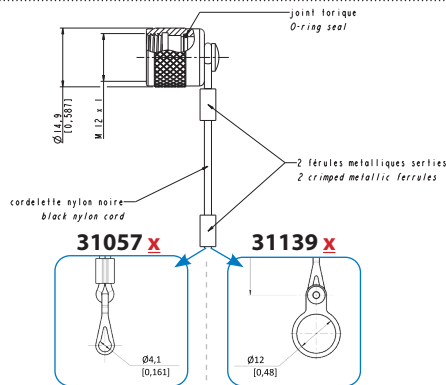
IP68 metallic cap

X to be replaced by

B for Black electrophoresis plating

G for Olive drab cadmium plating

U for Unplated brass



IP68 metallic cap with metallic tie on panel OR IP68 metallic cap with a Ø12 fixation ring
Nota: plan a hole on the panel

IP68 neoprene cap - Part number: **31091**

Nota: plan a type M3 hole on the panel



CAPS for plugs

Cap in neoprene

Part number: **31092**



CAPS for in line receptacles

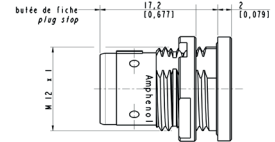
Cap in neoprene

Part number: **31093**



Dummy female receptacle

Part number: **31131 X**



X to be replaced by

B for Black nickel plating

G for Olive drab cadmium plating

U for Unplated brass

Spares

Crimp Pin (10 pcs)

Part number: **31073**



Crimp Socket (10 pcs)

Part number: **31074**



Tools



- Nut clamping tool for receptacle
Part number: **31055**
Only for RPx receptacles



- Insertion tool for crimp contacts
Part number: **31056**



- Contact positioner for M22520/2-01 crimping tool
Part number: **31095**

Other tools:

- Brazing tool for receptacle & in-line receptacle
Part number: **31132**
- Brazing tool for plug
Part number: **31133**

Nota: the cabling instructions are available upon demand (ref. N00-040190-00).

