TRENDnet®

Quick Installation Guide

TFC-1000
TFC-210 Series
TFC-2000 Series

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1. Antes de iniciar

Chasis conversor de fibra TFC-1000 para conversores serie TFC-210 y TFC-2000:

Contenidos del paquete

- TFC-1000
- Guía de instalación rápida
- Cable de alimentación AC
- Soporte de sujeción y tornillos

Conversor de fibra serie TFC-210 ó TFC-2000 :

Contenidos del paquete

- Conversor de fibra
- Guía de instalación rápida
- Fuente de alimentación AC (9V DC, 700mA)

2. Detalles del producto

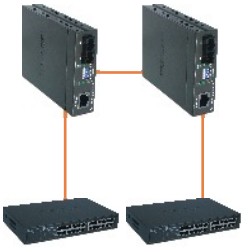
Conversores de fibra 10/100Base-TX a 100Base-FX					
Nombre del modelo	**Multi/ Mono-Modo**	**Conector de Fibra**	**Capacidad de potencia**	**Longitud de onda**	**Distancia**
TFC-210MST	Multi-Modo	ST (Duplex)	50/125um: 7.5dBm 62.5/125um: 11dBm	1310nm (1270nm ~ 1380nm)	2Km
TFC-210MSC		SC (Duplex)	50/125um: 8.5dBm 62.5/125um: 8.5dBm		
TFC-210S30	Mono-Modo			1310nm (1260nm ~ 1360nm)	30Km
TFC-210S20D3	Mono-Modo Unidireccional/ Bidireccional	SC (Simplex)	9/125um: 12dBm	TX:1310nm (1280nm ~ 1355nm) RX:1550nm (1530nm ~ 1570nm)	20Km
TFC-210S20D5				TX:1550nm (1530nm ~ 1570nm) RX:1310nm (1280nm ~ 1355nm)	

Conversores de fibra 2000Base-T a 1000Base-SX/LX					
Nombre del modelo	**Multi/ Mono-Modo**	**Conector de Fibra**	**Capacidad de potencia**	**Longitud de onda**	**Distancia**
TFC-2000MSC	Multi-Modo	SC (Duplex)	50/125um:8.5dBm	850nm (830nm ~ 860nm)	550M
			62.5/125um:8.5dBm		220M
TFC-2000S20	Mono-Modo		9/125um:15dBm	1310nm (1270nm ~ 1355nm)	20Km
TFC-2000S50			9/125um:19dBm	1550nm (1520nm ~ 1580nm)	50Km
TFC-2000S10D3	Mono-Modo Unidireccional/ Bidireccional	SC (Simplex)	9/125um:12dBm	TX:1310nm (1280nm ~ 1355nm) RX:1550nm (1530nm ~ 1570nm)	10Km
TFC-2000S10D5				TX:1550nm (1530nm ~ 1570nm) RX:1310nm (1280nm ~ 1355nm)	

Instalación de 2 convertidores de fibra de forma independiente

1. Conecte el cable de fibra a los convertidores.

2. Conecte un cable de ethernet RJ-45 desde el puerto ethernet de los convertidores de fibra hasta un puerto ethernet del conmutador (como el E TE100-S24R o TEG-S240TX).



3. Conecte el adaptador de corriente a la parte posterior del convertidor.

Nota:

- Cableado:
  Cable de fibra óptica multimodo: TFC-210MST, TFC-210MSC, TFC-2000MSC
  Cable de fibra óptica monomodo: TFC-210S30, TFC-210S50, TFC-2000S30, TFC-2000S50
  Cable de fibra óptica trenzado paraTFC-210S20D3/D5, TFC-210S10D3/D5
- Los cables TX y RX deben colocarse a la inversa en la conexión de fibra del lado opuesto.
- El TFC-210S20D3 debe quedar pareado con el TFC-210S20D5. El TFC-2000S10D3 debe quedar pareado con el TFC-2000S10D5.
- Los puertos TX y FX en Serie TFC-200 no son autogestionables. La conexión opuesta en cobre y fibra debe ser Gigabit.

Cómo instalar un conversor de fibra a un conmutador

1. Conecte el cable de fibra del conversor de fibra a un conmutador de fibra (Ej. TE100-S810Fi)

2. Conecte un cable de ethernet RJ-45 desde el puerto ethernet de los convertidores de fibra hasta un puerto ethernet del conmutador (como el E TE100-S24R o TEG-S240TX).

3. Conecte el adaptador de corriente a la parte posterior del convertidor.

Nota: Esta aplicación no es la indicada para TFC-210S20D3, TFC-210S20D5, TFC-2000S10D3 y TFC-2000S10D5

Cómo instalar un conversor de fibra a un PC

1. Conecte el cable de fibra del conversor de fibra a un PC con adaptador de fibra (Ej. TE100-PCIFX+).

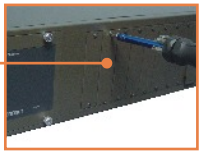
2. Conecte un cable de ethernet RJ-45 desde el puerto ethernet de los convertidores de fibra hasta un puerto ethernet del conmutador (como el E TE100-S24R o TEG-S240TX).

3. Conecte el adaptador de corriente a la parte posterior del convertidor.

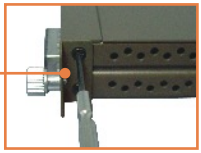
Nota: Esta aplicación no es la indicada para TFC-210S20D3, TFC-210S20D5, TFC-2000S10D3 y TFC-2000S10D5

Cómo instalar un conversor de fibra a un chasis

1. Con un destorninallador desenrosque la tapa del compartimiento modular del compartimiento deseado en el chasis y retire la tapa. Guarde los tornillos y la tapa en caso de que necesite cubrir el compartimiento modular en el futuro.



2. Fije el soporte de sujeción en un lado del conversor de fibra.



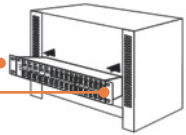
3. Inserte el conversor de fibra en una ranura disponible. Instale el conversor de fibra con el puerto de fibra cerca de la parte inferior del chasis. Después apriete los tornillos para fijar el conversor de fibra.

Para montaje en bastidor

El chasis puede montarse sobre un bastidor de 19 pulgadas tamaño estándar EIA, que puede colocarse en un armario de empalmes junto con otros equipos.

1. Fije las abrazaderas de sujeción al panel frontal del chasis (una en cada lado), y asegúrelas con los tornillos suministrados.

2. Coloque el chasis con cuidado encima del bastidor. Haga que la abrazadera coincida con los orificios de los tornillos del bastidor, luego use los tornillos suministrados junto con el bastidor del equipo para montar el chasis.



Cómo conectarlo a la alimentación

1. Conecte el cable de alimentación suministrado a la parte posterior del chasis.

2. Conecte el cable de alimentación a una toma de corriente.

3. Ponga el conmutador en posición **ON** (encendido) para encender el chasis.

Conmutadores DIP

Serie TFC-210	Conmutador 1: ON (ENCENDIDO): TX Modo Full Dúplex OFF (Apagado): TX Auto- Gestionable Conmutador 2: ON (ENCENDIDO): FX Half Dúplex OFF (Apagado): FX Full Dúplex Conmutador 3: ON (ENCENDIDO): LLCF Activado OFF (Apagado): LLCF Desactivado Conmutador 4: ON (ENCENDIDO): Modo Puro OFF (Apagado): Modo del conmutador
Serie TFC-2000	Conmutador 1: ON (ENCENDIDO): TX LLCF Activado OFF (Apagado): TX LLCF (Desactivado) Conmutador 2: ON (ENCENDIDO): Fibra LLCF Activado OFF (Apagado): Fibra LLCF (Desactivado)

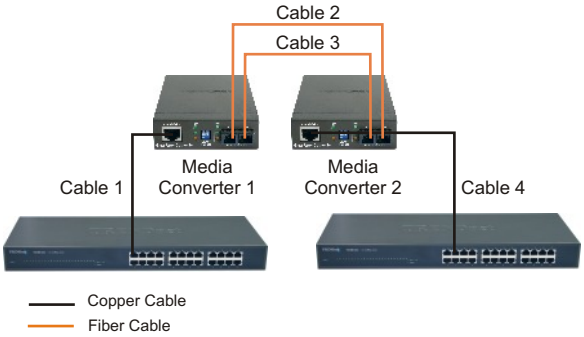
* Después de cambiar las configuraciones del conmutador DIP, reinicie el conversor de fibra.

** Las siglas LLCF significan “Link Loss Carry Forward".

LLCF Function

LLCF allows the network administrator to quickly troubleshoot the network connection based on the LEDs on the Fiber Converters. When the TX port link is down, the converter will force the fiber port link to shutdown. When the fiber port link is down, the converter will force the TX port link to shutdown.

LLCF (Link Loss Carry Forward) Diagram



Below are examples on how to read the LLCF Function Table:
Example 1: If LLCF is enabled on Fiber Converter 1 and disable on Media Converter 2, when Cable 1 link is down, Fiber Converter 1's Copper and Fiber LED and Fiber Converter 2's Fiber LED will shut off. Fiber Converter 2's Copper LED remains on.
Example 2: If LLCF is disabled on both Fiber Converters, when Cable 4 link is down, Fiber Converter 1's Copper and Fiber LED and Fiber Converter 2's Fiber LED remains on. Fiber Converter 2's Copper LED will shut off.

LLCF (Link Loss Carry Forward) Function Table

		Media Converter 1		Media Converter 2	
		Copper LED	Fiber LED	Copper LED	Fiber LED
Media Converter 1 LLCF Enable Media Converter 2 LLCF Enable	Cable 1 Link Down	OFF	OFF	OFF	OFF
	Cable 2 Link Down	OFF	OFF	OFF	OFF
	Cable 3 Link Down	OFF	OFF	OFF	OFF
	Cable 4 Link Down	OFF	OFF	OFF	OFF
Media Converter 1 LLCF Enable Media Converter 2 LLCF Disable	Cable 1 Link Down	OFF	OFF	ON	OFF
	Cable 2 Link Down	OFF	OFF	ON	OFF
	Cable 3 Link Down	OFF	OFF	ON	OFF
	Cable 4 Link Down	ON	ON	OFF	ON
Media Converter 1 LLCF Disable Media Converter 2 LLCF Enable	Cable 1 Link Down	OFF	ON	ON	ON
	Cable 2 Link Down	ON	OFF	OFF	OFF
	Cable 3 Link Down	ON	OFF	OFF	OFF
	Cable 4 Link Down	ON	OFF	OFF	OFF
Media Converter 1 LLCF Disable Media Converter 2 LLCF Disable	Cable 1 Link Down	OFF	ON	ON	ON
	Cable 2 Link Down	ON	OFF	ON	OFF
	Cable 3 Link Down	ON	OFF	ON	OFF
	Cable 4 Link Down	ON	ON	OFF	ON

Specifications

Fiber Converters	
Standards:	TFC-210 series: IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX & 100Base-FX TFC-2000 series: 1000Base-T, 1000Base-SX/LX, IEEE 802.3ab/ 802.3z
LED Indicators:	TFC-210 series: Power; 100Mbps, Full Duplex/ Collision, Link/Activity TFC-2000 series: Power; 1000Mbps, Full Duplex/ Collision, Link/Activity
Cable :	TFC-210 series: **10Base-T** – UTP/STP Cat. 3, 4, 5 **100Base-TX** – UTP/STP Cat 5 **100Base-FX – Multi-Mode** – 62.5/125μm or 50/125μm Multi-Mode Fiber Optic Cable **100Base-FX – Single-Mode** – 9/125μm Single-Mode Fiber Optic Cable TFC-2000 series: **1000Base-T** – UTP/STP: Cat. 5e or Cat. 6 **1000Base-SX– Multi-Mode** – 50/125μm or 62.5/125μm Multi-Mode Fiber Optic Cable **1000Base-LX– Single-Mode** – 9/125μm Single-Mode Fiber Optic Cable
Dimensions:	85mm × 125mm × 25mm (W × D × H)
Weight:	Around 300 g (10 oz.)
Power:	9VDC, 700mA External Power Adapter
Temperature:	Operating: 0°C ~ 40°C (32°F ~ 104°F) Storage: -25°C ~ 70°C (-13°F ~ 158°F)
Humidity:	10 ~ 90%, non-condensing
Certifications:	CE, FCC

Fiber Chassis	
Capacity:	Ten bays for housing up to Ten media converters
Material:	Metal
Power:	AC 100~240V AC, 50/60Hz
Power Consumption:	90 Watts (Max)
Cooling:	One Fan
Dimensions:	440 mm × 266mm × 133 mm (W × D × H) Standard 19" Rack Mount Size (3U)
Weight:	6.4 kg (14.2 lb.)
Temperature:	Operating: 0°C ~ 40°C (32°F ~ 104°F) Storage: -25°C ~ 70°C (-13°F ~ 158°F)
Humidity:	10 ~ 90%, non-condensing
Certification:	CE, FCC

Troubleshooting

Q1: After connecting the Fiber Converter, the LEDs do not turn on. What should I do?

A1: First, check that the power outlet is receiving power. Second, make sure the power adapter is firmly connected to the Fiber Converter and the power outlet. Third, make sure the Ethernet and the Fiber cables are connected.

Q2: All the LEDs are on, but I can't make a connection. What should I do?

A2: First, verify that you are using the proper fiber cable (e.g. multi-mode fiber cable for multi-mode converters; single-mode fiber cables for single-mode converters). Second, verify that the TX and RX cables have been reversed on the opposite Fiber connection. Third, power down the Fiber Converters and the switches. Wait 15 seconds, then plug the switches and the Fiber Converters back in.

Q3: What is the maximum distance that is supported by the Fiber Converter?

A3: Please refer to Product Detail for distance information.

Q4: After connecting the Chassis to a power outlet, the LEDs do not turn on.

A4: First, check that the power outlet is receiving power. Second, make sure the power cord is firmly connected to the chassis and the power outlet. Third, make sure the power switch is flipped to the **ON** position.

If you still encounter problems or have any questions please contact TRENDnet's Technical Support Department.

Limited Warranty

TRENDnet warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

Fiber Chassis / Fiber Converters - 5-Year Warranty

If a product does not operate as warranted above during the applicable warranty period, TRENDnet shall, at its option and expense, repair the defective product or deliver to customer an equivalent product to replace the defective item. All products that are replaced will become the property of TRENDnet. Replacement products may be new or reconditioned.

TRENDnet shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to TRENDnet pursuant to any warranty.

There are no user serviceable parts inside the product. Do not remove or attempt to service the product through any unauthorized service center. This warranty is voided if (i) the product has been modified or repaired by any unauthorized service center, (ii) the product was subject to accident, abuse, or improper use (iii) the product was subject to conditions more severe than those specified in the manual.

Warranty service may be obtained by contacting TRENDnet office within the applicable warranty period for a Return Material Authorization (RMA) number, accompanied by a copy of the dated proof of the purchase. Products returned to TRENDnet must be pre-authorized by TRENDnet with RMA number marked on the outside of the package, and sent prepaid, insured and packaged appropriately for safe shipment.

WARRANTIES EXCLUSIVE: IF THE TRENDNET PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, THE CUSTOMER'S SOLE REMEDY SHALL BE, AT TRENDNET'S OPTION, REPAIR OR REPLACEMENT. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. TRENDNET NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE OR USE OF TRENDNET'S PRODUCTS.

TRENDNET SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT IN THE PRODUCT DOES NOT EXIST OR WAS CAUSED BY CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLECT, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPTS TO REPAIR OR MODIFY, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, OR OTHER HAZARD.

LIMITATION OF LIABILITY: TO THE FULL EXTENT ALLOWED BY LAW TRENDNET ALSO EXCLUDES FOR ITSELF AND ITS SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATE, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT TRENDNET'S OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

Governing Law: This Limited Warranty shall be governed by the laws of the state of California.

Note: AC/DC Power Adapter, Cooling Fan, Cables and Power Supply carry a 1-Year Warranty

Certifications

This equipment has been tested and found to comply with FCC and CE Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received. Including interference that may cause undesired operation.

Waste electrical and electronic products must not be disposed of with household waste. Please recycle where facilities exist. Check with you Local Authority or Retailer for recycling advice.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

ADVERTENCIA

En todos nuestros equipos se mencionan claramente las caracteristicas del adaptador de alimentacón necesario para su funcionamiento. El uso de un adaptador distinto al mencionado puede producir daños fisicos y/o daños al equipo conectado. El adaptador de alimentación debe operar con voltaje y frecuencia de la energia electrica domiciliaria existente en el pais o zona de instalación.

TRENDnet Technical Support

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Product Warranty Registration

Please take a moment to register your product online.
Go to TRENDnet's website at http://www.trendnet.com

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