

# μCom-10Gb +

Harsh Environment 10Gb  
Ethernet Micro Connectors



**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
- 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

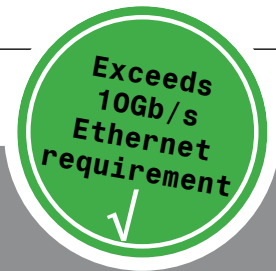
## MARKETS & APPLICATIONS

- **MILITARY**: C4ISR, Battlefield Communications, Shipboard, Ground Vehicles Vetrronics.
- **AEROSPACE** : In Flight Entertainment\*, Avionics\*, Communication Systems.

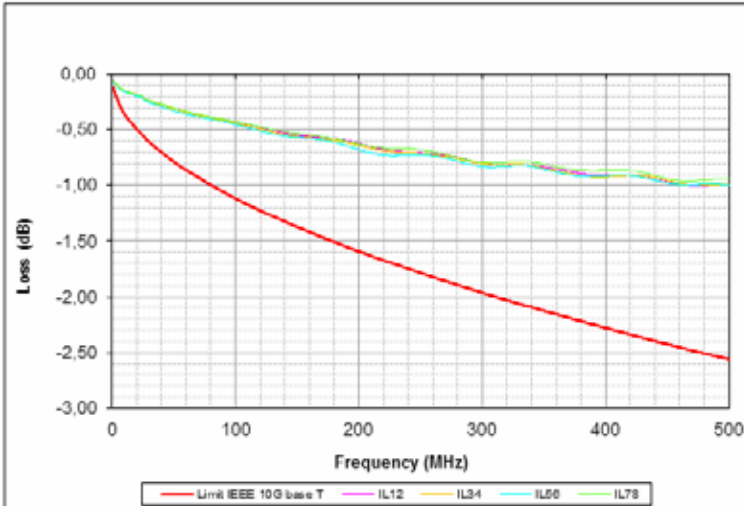
\*μCom approved by GORE



## TRANSMISSION DATA



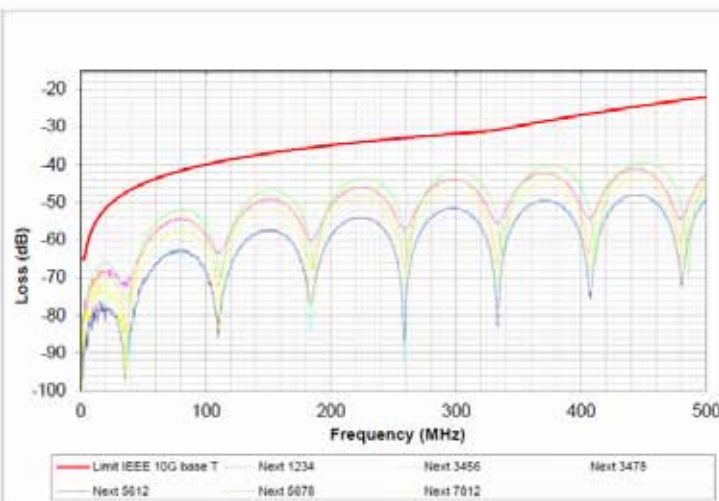
Insertion Loss (IL) :



← Amphenol performance

← IEEE 802.3an Standard requirement

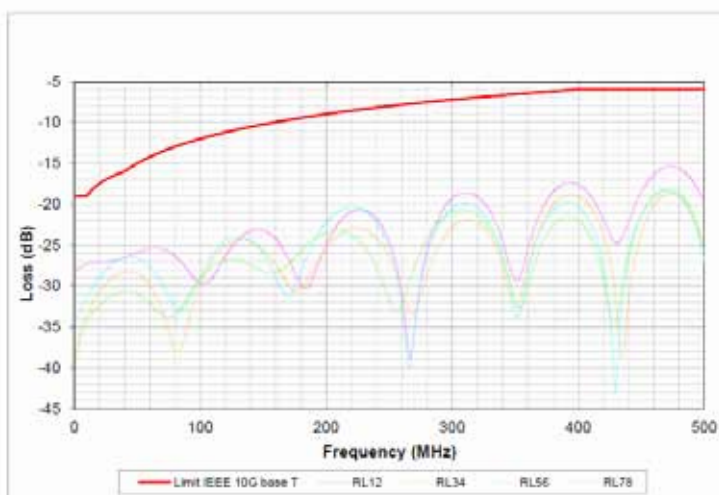
Near End crosstalk (NEXT) :



← IEEE 802.3an Standard requirement

← Amphenol performance

Return Loss (RL) :



← IEEE 802.3an Standard requirement

← Amphenol performance

## FEMALE RECEPTACLES

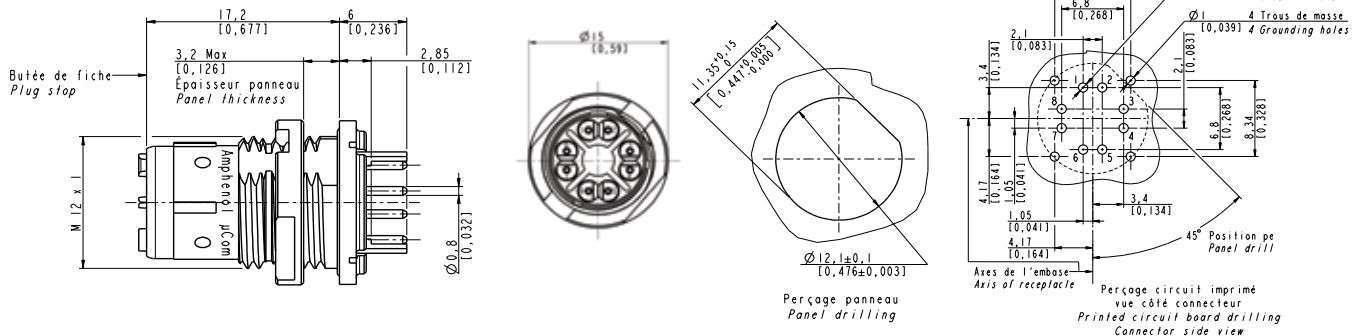


### Female receptacle for printed circuit board

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

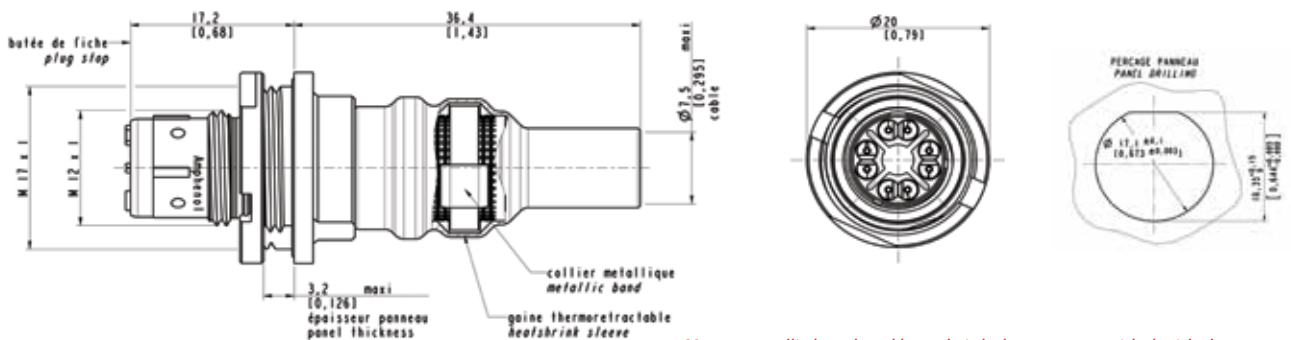


### Panel mount female receptacle with metallic band backshell

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

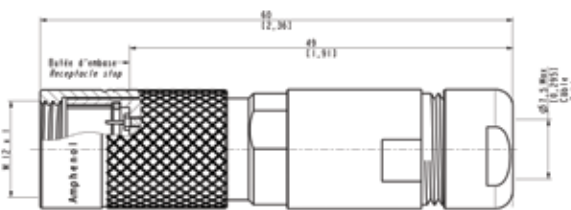
## MALE PLUGS



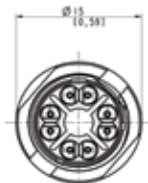
### Plug with cable gland backshell

Part number: UCOM-10G+ P T x x G x

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

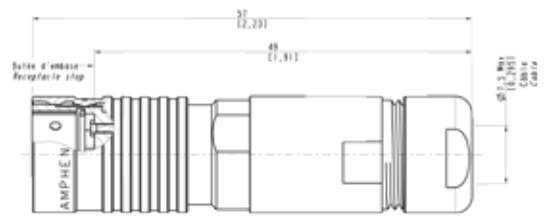


Thread version



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

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



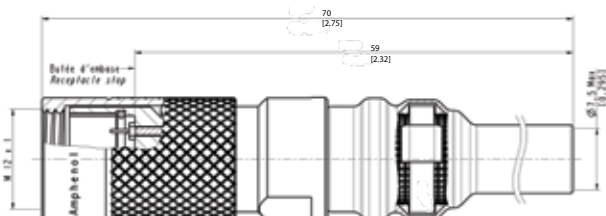
Push Pull version



### 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

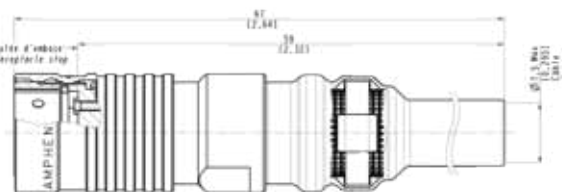


Thread version



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

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



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 |
|---------------------------------------------------------------------------------------|-------------|---|---|---|---|---|---|
| <b>Shell</b><br>P: plug                                                               |             |   |   |   |   |   |   |
| <b>Mating (for plugs only)</b><br>T: thread<br>P: push-pull                           |             |   |   |   |   |   |   |
| <b>Contacts termination</b><br>C: crimp<br>S: solder                                  |             |   |   |   |   |   |   |
| <b>Shell plating</b><br>B: black nickel<br>G: olive drab cadmium<br>U: unplated brass |             |   |   |   |   |   |   |
| <b>Backshell type</b><br>G: gland<br>B: band                                          |             |   |   |   |   |   |   |
| <b>Cable diameter (for gland backshell only)</b><br>A: for cable diam 7.5mm           |             |   |   |   |   |   |   |

For other cable diameter, please consult us

### NOTA:

- UCOM for order designation
- μCom for marking on connectors



## FEMALE IN-LINE RECEPTACLES

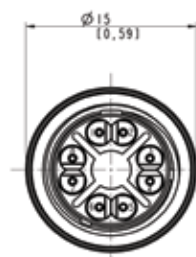
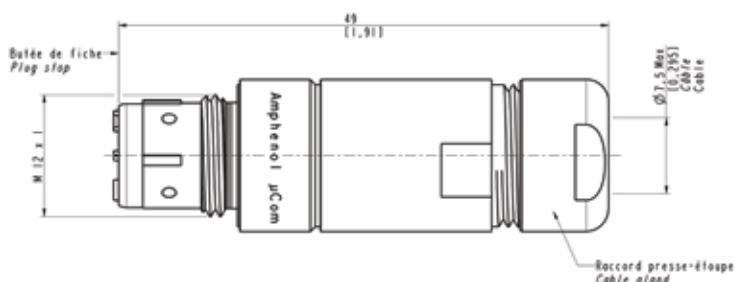


### Female in-line receptacle with cable gland backshell

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

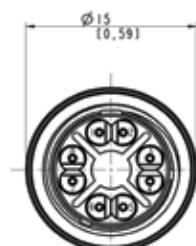
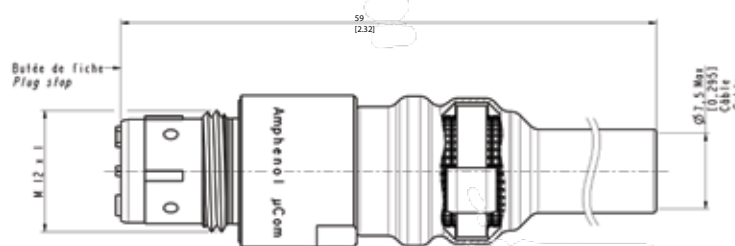


### Female in-line receptacle with metallic band backshell

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 |
|--------------------------------------------------|---|---|---|---|---|
| <b>Shell</b>                                     |   |   |   |   |   |
| L: in line receptacle (push pull or thread)      |   |   |   |   |   |
| <b>Contacts termination</b>                      |   |   |   |   |   |
| C: crimp                                         |   |   |   |   |   |
| S: solder                                        |   |   |   |   |   |
| <b>Shell plating</b>                             |   |   |   |   |   |
| B: black nickel                                  |   |   |   |   |   |
| G: olive drab cadmium                            |   |   |   |   |   |
| U: unplated brass                                |   |   |   |   |   |
| <b>Backshell type</b>                            |   |   |   |   |   |
| G: gland                                         |   |   |   |   |   |
| B: band                                          |   |   |   |   |   |
| <b>Cable diameter (for gland backshell only)</b> |   |   |   |   |   |
| A: for cable diam 7.5mm                          |   |   |   |   |   |

### NOTA:

- UCOM for order designation
- μCom for marking on connectors

For other cable diameter, please consult us

## CORDSETS



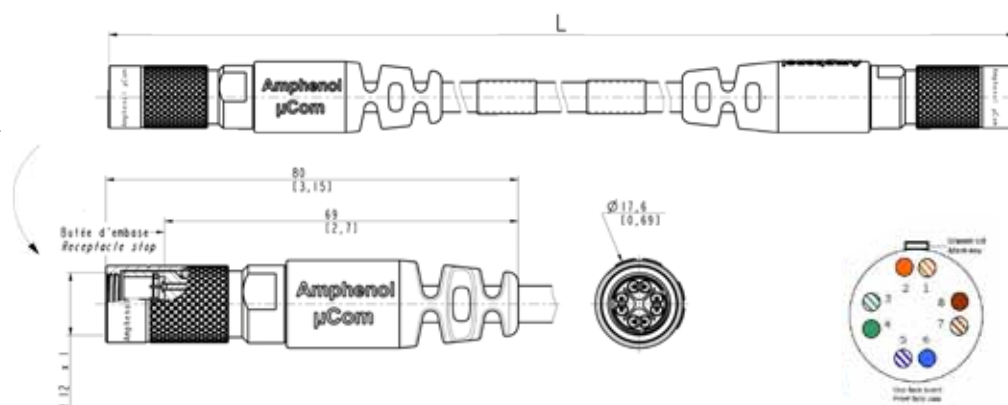
| New cabling configuration |                |                  |
|---------------------------|----------------|------------------|
| Cable number              |                | Connector number |
| 1                         | White / Orange | 1                |
| 2                         | Orange         | 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

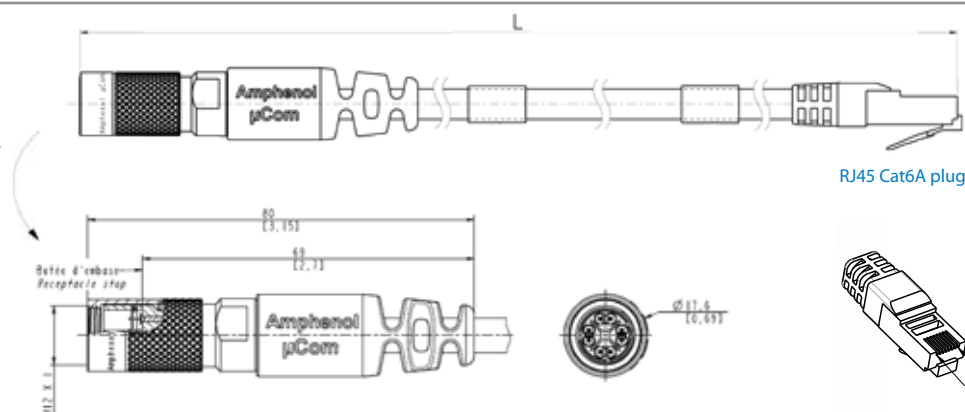


### μCom plug - RJ45 Cat6A plug cordset

Part number:

UCOM-10G+ D x x x xxx

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

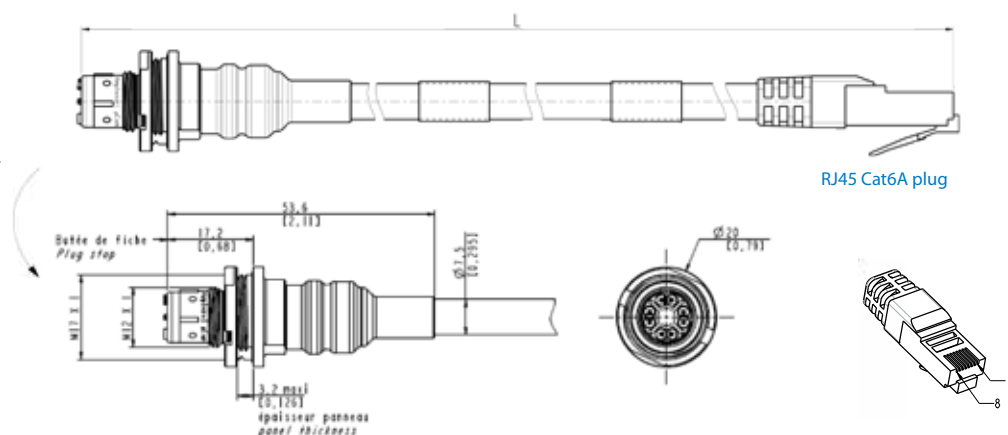


### μCom panel mount receptacle - RJ45 Cat6A plug

Part number:

UCOM-10G+ E x x xxx

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

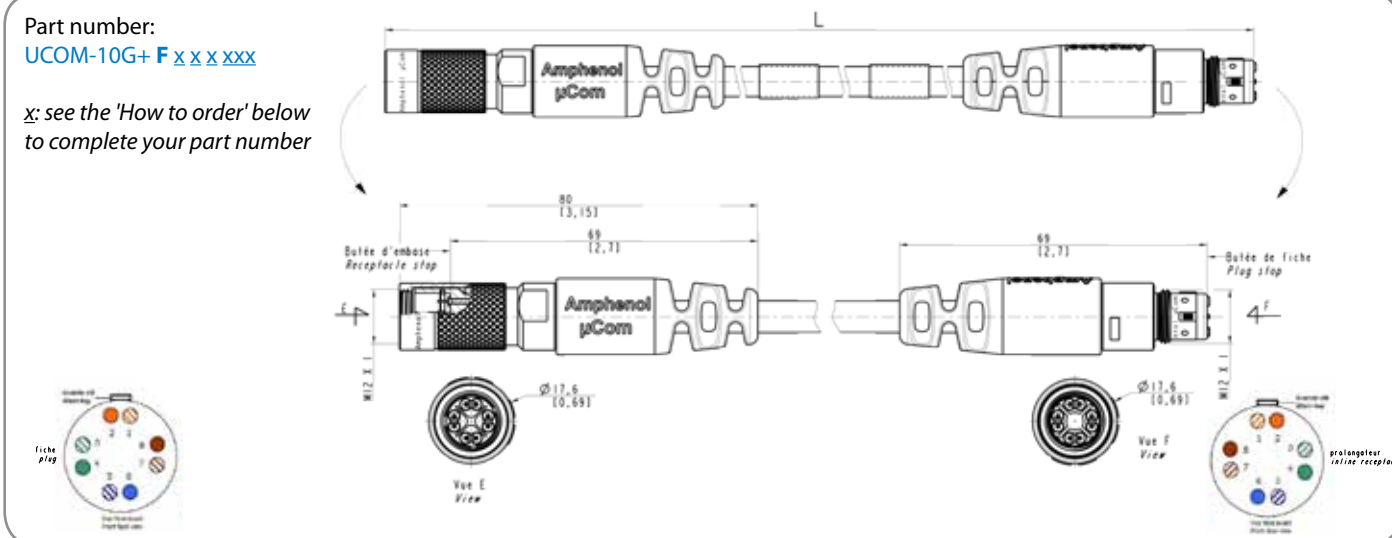


## μCom plug - μCom inline receptacle

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, Alulamine 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

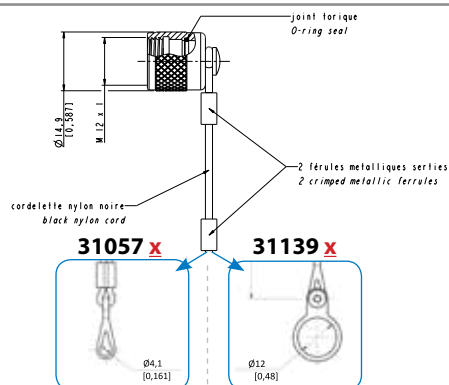
IP68 metallic cap

**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

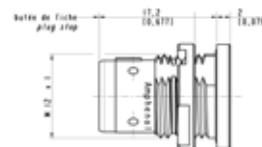
Cap in neoprene

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

Part number: **31073**



Crimp 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).



## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

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