µCom-10Gb +

Harsh Environment 10Gb Ethernet Micro Connectors

15mm

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
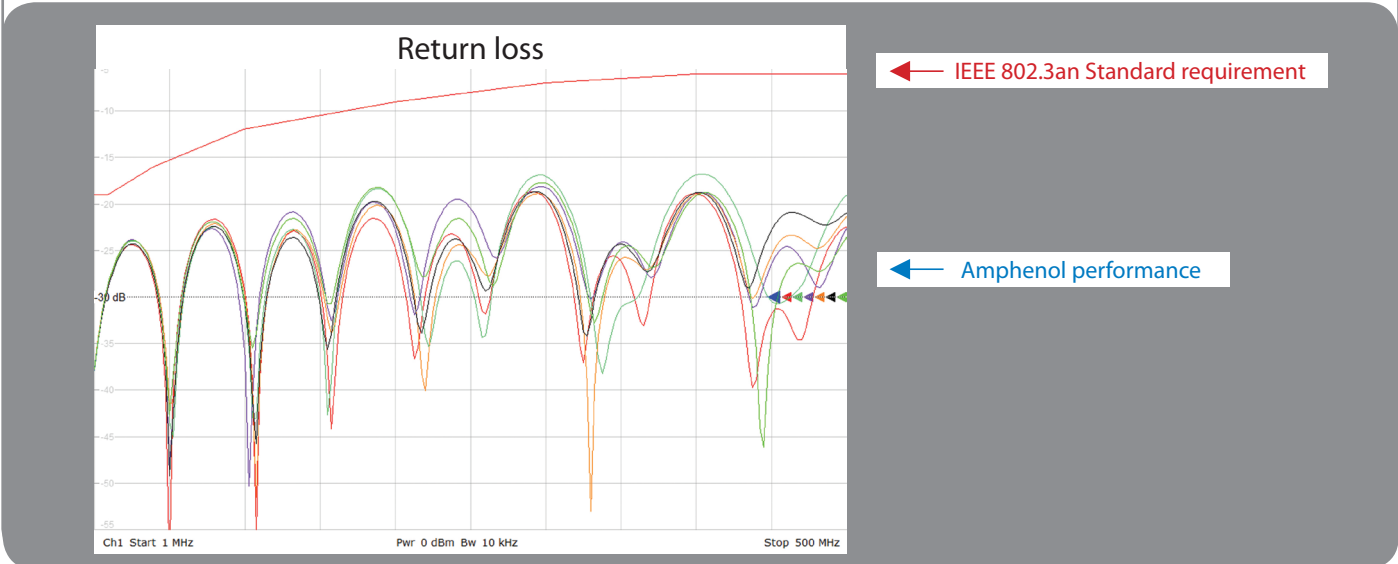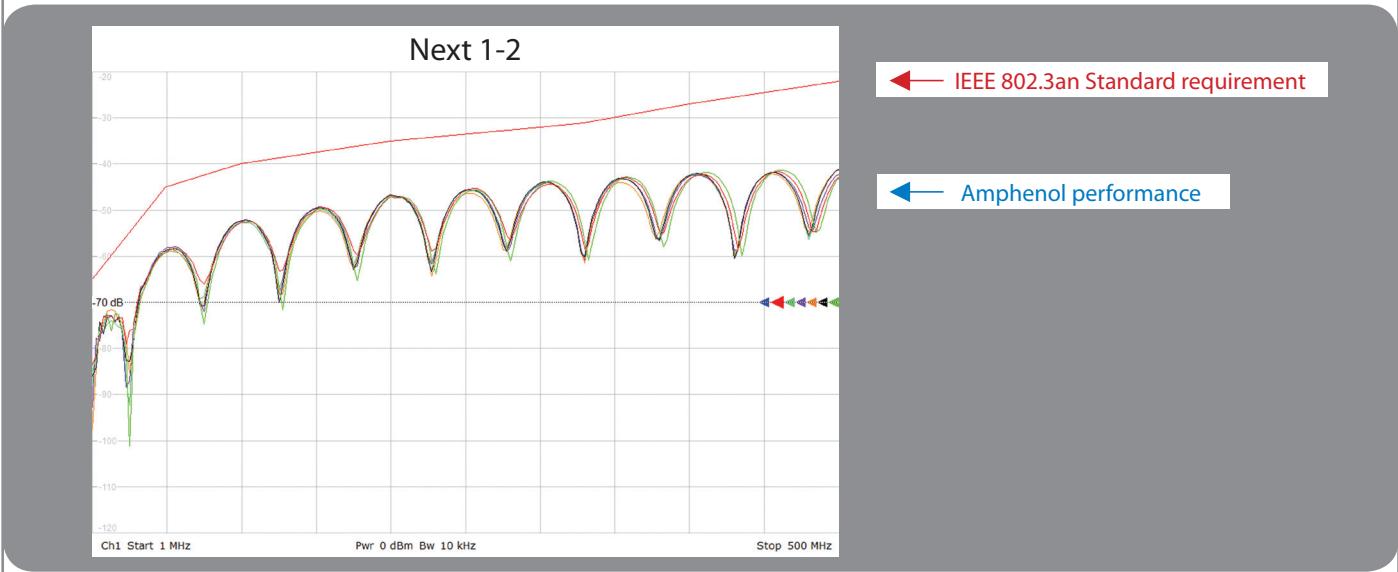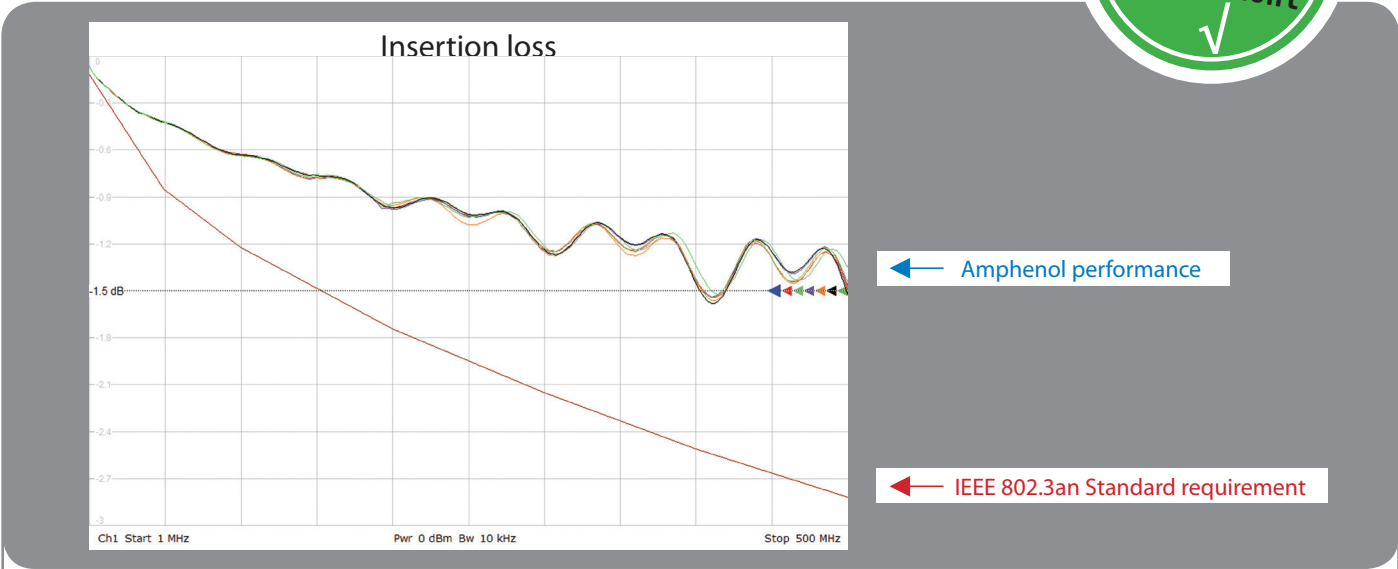
FEATURES AND BENEFITS

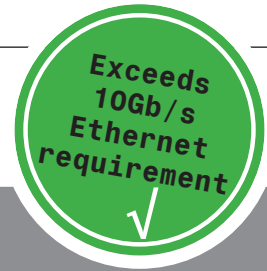- 4 pairs totally insulated throughout the connector
  ➲ minimum cross-talk between the four pairs

- Patent pending 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

- 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

- **DEFENSE :** C4ISR, Battlefield Communications, Shipboard, Ground Vehicles Vetronics.
- **AERONAUTICAL :** In Flight Entertainment, Avionics, Communication Systems.
- **RAIL MASS TRANSIT :** Passenger Information Systems, Communication Systems.

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TRANSMISSION DATA

Exceeds
10Gb/s
Ethernet
requirement
√

Insertion loss

← Amphenol performance

← IEEE 802.3an Standard requirement

Ch1 Start 1 MHz   Pwr 0 dBm Bw 10 kHz   Stop 500 MHz

Next 1-2

← IEEE 802.3an Standard requirement

← Amphenol performance

Ch1 Start 1 MHz   Pwr 0 dBm Bw 10 kHz   Stop 500 MHz

Return loss

← IEEE 802.3an Standard requirement

← Amphenol performance

Ch1 Start 1 MHz   Pwr 0 dBm Bw 10 kHz   Stop 500 MHz
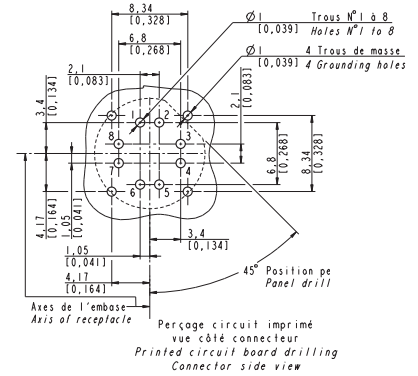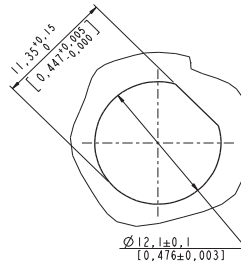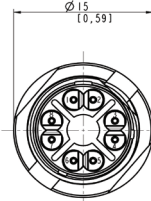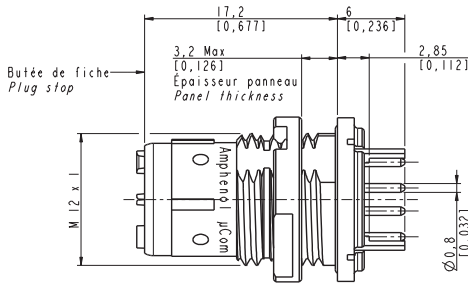
FEMALE RECEPTACLES

Female receptacle for printed circuit board
Compatible with both thread & push pull plugs

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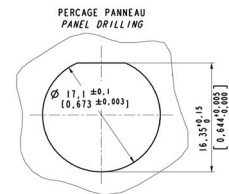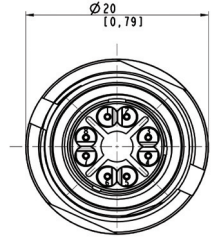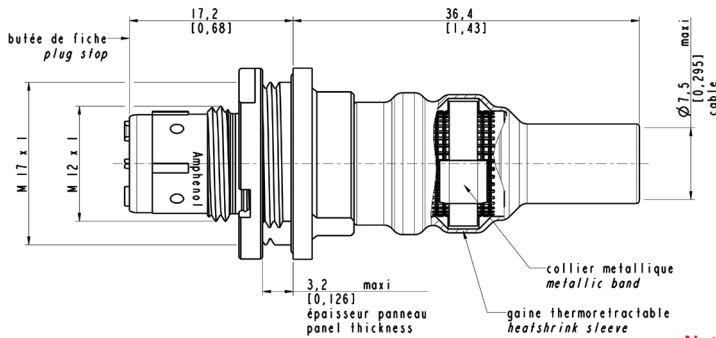*x: see the 'How to order' below to complete your part number*

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:
- **U**COM for order designation
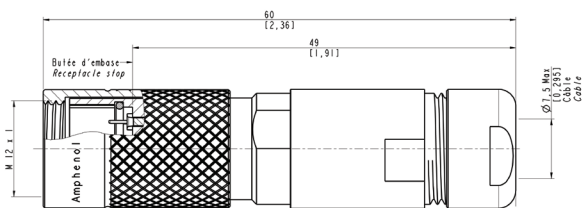- **µCom** for marking on connectors
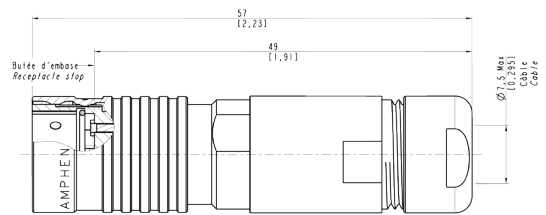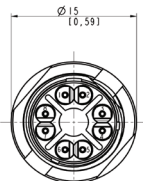
MALE PLUGS

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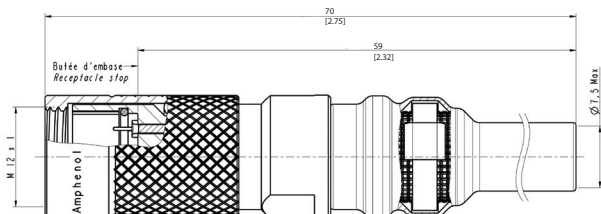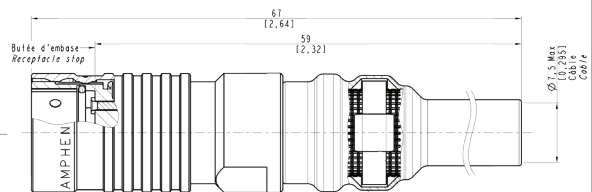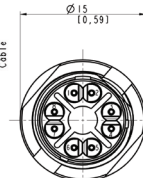*x: see the 'How to order' below to complete your part number*

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

For other cable diameter, please consult us

NOTA:
• **U**COM for order designation
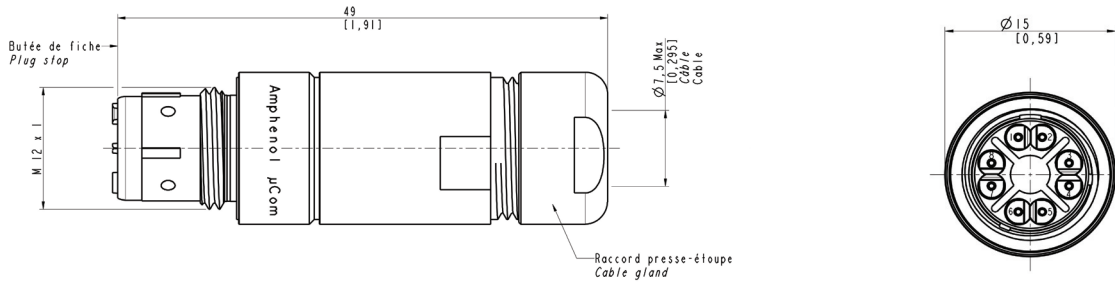• **µ**Com for marking on connectors

FEMALE IN-LINE RECEPTACLES

Female in-line receptacle with cable gland backshell
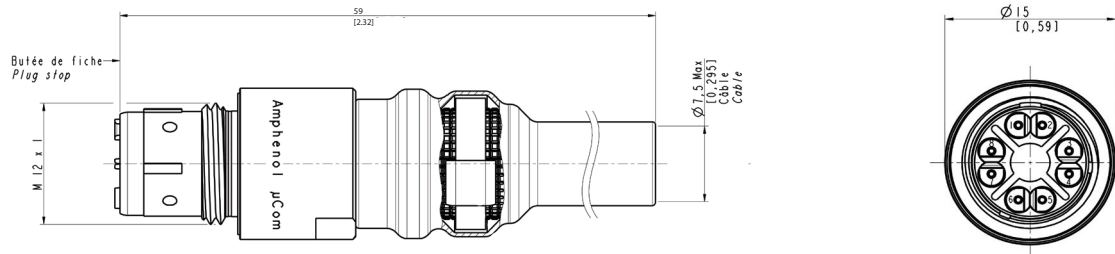Compatible with both thread & push pull plugs

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

For other cable diameter, please consult us

NOTA:
- **U**COM for order designation
- **µ**Com for marking on connectors

CORDSETS

Cabling according to T568B

1	white / orange	1		
2	orange	2		
3	white / green	3		
6	green	6		

4	blue	4
5	white / blue	5
7	white / brown	7
8	brown	8

µCom plug - µCom plug cordset

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

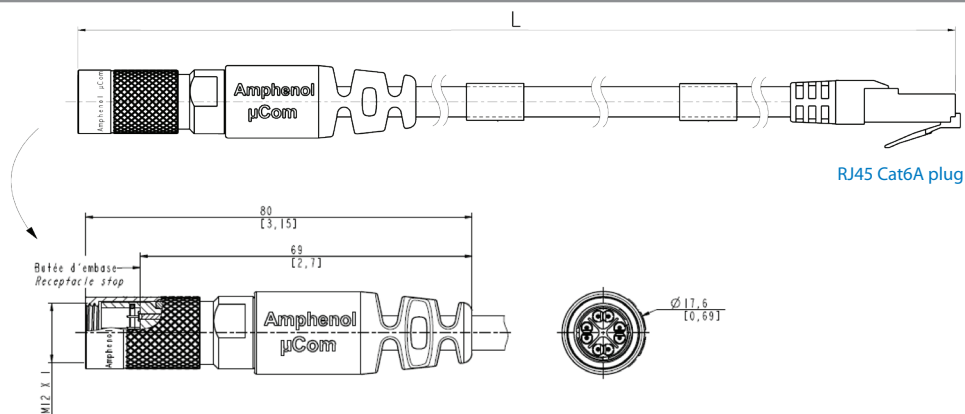x: see the 'How to order' on the next page to complete your part number
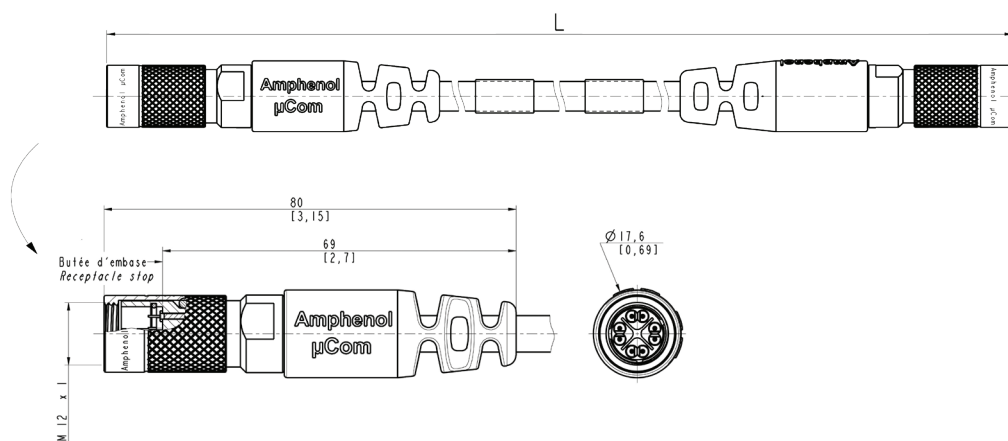
µCom plug - RJ45 Cat6A plug cordset

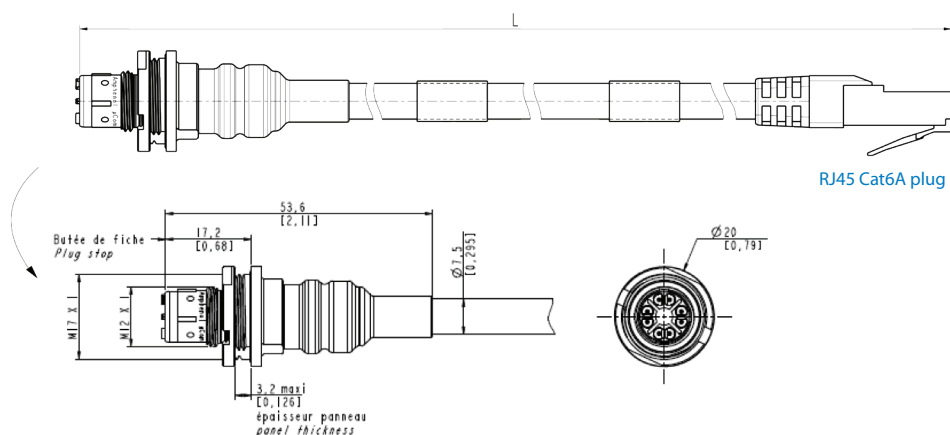Part number:
UCOM-10G+ **D** x x x xxx

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

RJ45 Cat6A plug

µCom panel mount receptacle - RJ45 Cat6A plug

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

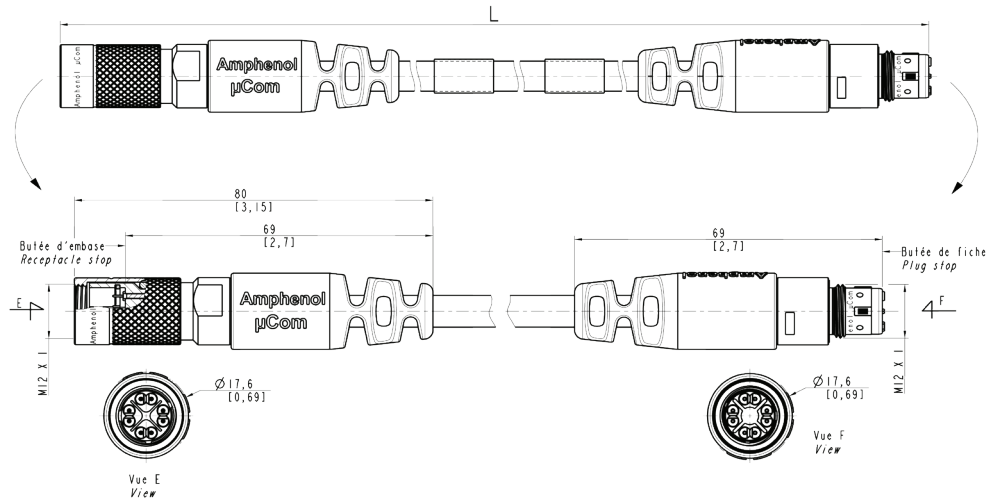x: see the 'How to order' on the next page to complete your part number

RJ45 Cat6A plug
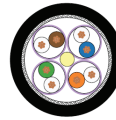
µCom plug - µCom inline receptacle

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, Alulaminate 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

HOW TO ORDER Cordsets

UCOM - 10G+	C	T	C	B	0 1 5

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]
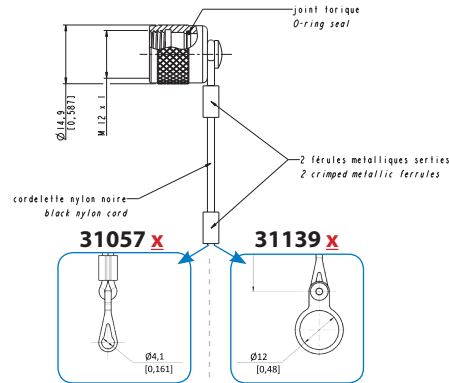**050:** 5.0 m [196.85]
100: 10.0 m [393.70]

NOTA:
- **U**COM for order designation
- **µ**Com for marking on connectors

ACCESSORIES

CAPS for receptacles

IP68 metallic cap

x to be replaced by

B *for Black nickel plating*
G *for Olive drab cadmium plating*
U *for Unplated brass*

joint torique
O-ring seal

Ø14,9
[0,587]
M12 x 1

2 férules métalliques serties
2 crimped metallic ferrules

cordelette nylon noire
black nylon cord

31057 x

Ø4,1
[0,161]

31139 x

Ø12
[0,48]

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
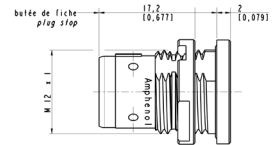
Cap in neoprene
Part number: **31092**

CAPS for in line receptacles

Cap in neoprene
Part number: **31093**

Dummy female receptacle

Part number: **31131 x**

butée de fiche
plug stop

17,2
[0,677]

2
[0,079]

M12 x 1

Amphenol

x to be replaced by
B *for Black nickel plating*
G *for Olive drab cadmium plating*
U *for Unplated brass*

SPARES

Pin
Part number: **31073**

Socket
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).