

FOC-TTX-FX OR SFP COPPER TO FIBER ETHERNET FOC-TGTX-SX/LX OR SFP COPPER TO FIBER GIGABIT ETHERNET

Feature

Automatic media converter

- **FOC-TTX-FX...** copper/fiber from 10/100Baset to 100FX
- **FOC-TTX-SFP..** copper/fiber from 10/100Baset to 100FX with SFP module
- **FOC-TGTX-GSX/GLX..** copper/fiber from 10/100/1000Baset to 1000SX or 1000LX or 1000ZX
- **FOC-TGTX-SFP** copper/fiber from 10/100/1000Baset to 1000SX or LX or ZX with SFP module

Interfaces optical fiber

- Standard Distance 100FX: 2km MM, 30/50/80/100km SM
- Distance 1000SX/LX/ZX: 0,5/2/10/30/50/80km fixed optic or with SFP
- Duplex (dual fiber) or Simplex (single fiber) in WDM fixed or SFP
- Colored Lambda CWDM chassis with SFP CWDM modules

Automatic functions:

- DIP switch to inactive
- « Link Alarm » support on/off
- Ethernet copper rate: Auto negotiation or fixed
- MDI/MDIX Auto negotiation
- Auto full/half duplex or fixed
- Switch mode 10/100bt to 100FX or 10/100/1000BT to 1000FX
- Pure converter mode 100Bt to 100FX, 1000Bt to 1000FX
- Jumbo frames support 9Kbytes

Others

- 94x71x26 mm—800g
- Power DC5V w AC adapter, option 48V or 24V adapter
- Chassis for 16 FOC/FOC
- Option DIN-rail fixation
- Option 19" fixation for 1 or 4 FOC

INTERCONNECTION OF ETHERNET EQUIPMENTS OR EXTENSION OF ETHERNET LINK

The FOC is an Ethernet/Gigabit-Ethernet performing media converter witch run automatically. This FOC is used to interconnect copper to fiber Ethernet or Gigabit Ethernet from any vendor or to interconnect over fiber two distant branch of LAN. This edge device is particularly appreciated for his automatic or manual setting and the « Link Alarm ». It can be use alone or inside the RACK-MEDIA16 chassis with redundant power supply.

The FOC is available as **FOC-TTX** version for copper Ethernet 10/100Baset to optical Ethernet 100FX with fixed fiber or SFP module and as **FOC-TGTX** version for copper Gigabit-Ethernet 10/100/1000Baset to optical Ethernet 1000SX/LX/ZX with fixed fiber or SFP module.

The FOC can be used as converter and switch 2 ports mode with traffic control between copper and fiber sides or in pure converter mode (100Baset to 100FX or 1000Baset to 1000FX) and they particularly carry the Jumbo Frame up to 9Kbytes necessary to some application like IP-TV and server duplications.



SIMPLE CONVERSION OR LAN EXTENSION

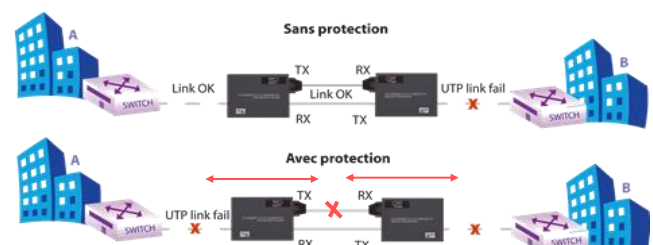
The FOC converter interconnects two Ethernet/Gigabit-Ethernet equipments in copper or fiber compliant to the IEEE 802.3/.3u/3ab/3z standards. In the copper side, the adaptation functions of speed/duplex/MDIX are fully automatic or can be selected and LED are showing set-up and traffic.



The FOC converter can be used as LAN extension between two branches of LAN over a fiber optic without traffic congestion because of full duplex rate of 200Mbps or 2000Mbps and the Store-and-Forward switching mode on/off and with filter mode on/off to 148,8Kbps or 1488kbps

« LINK ALARM » OR « LINK FAULT PASS THROUGH » FUNCTION

The FOC support the function « Link Alarm » or « Link Fault Pass Through » witch deactivated the next Ethernet section, or the other side of the converter when the first side is disconnect. In case copper is disconnect the fiber link is put down, in case the fiber is disconnect the copper side is put down. This function is particularly necessary in applications at the front of switch or router to advise the loss of links. This function can be switch on/off.



Manageable Ethernet media converter



Version w fixed fiber



AUTOMATIC WITH DIP-SWITCH

With default setting the FOC is set-up as an automatic converter and by DIP switches it can be adjusted MDI-MDIX, Full/Half duplex, rate limitation on/off, Link Alarm function on/off, copper Ethernet rate or switch/pure converter with Jumbo frames support.



	FOC-TTX-FX	FOC-TGTX-GSX/GLX	FOC-TGTX-SFP
STANDARDS			
IEEE 802.3 10BaseT	Yes	Yes	Yes
IEEE 802.3u 100BaseTX & 100FX	Yes	Yes	Yes
IEEE 802.3ab 1000BaseT		Yes	Yes
IEEE 803.3z 1000BaseX		Yes	Yes
COPPER PORT	1 x 10/100BaseT	1 x 10/100/1000BaseT	1 x 10/100/1000BaseT
FIBRE PORT	1 x 100FX fixe	1 x 1000SX, LX or ZX fixe	1 x 1000SX, LX or ZX per SFP module
- Multimode	1310nm - 2km	850 nm - 500m	850 nm - 500m 1310 nm - 2km
- Singlemode	1310/1550 nm 30 to 100km	1310/1550 nm 10 to 80km	1310/1550 nm 10 to 200km
- Other xWDM	WDM simple fibre	WDM simple fibre	WDM, CWDM & DWDM
- Connector	SC or ST	SC (FC-PC in option)	LC
FUNCTIONS	Pur media convertor or convertor Switch	Pur media convertor or convertor Switch	Pur media convertor or convertor Switch
PUR CONVERTEUR	100BaseT to 100FX	1000BaseT to 1000SX/...	
Maximum rate	200Mbps full duplex	2000Mbps full duplex	2000Mbps full duplex
Maxi frame carried	Jumbo Trame 9Kb	Jumbo Trame 9Kb	Jumbo Trame 9Kb
ETHERNET SWITCH			
Auto-negotiation (Auto/Manual)	10/100BaseT	10/100/1000BaseT	10/100/1000BaseT
Flow control (Auto/Manual)	Half/Full duplex	Half/Full duplex	Half/Full duplex
Auto-sence (Auto/Manual)	MDI-MDIX	MDI-MDIX	MDI-MDIX
Store & forward		10M: 14 880/14 880pps 100M: 148 800/148 800pps 1000M: 1 488 000/1 488 000pps	
MAC address table	1Ko	1Ko	1Ko
Buffer	48Ko	128Ko	128Ko
FUNCTION Fibre/Copper			
LINK ALARM (Active/Off)	Unactive the next section if the first section is break		
SET-UP			
Auto or Manual	DIP-switch	DIP-switch	DIP-switch
POWER SUPPLY			
Optional adapter DC48v or 24V	DC 5V with AC/DC adaptateur DCDC-FOC-48V or DCDC-FOC-24V		
Consumption	5W	3W	3W
CHASSIS			
To share power and fan	RACK-MEDIA16N or RACK-MEDIA16S		
OTHER			
Dimensions and weight	71 x 94 x 26mm (LxDxH) - 600g		
Working temperature	0 to 50 °C		
Stocking temperature	-20 to 60 °C		
Non condensed humidity	5 to 90%		
MTBF	>50 000 h		
EMC/SECURITY			
	CE - FCC Class A		

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 fixation for one FOC, FOC,
FOCF or FOCl



DIN-FOC
fixation for one FOCx on DIN-Rail
RACK19-1U-DIN-RAIL
19 " 1U chassis with DIN-Rail
Up to 5 FOCx with DIN-FOC can
be fixed



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CHOOSE THE RIGHT OPTIC

Manageable Ethernet media
converter

Fixed optics 100FX of converter/switches *FOC-TTX-FX-xxx*.

REFERENCE	FX-MM	FX -SM30	FX -SM50	FX -SM80	FX -SM100	FX-SM 20W13	FX-SM 20W15	FX-SM 40W13	FX-SM 40W15
Ethernet	100FX	100FX	100FX	100FX	100FX	100FX	100FX	100FX	100FX
Fiber mode	MM	SM	SM	SM	SM	SM	SM	SM	SM
Number of fiber	2	2	2	2	2	1	1	1	1
Wavelength	1310nm	1310nm	1310nm	1310nm	1550nm	1310nm/ 1550nm	1550nm/ 1310nm	1310nm/ 1550nm	1550nm/ 1310nm
Budget	11 db	19 db	29 db	37 db	36 db	19db	19db	25 db	25 db
Typical distance	2 km	30 km	50 km	80 km	100 km	20 km	20 km	40 km	40 km

Fixed optics 1000SX/LX/ZX of converter/switches *FOC-TGTX-SX/LX-xxx*.

REFERENCE	GSX	GLX-SM10	GLX-SM30	GLX-SM50	GLX-SM 20W13	GLX-SM 20W15	GLX-SM 40W13	GLX-SM 40W15	SFP-GLX- SM80W14	SFP-GLX- SM80W15
Ethernet	1000SX	1000LX	1000LX	1000LX	1000LX	1000LX	1000LX	1000LX	1000LX	1000LX
Fiber mode	MM	SM	SM	SM	SM	SM	SM	SM	SM	SM
Number of fiber	2	2	2	2	1	1	1	1	1	1
Wavelength	850nm	1310nm	1310nm	1550nm	1310nm/ 1550nm	1550nm/ 1310nm	1310nm/ 1550nm	1550nm/ 1310nm	TX 1490nm	TX1570nm
Budget	8,5 dB	12 db	19 db	19 db	12 db	12 db	20 db	20 db	24 db	24 db
Typical distance	550 m	10 km	30 km	50 km	20 km	20 km	40 km	40 km	80 km	80 km

Order number
please add at the
end of number
- J for UK
- U for USA
- A for Australia

FOC-TTX-FX-MM	Media converter switch 10/100BT to 100FX MM 1310nm budget 11dB, full duplex SC
FOC-TTX-FX-MM-ST	Media converter switch 10/100BT to 100FX MM 1310nm budget 11dB, full duplex ST
FOC-TTX-FX-SM30	Media converter switch 10/100BT to 100FX SM 1310nm 19db, full duplex SC
FOC-TTX-FX-SM50	Media converter switch 10/100BT to 100FX SM 1310nm 33db, full duplex SC
FOC-TTX-FX-SM100	Media converter switch 10/100BT to 100FX SM 1550nm 33db, full duplex SC
FOC-TTX-FX-SM20W13	Media converter switch 10/100BT to 100FX SM 1310nm 19db , single fiber full duplex SC
FOC-TTX-FX-SM20W15	Media converter switch 10/100BT to 100FX SM 1550nm 19db , single fiber full duplex SC
FOC-TTX-FX-SM40W13	Media converter switch 10/100BT to 100FX SM 1310nm 25db, single fiber full duplex SC
FOC-TTX-FX-SM40W15	Media converter switch 10/100BT to 100FX SM 1550nm 25db, single fiber full duplex SC
FOC-GTX-GSX-MM	Media converter 1000BT to 1000SX MM 850nm 8,5db for 550m, full duplex SC
FOC-GTX-GLX-SM10	Media converter 1000BT to 1000LX SM 1310nm 12db, full duplex SC
FOC-GTX-SFP	Media converter 1000BT to 1000SX or 1000LX per SFP module (w/o SFP module)
FOC-TGTX-GSX-MM	Media converter switch 10/100/1000BaseT to 1000SX MM 850nm 8,5db for 550m, full duplex SC
FOC-TGTX-GLX-SM10	Media converter switch 10/100/1000BaseT to 1000LX SM 1310nm 12db, full duplex SC
FOC-TGTX-GLX-SM30	Media converter switch 10/100/1000BaseT to 1000LX SM 1310nm 19db, full duplex SC
FOC-TGTX-GLX-SM50	Media converter switch 10/100/1000BaseT to 1000LX SM 1550nm 19db, full duplex SC
FOC-TGTX-GLX-SM80	Media converter switch 10/100/1000BaseT to 1000LX SM 1550nm 22db, full duplex SC
FOC-TGTX-GLX-SM10W13	Media converter switch 10/100/1000BaseT to 1000LX SM 1310nm 12db , single fiber full duplex SC
FOC-TGTX-GLX-SM10W15	Media converter switch 10/100/1000BaseT to 1000LX SM 1550nm 12db , single fiber full duplex SC
FOC-TGTX-GLX-SM20W13	Media converter switch 10/100/1000BaseT to 1000LX SM 1310nm 15dB , single fiber full duplex SC
FOC-TGTX-GLX-SM20W15	Media converter switch 10/100/1000BaseT to 1000LX SM 1550nm 15dB , single fiber full duplex SC
FOC-TGTX-GLX-SM40W13	Media converter switch 10/100/1000BaseT to 1000LX SM 1310nm 20db, single fiber full duplex SC
FOC-TGTX-GLX-SM40W15	Media converter switch 10/100/1000BaseT to 1000LX SM 1550nm 20db, single fiber full duplex SC
FOC-TGTX-SFP	Media converter 1000BT to 1000SX or 1000LX per SFP module (w/o SFP module)
RACK-MEDIA16N	Rack 19" 2U without redundancy power and FAN for 16 FOC-xxxx
RACK-MEDIA-AC	AC power for RACK-MEDIA16N maxi 2
RACK-MEDIA-DC	AC power for RACK-MEDIA16N maxi 2
RACK-MEDIA16N-2AC	Rack 19" 2U with mounted with 2 redundancy powers installed and 3 FAN for 16 FOC-xxxx
RACK-MEDIA16S	Rack 19" 2U with one fixed power and FAN for 16 FOC-xxxx
DIN-FOC	Kit DIN for FOC , FOCF or FOCI
DCAC-FOC	AC adapter to 5V for FOC, male IEC320 AC socket
DCDC-FOC-48V	DC48V to DC5V adapter for FOC
DCDC-FOC-24V	DC24V to DC5V adapter for FOC
RACK19-1FOCx	19" or 23" chassis mounting kit, fixed on one side of the bay, 1U high, for one 1 FOC, FOCM, FOCF, FOCI

