

FOC-TGTX-USFP
FOC-TGTX-FX/GLX
FAST/GIGABIT ETHERNET COPPER/FIBER

Features

Universal automatic Ethernet media converter

- 10/100BaseT toward 100FX
- 10/100/1000BaseT toward 1000LX
- Automatic detection of copper and fiber rate

Versions converter/switch

- **FOC-TGTX-USFP.** copper/fiber from 10/10/1000BaseT toward fiber SFP 100FX or 1000SX/LX/ZX depending of SFP
- **FOC-TGTX-FX/GLX-SM10.** copper from 10/100/1000BaseT toward fiber 100FX or 1000GLX single-mode SM 1310nm, 10km, SC
- **FOC-TGTX-FX/GLX-10W3.** copper from 10/100/1000BaseT toward single core fiber WDM 100FX or 1000GLX SM 1310nm for 10km, SC
- **FOC-TGTX-FX/GLX-10W5.** copper from 10/100/1000BaseT toward single core fiber WDM 100FX or 1000GLX SM 1550nm for 10km, SC

CXR Fiber optic SFP

- Standard distances 100FX: 2/30/60/100/120Km
- Standard distance 1000SX/LX: 0,5/10/20/50/80/120km
- SFP dual rate 100FX and 1000LX
- SFP Simple core in WDM
- Colored Lambda for CWDM

Automatic function or enable/disable with Dip-switch

- « Link Alarm » support
- Rate Auto negotiation of copper and fiber Ethernet or rate selection
- MDI/MDIX
- Full/half duplex
- Mode switch Store & Forward (L2) 10/100Bt to 100FX or 10/100/1000BaseT to 1000SX
- MTU Jumbo frame 9KB

Others

- 94x71x26 mm—800g
- Power supply DC5V
- AC/DC 5v supply or 48Vcc in option
- Chassis for 16 FOC/FOCM
- DIN and 19" mounting in option



**RATE AND MEDIA ADAPTATION FOR ETHERNET EQUIPMENTS
 EXTENSION OF ETHERNET LINKS**

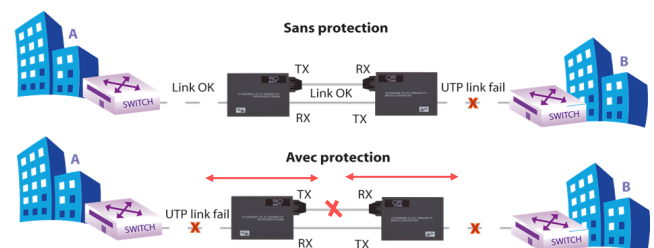
The FOC-TGTX-USFP is a universal powerful automatic media converter to interconnect copper and fiber Ethernet, Fast Ethernet or Gigabit Ethernet equipment from any vendor or to transport long distance Ethernet over optical fiber. The automatic functions of adjustment and the « Link Alarm» are particularly interesting to help during the deployment. It is used alone or in RACK-MEDIA16 chassis.

The FOC-TGTX universal media converter Ethernet/Gigabit-Ethernet 10/100/1000BaseT toward Fast-Ethernet optical 100FX and Gigabit Ethernet fiber 1000GSX/GLX is available with a modular SFP or with fixed fiber.

The FOC-TGTX- FX/GLX or FOC-TGTX- USFP with dual rate SFP GE/FE detects automatically the rate of copper device but also of the fiber and adjust the rate of both media to the maximum possible rate

The FOC-TGTX can be used as 2 ports converter switch to adjust the rate 2 ports between the copper and fiber or in mode pure converter (100BaseT to 100FX or 1000BaseT to 1000FX). In both case it is supporting the Jumbo Frame up to 9KB, that is used in some application like IP-TV.

The FOC-TGTX supports the «Link Alarm» (or Link down) function which deactivate the copper when the fiber is cut or deactivate the fiber when the copper is disconnected. This function is particularly used to inform the events to the connect-



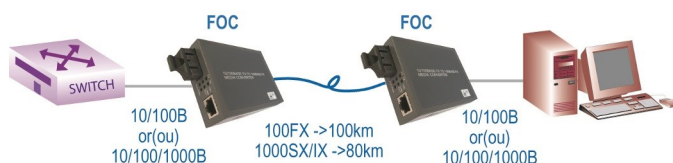
ed switches or routers.

SINGLE CONVERSION OR LAN EXTENSION

The FOC-TGTX converter interconnects two Ethernet/Gigabit-Ethernet equipments in copper or fiber compliant to the IEEE 802.3/.3u/3ab/3z standards. the LED are showing set-up and traffic.



The FOC-TGTX 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



Universal media Ethernet converter

SPECIFICATIONS

	FOC-TGTX-FX/ GLX-SM10	FOC-TGTX-FX/ GLX-10W3	FOC-TGTX-FX/ GLX-10W5	FOC-TGTX-USFP
STANDARDS				
IEEE 802.3 10BaseT	Yes			
IEEE 802.3u 100BaseTX & 100FX	Yes			
IEEE 802.3ab 1000BaseT	Yes			
IEEE 803.3z 1000BaseX	Yes			
COPPER PORT	1 x 10/100/1000BaseT			
FIBER PORT	Fix fiber dual rate 100FX/1000LX standard dual cores	Fix fiber dual rate 100FX/1000LX single core WDM		SFP module 100FX and/or 1000SX/LX/ZX single or dual core
- Multimode	-	-		Modules 850 nm - 500m 1310 nm - 2km
• Single-mode	• 1310nm 2 core fiber	1310nm single core WDM	1550nm single core WDM	Modules 1310nm ou 1550 nm 10 to 120km
Optical mode	SM	SM	SM	see SFP-GSX/GLX
TX power mini/maxi	-9,0dBm/-3,0dBm	-9,0dBm/-3,0dBm	-9,0dBm/-3,0dBm	-
RX sensitivity	-22dBm	-22dBm	-22dBm	-
Optical budget (TX-RX)	11dB	11dB	11dB	-
Typical distance	10km	10km	10km	500m to 120km
- Other	Standard	WDM	WDM	WDM, CWDM & DWDM
- Connectors	SC/PC	SC/PC	SC/PC	LC/PC
FUNCTIONS	Converter Switch "Store and Forward"			
Conversion copper/fiber	10/100BaseT to 100FX, 10/100/1000BaseT to 1000GSX/GLX, 100BaseT to 100FX et 1000BaseT to 1000GSX/GLX			
Maximum transfer rate	200Mbps or 2000Mbps full duplex			
Frame / MTU	Jumbo Frame 9Kb			
Auto-negotiation (Auto/Manual)	10/100/1000BaseT			
Flow control (Auto/Manual)	Half/Full duplex			
Auto-sence (Auto/Manual)	MDI-MDIX			
Store & forward, filtering	10M: 14 880/14 880pps 100M: 148 800/148 800pps 1000M: 1 488 000/1 488 000pps			
MAC address table	1Ko			
Buffer	32Ko			
FUNCTION Fibre/Cuivre				
LINK ALARM (Active/Non)	Deactivating the copper Ethernet when fiber port is cut. Deactivating the Ethernet Fibre when the copper Ethernet port is cut			
SETLING				
Auto or Manual	Mode auto or with DIP-switch			
POWER SUPPLY	DC 5V, supply with AC/DC converter (DCAC-FOC)			
option	Option adapter DCDC-FOC-48V ou DCDC-FOC-24V			
Consumption	2,2 W			
CHASSIS				
Share power and FAN	Option RACK-MEDIA16N or RACK-MEDIA16S			
PHYSICAL				
Dimensions and Weight	71 x 94 x 26mm (LxDxH) - 600g			
Working Temperature	0 to 50 °C (FOCD-I this version supports -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			
EMISSION/SECURITY	CE - FCC Class A			

MODELE NUMBER

FOC-TGTX-FX/GLX-SM10	Media converter switch 10/100/1000BaseT to 100FX or 1000LX SM 1310nm 12db, full duplex SC
FOC-TGTX-FX/GLX-10W3	Media converter switch 10/100/1000BaseT to 100FX or 1000LX SM 1310nm WDM single core 12db , single fiber full duplex SC
FOC-TGTX-FX/GLX-10W5	Media converter switch 10/100/1000BaseT to 100FX or 1000LX SM 1550nm WDM single core 12db , single fiber full duplex SC
FOC-TGTX-USFP	Media converter 10/100/1000BT to 100FX or 1000SX or 1000LX per SFP module (w/o SFP module)
Rack and fixing accessories for FOC/FOCM	
RACK-MEDIA16N	Rack 19" 2U without redundancy power and 3 FAN for 16 FOC/FOCM
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/FOCM
RACK-MEDIA16S	Rack 19" 2U with one fixed power and 3 FAN for 16 FOC/FOCM
KIT-SLIDE-IN-FOC	Mounting kit for FOC/FOCM to slide in RACK-MEDIA16 ** Already supplied with RACK*** Spare parts
DIN-FOC	Kit DIN for FOC , FOCF or FOCI
RACK19-1FOCx	19" or 23" chassis mounting kit, fixed on one side of the bay, 1U high, for one 1 FOC, FOCM, FOCF, FOCI
WALL-FOC	Wall mounting kit for FOC/FOCM/FOCF
Q-FOC	Kit for 4 FOC/FOCM with common AC/DC adaptor
Power supply for FOC/FOCM	
DCAC-FOC	AC adapter to 5V for FOC, Europe plug ** spare already includes in FOC
DCAC-FOC-UK	AC adapter to 5V for FOC, UK plug ** spare already includes in FOC
DCAC-FOC-USA	AC adapter to 5V for FOC, USA plug, ** spare already includes in FOC
DCAC-FOC-IEC320M	AC adapter to 5V for FOC , male IEC320 AC socket, no cord
DCAC-FOC-IEC320M-E	AC adapter to 5V for FOC , AC plug male IEC320, European power cord
DCDC-FOC-48V	DC48V to DC5V adapter for FOC
DCDC-FOC-24V	DC24V to DC5V adapter for FOC
SFP MODULE support: 100FX, STM1-OC3, CXR E1/E3 FO-modem and MX devices. -5 to +70°C	
SFP-STM1-MM-850	SFP module 100FX, STM1 - OC3 multimode 850nm, compatible with FO-xxxx-MM, LC
SFP-STM1-MM2	SFP module 100FX, STM1 - OC3 multimode 1310 for 2km, LC
SFP-STM1-SM30	SFP module 100FX, STM1 - OC3 single mode 1310 for 30km, LC
SFP-STM1-SM60	SFP module 100FX, STM1 - OC3 single mode 1310 for 50km, LC
SFP-STM1-SM100-15	SFP module 100FX, STM1 - OC3 single mode 1550 for 100km, LC
SFP-STM1-SM120-15	SFP module 100FX, STM1 - OC3 single mode 1550 for 120km, LC
SFP-STM1-SM160-15D	SFP module 100FX, STM1 - OC3 single mode 1550 for 160km, LC, with DDM, L-4.2
SFP-STM1-SM200-15D	SFP module 100FX, STM1 - OC3 single mode 1550nm w 46 to 50db bud. for 200km, LC, with DDM, L-4.2
SFP-STM1-SM15-W13	SFP module 100FX, STM1 - OC3 single mode WDM 1310 for 15km, LC, must be used face to SFP-STM1-SM15-W15
SFP-STM1-SM15-W15	SFP module 100FX, STM1 - OC3 single mode WDM 1550 for 15km, LC, must be used face to SFP-STM1-SM15-W13
SFP-STM1-SM60-W13	SFP module 100FX, STM1 - OC3 single mode WDM 1310 for 60km, LC, must be used face to SFP-STM1-SM60-W15
SFP-STM1-SM60-W15	SFP module 100FX, STM1 - OC3 single mode WDM 1550 for 60km, LC, must be used face to SFP-STM1-SM60-W13
SFP-STM1-SM50-Cxx	SFP module 100FX, STM1 - OC3 single mode CWDM for 50km, LC
SFP-STM1-SM80-Cxx	SFP module 100FX, STM1 - OC3 single mode CWDM for 80km, LC
Dual Rate SFP 100FX and 1000GSX/GLX/GZX	
SFP-GSX-MM	SFP module 1000SX /100FX w DD, multimode 850nm, bud. 8,0dB for 550m, LC
SFP-GSX-MM-1310	SFP module 1000SX /100FX w DD, multimode 1310nm, bud. 16,0dB for 2km, LC
SFP-GLX-SM20	SFP module 1000LX /100FX w DD, single-mode 1310nm, bud. 17,0dB for 20km , LC
SFP-GZX-SM50	SFP module 1000ZX /100FX w DD, single-mode 1550nm, bud. 19,0dB for 50km , LC
SFP-GZX-SM80	SFP module 1000ZX /100FX w DD single-mode 1550nm, bud. 24,0dB for 80km , LC
SFP-GZX-SM120	SFP module 1000ZX /100FX w DD single-mode 1550nm, bud. 31,0dB for 120km , LC
SFP-GLX-SM20W13	SFP module 1000LX /100FX w DD, single-mode 1310nm WDM single fiber, bud. 12,0dB for 20km , LC
SFP-GLX-SM20W15	SFP module 1000LX /100FX w DD, single-mode 1550nm WDM single fiber, bud. 12,0dB for 20km , LC
SFP-GZX-SM60W13	SFP module 1000LX /100FX w DD, single-mode 1310nm WDM single fiber, bud. 24,0dB for 60km , LC
SFP-GZX-SM60W15	SFP module 1000LX /100FX w DD, single-mode 1550nm WDM single fiber, bud. 24,0dB for 60km , LC
SFP-GZX-SM80W1490	SFP module 1000LX /100FX w DD, single-mode 1490nm WDM single fiber, bud. 24,0dB for 80km , LC
SFP-GZX-SM80W1570	SFP module 1000LX /100FX w DD, single-mode 1570nm WDM single fiber, bud. 24,0dB for 80km , LC
CWDM & DWDM SFP	
SFP-GLX-SM80-Cxx	SFP module 1000LX w DD, CWDM lambda, choice de 1430 to 1610nm, bud. 24,0dB for 80km, LC
SFP-GLX-SM120-Cxx	SFP module 1000LX w DD, CWDM lambda, choice from 1430 to 1610nm, bud. 32dB for 120km, LC
SFP-GLX-SM150-Cxx	SFP module 1000LX w DD, CWDM lambda, choice from 1430 to 1610nm, bud. 37dB for 150km, LC
SFP-GLX-SM80-Dxx	SFP module 1000LX w DD, DWDM lambda, choice from 1430 to 1610nm, bud. 24,0dB for 80km, LC
SFP-GLX-SM120-Dxx	SFP module 1000LX w DD, DWDM lambda, choice from 1430 to 1610nm, bud. 32dB for 120km, LC

Universal media 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.



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