

# FOC-2x10G-SFPP

## Feature

### 10 Gigabit Ethernet automatic media converter

- Dual SFP+ slot
- Supports the SFP+ with standard SFF-8431
- According to IEEE 802.3ae **10GBASE-R:**
- SFP available in Multimode 10GE-SR to 300m, Single-mode 10GE-LR to 10km, Single-mode 10GE-ER to 40km Single-mode 10GE-ZR to 80km
- SFP+ available standard dual fiber core, WDM single fiber core, or colored Lambda CWDM or DWDM
- Supports the 3R functions of signal regeneration :  
**Re-amplification,**  
**Re-shaping of the optical form**  
**Re-timing generation of clock**
- Full duplex
- Supports Jumbo frame 9KBytes.

### Others

- 94x71x26 mm—800g
- Power supply DC5V
- AC/DC5v adapter option: 24Vcc or 48Vcc/DC5v
- Chassis to share 2 power supplies and 3 fans for 16 FOC/FOCM : RACK-MEDIA16
- Fixing DIN in option
- Fixing 19" in option

## EXTENSION OF 10GE LINKS, CWDM AND DWDM

*The FOC-2x10GE-SFPP is used in 10 Gigabit Ethernet network generally to convert mode multi-mode/single-mode but also to extend the network in longer distance and as conversion in Lambda color on front of CWDM or DWDM filters. It is fully automatic with the 3R regenerating functions. It can be used as stand alone or in chassis RACK-MEDIA16.*

The FOC-2x10GE-SFPP convert in full duplex 10 Gigabit-Ethernet to 10 Gigabit Ethernet flow. It is compliant to the IEEE 802.3ae standard of 10GBASE-R and uses 2 SFP+ to convert the optical mode MM Multi-mode, SM Single-mode, SM WDM Single-mode single core, CWDM or DWDM.

During the conversion the FOC-2x10GE-SFPP converter refreshes the signal with the automatic 3F functions:

- Re-amplification of optical signal
- Re-shaping of optical signal particularly in case of long distance (but less 50km)
- Re-timing or clock regeneration.

Because of distance the optical signal could be modified. In case of long distance other technologies (EDFA, Raman and FEC) are more appropriated. Please contact CXR for other solution.

The FOC-2x10GE-SFPP is fully transparent to Jumbo frames and all 10GE protocol because this is a pure optical conversion.



The FOC-2x10GE-SFPP is utilized alone with an AC or DC 12, 24 or 48V converter or inside 16 slots chassis with shared power supply and fan.

## SIMPLE THE CONVERSION OR EXTENSION OF OPTICAL LAN



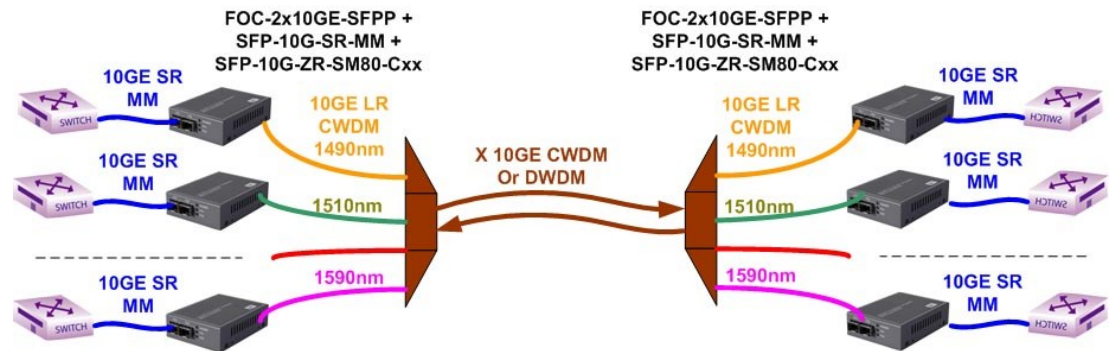
The FOC-2x10GE converter interconnects two fiber 10GBase-R equipments supporting the IEEE802.3ae standards. The LED shows the activity of both sides.



The FOC-2x10GE are also used as LAN extension to connect two optical branches of 10GE LAN over a long distance fiber over 40km.

## 10Gigabit Ethernet converter

## CWDM/DWDM CONVERSION



The **FOC-USFP-USFP** can be used as optical transponder 100FX/100FX toward a CWDM or DWDM Lambda by using the appropriated SFP.

## SPECIFICATIONS

	FOC-2x10GE-SFPP
<b>STANDARDS</b>	IEEE802.3ae
IEEE 803.3z 1000BaseX	10GBase-R
<b>PORTS FIBERS</b>	2 ports for SFP+ modules of type SFF 8431
- Multimode Modules	<b>SFP-10G-SR-MM</b> 850 nm - 300m
- Single-mode Modules	<b>SFP-10G-LR-SM10</b> 1310nm budget for 10km <b>SFP-10G-ER-SM40</b> 1550nm budget for 40km <b>SFP-10G-ZR-SM80</b> 1550nm budget for 80km
- Modules Single-mode WDM single fiber core	<b>SFP-10G-LR-SM20W13</b> and <b>SM20W12</b> : 1330 and 1270nm budget for. 20km <b>SFP-10G-ER-SM20W13</b> and <b>SM20W12</b> : 1330 and 1270nm budget for 40km
- Modules Single-mode CWDM	<b>SFP-10G-ER-SM40-Cxx</b> and <b>SFP-10G-ZR-SM80-Cxx</b>
- Modules Single-mode DWDM	<b>SFP-10G-ZR-SM80-Dxx</b>
- Connectors	LC/PC
<b>FUNCTIONS</b>	Converter of media
Conversion fiber/fiber	SFP+ to SFP+ 10GBase-R
3R optical regeneration	Re-amplification of optical signal Re-shaping or of the optical signal Re-timing or regeneration of the clock
MTU	Transparent to all frames
Rate	10 000 kbps
Flow control	Full duplex
<b>SETTLING</b>	
Auto	Automatic mode
<b>POWER SUPPLY</b>	DC 5V supply with AC 120/240V adapter (DCAC-FOC)
Optional converter DC48v or 24V	Option <b>DCDC-FOC-48V</b> or <b>DCDC-FOC-24V</b>
Consumption	4,3 W
<b>CHASSIS</b>	
Share power supply and fan	As an option <b>RACK-MEDIA16N</b> or <b>RACK-MEDIA16S</b>
<b>PHYSIQUE</b>	
Dimensions and weight	71 x 94 x 26mm (LxDxH) - 600g
Working Temperature	0 to 50 °C ( Version converter FOCD-I: -10 to +60 °C and FOCD-H: -40 to +75 °C)
Stocking Temperature	-20 to 60 °C
Humidity non-condensed	5 to 90%
MTBF	>50 000 h
<b>EMC &amp; SAFETY</b>	CE - FCC Class A

## MODELE NUMBER

<b>FOC-2x10G-SFPP</b>	Media converter 10G, 10Base-R with 2 module SFP+, 3R (Re-amplifying, Re-shapping, Re-timing), w/o SFP+ modules.
	<b>Rack and fixing accessories for FOC/FOCM</b>
<b>RACK-MEDIA16N</b>	Rack 19" 2U without redundancy power and 3 FAN for 16 FOC/FOCM
<b>RACK-MEDIA-AC</b>	AC power for RACK-MEDIA16N maxi 2
<b>RACK-MEDIA-DC</b>	AC power for RACK-MEDIA16N maxi 2
<b>RACK-MEDIA16N-2AC</b>	Rack 19" 2U with mounted with 2 redundancy powers installed and 3 FAN for 16 FOC/FOCM
<b>RACK-MEDIA16S</b>	Rack 19" 2U with one fixed power and 3 FAN for 16 FOC/FOCM
<b>KIT-SLIDE-IN-FOC</b>	Mounting kit for FOC/FOCM to slide in RACK-MEDIA16 ** Already supplied with RACK*** Spare parts
<b>DIN-FOC</b>	Kit DIN for FOC , FOCF or FOCI
<b>RACK19-1FOCx</b>	19" or 23" chassis mounting kit, fixed on one side of the bay, 1U high, for one 1 FOC, FOCM, FOCF, FOCI
<b>WALL-FOC</b>	Wall mounting kit for FOC/FOCM/FOCF
<b>Q-FOC</b>	Kit for 4 FOC/FOCM with common AC/DC adaptor
	<b>Power supply for FOC/FOCM</b>
<b>DCAC-FOC</b>	AC adapter to 5V for FOC, Europe plug ** spare already includes in FOC
<b>DCAC-FOC-UK</b>	AC adapter to 5V for FOC, UK plug ** spare already includes in FOC
<b>DCAC-FOC-USA</b>	AC adapter to 5V for FOC, USA plug, ** spare already includes in FOC
<b>DCAC-FOC-IEC320M</b>	AC adapter to 5V for FOC , male IEC320 AC socket, no cord
<b>DCAC-FOC-IEC320M-E</b>	AC adapter to 5V for FOC , AC plug male IEC320, European power cord
<b>DCDC-FOC-48V</b>	DC48V to DC5V adapter for FOC
<b>DCDC-FOC-24V</b>	DC24V to DC5V adapter for FOC
	<b>SFP Plus 10GE module standard range -10 to +70°C</b>
<b>SFP-10G-SR-MM</b>	SFP+ 10GE-LS module multi-mode 850nm, budget for 300m, LC/PC connector.
<b>SFP-10G-LR-SM10</b>	SFP+ 10GE-LR module single mode 1310nm, budget for 10km, LC/PC connector.
<b>SFP-10G-ER-SM40</b>	SFP+ 10GE-ER module single mode 1550nm, budget for 40km, LC/PC connector.
<b>SFP-10G-ZR-SM80</b>	SFP+ 10GE-ZR module single mode 1550nm, budget for 80km, LC/PC connector.
<b>SFP-10G-LR-SM20W13</b>	SFP+ 10GE-LR module single mode 1330nm, budget for 10km, LC/PC connector.
<b>SFP-10G-LR-SM20W12</b>	SFP+ 10GE-LR module single mode 1270nm, budget for 10km, LC/PC connector.
<b>SFP-10G-ER-SM40W13</b>	SFP+ 10GE-ER module single mode 1330nm, budget for 40km, LC/PC connector.
<b>SFP-10G-ER-SM40W12</b>	SFP+ 10GE-ER module single mode 1270nm, budget for 40km, LC/PC connector.
<b>SFP-10G-ER-SM40-Cxxx</b>	SFP+ 10GE-ER module single mode CWDM color Cxx , budget 14 to 18dB for 40km, LC/PC connector.
<b>SFP-10G-ZR-SM80-Cxxx</b>	SFP+ 10GE-ER module single mode CWDM color Cxx , budget for 80km, LC/PC connector.

### 10Gigabit Ethernet Converter

#### RACK-MEDIA16N

Chassis for 16 FOC/FOC w 2 modular AC or DC redundant power supplies, 3 FANs



#### RACK-MEDIA16S

Chassis for 16 FOC/FOC 1 AC power supply et 3 FANs



#### RACK19-1FOCx

19" 1U mounting for one FOC, FOC, FOCF or FOCI



#### RACK19-1U-DIN-RAIL

19" 1U chassis with DIN-Rail Up to 5 FOCx with DIN-FOC can be fixed



#### Q-FOC

Tray to mount 4 FOC. Supply with a common Power supply Wall fixing.



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

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

[www.cxr.com](http://www.cxr.com)  
Smart Solutions for Smart Networks