

**FOC10G-UTP-XFP/SFP+ 10GE COPPER/FIBER**  
**FOC10G-XFP-XFP 10GE FIBER/FIBER**  
**FOC10G-SFP+SFP+ 10GE FIBER/FIBER**  
**FOC10G-XFP-SFP+ 10GE FIBER/FIBER**

## Features

### Automatic media converter

#### Copper to fiber converters

- **FOC10GE-UTP-XFP** copper/fiber from 10GBase-T to 10GBase-R by XSF SR, LR or ZR module
- **FOC10GE-UTP-SFP+** copper/fiber from 10GBase-T to 10GBase-R by SFP+ SR, LR or ZR module
- **FOC10GE-CX4-SFP+** copper/fiber from 10GBase-CX4 to 10GBase-R by SFP+ SR, LR or ZR module

#### Fiber to fiber converters or boosters

- **FOC10GE-XFP-XFP** fiber/fiber from 10GBase-R to 10GBase-R by XSF SR, LR or ZR modules
- **FOC10GE-SFP+SFP+** fiber/fiber from 10GBase-R to 10GBase-R en modules SFP+ SR, LR or ZR
- **FOC10GE-XFP-SFP+** fiber/fiber from 10GBase-R to 10GBase-R by XSF et SFP+ module mode SR, LR or ZR

#### Fiber optic Interfaces

Standard distance available in CXR for XFP and SFP+:

- SR: multi-mode 850nm 300m
- LR single-mode 1310nm 10 km
- ER single-mode 1310nm 40km
- ZR single-mode 1550nm 80km
- Lambda CWDM or DWDM 80km

#### Functions / Support

- 3R functions ( Regeneration, Re-timing et Re-shaping)
- "Link Loss Forwarding" or "Link Alarm" function
- Jumbo frames up to 9K

#### Administration

- Per administration Ethernet port
- In html or SNMP
- Provide status and statistics

#### Other

- Dim :147mm x 89mm x 28mm
- Weight : 800g
- DC12V power, delivered w AC adapter or in option 48V
- Option 19" fixation

## ADAPTATION OF 10GE EQUIPEMENTS OR EXTENTION OF 10GE LINKS

*The FOC10GE is a powerful automatic media converter used to interconnect 10Gigabit Ethernet equipments on copper to fiber or fiber to fiber from any vendors or to extend 10GE lines over large distances between switches and routers as a booster. The FOC10GE supply the 3R functions over optical signal from side to side as a booster.*

The FOC10G provide a real time conversion between the 10GBASE-T, 10GBASE-R and 10GBASE-CX4 transmissions.

Interfaces are compliant with:

- IEEE 802.3an for Copper 10GBASE-T interface
- IEEE 802.3ak for Copper 10GBASE-CX4 interface
- IEEE802.3ae for optical interface 10GBASE-R. This is available with XFP or SFP+ module. Suppliers are using different models today's.

The XSP or SFP+ fiber interfaces modules are available fiber by CXR as multi-mode 850nm modules (10GBASE-SR) , single-mode 1310nm (10FBASE-LR or ER), single-mode 1550nm (10GBASE-XR) or en single-mode CWDM

The FOC10G is conversion solution from any type of 10GE interface. This conversion has no impact on frame and rate. The FOC120G support Jumbo frames.

A independent Ethernet port at the back of the device give access to the management in html or SNMP to get links status, over temperature, overflow of optical receivers . This management give the support to the counters with statistics like traffic per packet and per byte, the size frame, the unicast/multicast frames, CRC error, IP- checksum .....



## SIMPLE CONVERSION OR LAN EXTENSION OVER OPTIC



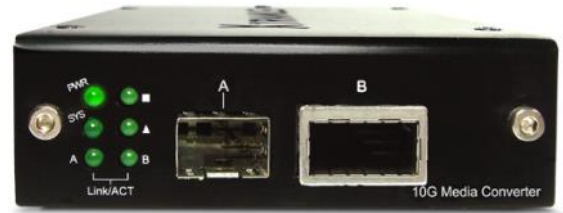
The **FOC10G** converters supply the interconnexion of 2 x 10 Gigabit/Ethernet copper or fiber of any vendor according to IEEE 802.3an/.3ak/3ae. The adapting function of copper port are fully automatic and LED are giving information on traffic.



The **FOC10G** can be used as a LAN extension or an interconnection of two parts of LAN over a fiber optic w/o changing the LAN speed because of 10GE transmission..

## 10Gigabit-Ethernet

## SPECIFICATIONS

**INTERFACES:**

- Copper 10GE-BASE-T, with RJ45 cables Cat6 to 55m, Cat6a to 100m or Cat7
- 10GE-BASE-CX4 copper w CX4 connector.
- 10GE-BASE-SR,, 10GE-BASE-LR and 10GE-BASE-ZR with SFP+ or XFP
- Ethernet administration port (RJ45).

**SUPPORT**

- Fiber/Fiber conversion w 3 R Regeneration , Re-timing et Re-shapping
- Jumbo frame
- Read of DDM or DDI XSFP
- Link Loss Forwarding

**ADMINISTRATION Function:**

- Automatic SFP detection or selected
- Loop test
- Status read: fiber module specification, fiber link status , temperature, overflow received by transceiver
- Statistic counters: transmitted packets and bytes, Broadcast packets , pause frame, frames length size (64, 64-127, 128-255, 256-511, 512-1023, 1024-1518 bytes or more), unicast and multicast frame, CRC error, IP checksum , Under et over size packets..

**PHYSICAL:**

- 12Vdc power, with AC adapters.
- Dimensions : 147mm x 89mm x 28mm
- Working temperature 0°C to 40°C (32°F to 104°F) , stocking -10 to + 60°C (32°F to 122°F)
- Operating and Storage Humidity 0 to 85% RH

## REFERENCES ORDERS

	10 GE MEDIA CONVERTER
<b>FOC10G-XFP-XFP</b>	Media converter of booster 10GBase-R to 10GBase-R, from XFP to XFP, w/o module SR/LR/ZR
<b>FOC10G-SFP+SFP+</b>	Media converter of booster 10GBase-R to 10GBase-R, from SFP+ to SFP+, w/o module SR/LR/ZR
<b>FOC10G-XFP-SFP+</b>	Media converter of booster 10GBase-R to 10GBase-R, from XFP to SFP+, w/o module SR/LR/ZR
<b>FOC10G-UTP-XFP</b>	Media converter 10GBase-T to 10GBase-R, from UTP copper to XFP, w/o module SR/LR/ZR
<b>FOC10G-UTP-SFP+</b>	Media converter 10GBase-T to 10GBase-R, from UTP copper to SFP+, w/o module SR/LR/ZR
<b>FOC10G-CX4-SFP+</b>	Media converter 10GBase-CX4 to 10GBase-R, from UTP copper to SFP+, w/o module SR/LR/ZR
XFP & SFP modules	
<b>XFP-10G-SR-MM</b>	XFP 10GE-LS module multi-mode 850nm, budget for 300m, LC/PC connector, working tpure -10°C to +70°C
<b>XFP-10G-LR-SM10</b>	XFP 10GE-LR module singlemode 1310nm, budget for 10km, LC/PC connector, working tpure -10°C to +70°C
<b>XFP-10G-ER-SM40</b>	XFP 10GE-ER module singlemode 1310nm, budget for 40km, LC/PC connector, working tpure -10°C to +70°C
<b>XFP-10G-ZR-SM80</b>	XFP 10GE-ZR module singlemode 1550nm, budget for 80km, LC/PC connector, working tpure -10°C to +70°C
<b>XFP-10G-ZR-SM80-Cxx</b>	XFP 10GE-ZR module singlemode CWDM lambda Cxx, budget for 80km, LC/PC connector, working tpure -10°C to +70°C
<b>SFP-10G-SR-MM</b>	SFP+ 10GE-LS module multi-mode 850nm, budget for 300m, LC/PC connector, working tpure -10°C to +70°C
<b>SFP-10G-LR-SM10</b>	SFP+ 10GE-LR module singlemode 1310nm, budget for 10km, LC/PC connector, working tpure -10°C to +70°C
<b>SFP-10G-ER-SM40</b>	SFP+ 10GE-ER module singlemode 1310nm, budget for 40km, LC/PC connector, working tpure -10°C to +70°C

CXR Anderson Jacobson reserves its rights to modify the specifications without notice.  
This document is not a contractual document.



CXR Anderson Jacobson  
Rue de l'Omette  
28410 Abondant - France

T +33 (0) 237 62 87 90  
F +33 (0) 237 62 88 01  
email: contact@cxr.com