



Quick Installation Guide



TFC-1000
TFC-210 Series
TFC-2000 Series

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1. Before You Start

TFC-1000 Fiber Converter Chassis for TFC-210 and TFC-2000 Series Converters:



Package Contents

- TFC-1000
- Quick Installation Guide
- AC Power Cord
- Mounting Bracket and Screws

TFC-210 or TFC-2000 Series Fiber Converter:



Package Contents

- Fiber Converter
- Quick Installation Guide
- AC Power Supply (9V DC, 700mA)

2. Product Detail

10/100Base-TX to 100Base-FX Fiber Converters					
Model Name	Multi/ Single-Mode	Fiber Connector	Power Budget	Wavelength	Distance
TFC-210MST	Multi-Mode	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	Single-Mode				1310nm (1260nm ~ 1360nm)
TFC-210S20D3	Single-Mode Single/ Bidirectional	SC (Simplex)	9/125um: 12dBm	TX:1310nm (1280nm ~ 1355nm) RX:1550nm (1530nm ~ 1570nm)	20Km
TFC-210S20D5				TX:1550nm (1530nm ~ 1570nm) RX:1310nm (1280nm ~ 1355nm)	

1000Base-T to 1000Base-SX/LX Fiber Converters					
Model Name	Multi/ Single-Mode	Fiber Connector	Power Budget	Wavelength	Distance
TFC-2000MSC	Multi-Mode		50/125um:8.5dBm	850nm (830nm ~ 860nm)	550M
			62.5/125um:8.5dBm		220M
TFC-2000S20	Single-Mode	SC (Duplex)	9/125um:15dBm	1310nm (1270nm ~ 1355nm)	20Km
TFC-2000S50			9/125um:19dBm		
TFC-2000S10D3	Single-Mode Single/ Bidirectional	SC (Simplex)	9/125um:12dBm	TX:1310nm (1280nm ~ 1355nm) RX:1550nm (1530nm ~ 1570nm)	10Km
TFC-2000S10D5				TX:1550nm (1530nm ~ 1570nm) RX:1310nm (1280nm ~ 1355nm)	

3. Hardware Installation

Installing Two Stand Alone Fiber Converters

1. Connect the fiber cable to the Fiber Converters.

2. Connect an RJ-45 Ethernet cable from the Ethernet port on the fiber converters to an Ethernet port on your switch (e.g TE100-S24R or TEG-S240TX).

3. Connect the power adapter to the back of the fiber converter.



Note:

- Cabling:
 - Multi-Mode Optic Cable: TFC-210MST, TFC-210MSC, TFC-2000MSC
 - Single-Mode Optic Cable: TFC-210S30, TFC-210S50, TFC-2000S30, TFC-2000S50
 - Single Strand Optic Cable for TFC-210S20D3/D5, TFC-210S10D3/D5
- The TX and RX cables must be reversed on the opposing Fiber connection.
- The TFC-210S20D3 must be paired with the TFC-210S20D5. The TFC-2000S10D3 must be paired with the TFC-2000S10D5.
- The TX and FX ports on the TFC-2000 series do not support auto negotiation. The opposing Copper and Fiber connection must be Gigabit.

Installing a Fiber Converter to a Switch

1. Connect the fiber cable from the Fiber Converter to a Fiber Switch (e.g. TE100-S810Fi)

2. Connect an RJ-45 Ethernet cable from the Ethernet port on the Fiber Converters to an Ethernet port on your Switch (e.g. TE100-S24R or TEG-240TX).

3. Connect the power adapter to the back of the Fiber Converter.



Note: This application does not apply to the TFC-210S20D3, TFC-210S20D5, TFC-2000S10D3 and TFC-2000S10D5.

Installing a Fiber Converter to a PC

1. Connect the fiber cable from the Fiber Converter to a PC with a Fiber Adapter (e.g. TE100-PCIFX+)

2. Connect an RJ-45 Ethernet cable from the Ethernet port on the Fiber Converters to an Ethernet port on your Switch (e.g. TE100-S24R or TEG-240TX).

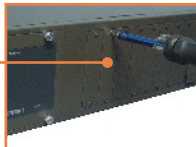
3. Connect the power adapter to the back of the Fiber Converter.



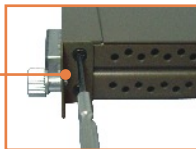
Note: This application does not apply to the TFC-210S20D3, TFC-210S20D5, TFC-2000S10D3 and TFC-2000S10D5.

Installing Fiber Converter in a Chassis

1. Using a screwdriver unscrew the Module Bay Cover from the desired bay on the Chassis and remove the cover. Save the screw and cover in case you need to cover up the module bay in the future.



2. Attach the Mounting Bracket to the side of Fiber Converter.



3. Slide the Fiber Converter into an available slot. Install the Fiber Converter with the fiber port near the bottom of the Chassis. Then fasten the screws to secure the Fiber Converter.



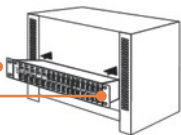
Rack Mount

The Chassis can be mounted in an EIA standard-size, 19-inch rack, which can be placed in a wiring closet with other equipment.

1. Attach the mounting brackets to the Chassis's front panel (one on each side), and secure them with the provided screws.



2. Carefully position the Chassis onto the rack. Align the bracket to the screw holes on the rack, then use the screws provided with the equipment rack to mount the Chassis.



Connecting the Power

1. Connect the supplied power cord to the back of the Chassis.

2. Connect the power cord into a power outlet.

3. Flip the switch to the **ON** position to power up the Chassis.



DIP Switches

TFC-210 series	Switch 1 : ON :TX Full Duplex Mode OFF :TX Auto Negotiation Switch 2 : ON :FX Half Duplex OFF :FX Full Duplex Switch 3 : ON :LLCF Enable OFF :LLCF Disable Switch 4 : ON :Pure Mode OFF :Switch Mode
TFC-2000 series	Switch 1: ON: TX LLCF Enable OFF: TX LLCF (Disable) Switch 2: ON: Fiber LLCF Enable OFF: Fiber LLCF (Disable)

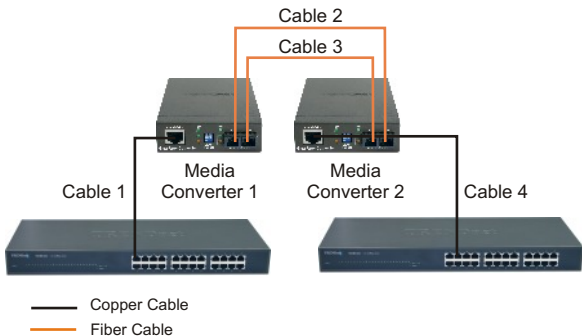
*After changing the DIP Switch settings ,power cycle the Fiber Converter .

*LLCF stands for 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 disabled 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	Cable 1 Link Down	OFF	OFF	OFF	OFF	
	Cable 2 Link Down	OFF	OFF	OFF	OFF	
	Media Converter 2 LLCF Enable	Cable 3 Link Down	OFF	OFF	OFF	OFF
		Cable 4 Link Down	OFF	OFF	OFF	OFF
Media Converter 1 LLCF Disable	Cable 1 Link Down	OFF	OFF	ON	OFF	
	Cable 2 Link Down	OFF	OFF	ON	OFF	
	Media Converter 2 LLCF Disable	Cable 3 Link Down	OFF	OFF	ON	OFF
		Cable 4 Link Down	ON	ON	OFF	ON
Media Converter 1 LLCF Disable	Cable 1 Link Down	OFF	ON	ON	ON	
	Cable 2 Link Down	ON	OFF	OFF	OFF	
	Media Converter 2 LLCF Enable	Cable 3 Link Down	ON	OFF	OFF	OFF
		Cable 4 Link Down	ON	OFF	OFF	OFF
Media Converter 1 LLCF Disable	Cable 1 Link Down	OFF	ON	ON	ON	
	Cable 2 Link Down	ON	OFF	ON	OFF	
	Media Converter 2 LLCF Disable	Cable 3 Link Down	ON	OFF	ON	OFF
		Cable 4 Link Down	ON	ON	OFF	ON

Fiber Converters	
Standards:	<p><u>TFC-210 series:</u> IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX & 100Base-FX</p> <p><u>TFC-2000 series:</u> 1000Base-T, 1000Base-SX/LX, IEEE 802.3ab/ 802.3z</p>
LED Indicators:	<p><u>TFC-210 series:</u> Power; 100Mbps, Full Duplex/ Collision, Link/Activity</p> <p><u>TFC-2000 series:</u> Power; 1000Mbps, Full Duplex/ Collision, Link/Activity</p>
Cable :	<p><u>TFC-210 series:</u> 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</p> <p><u>TFC-2000 series:</u> 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</p>
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

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, NEGLIGENCE, 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 DATA, 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 your 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 características del adaptador de alimentación necesario para su funcionamiento. El uso de un adaptador distinto al mencionado puede producir daños físicos y/o daños al equipo conectado. El adaptador de alimentación debe operar con voltaje y frecuencia de la energía eléctrica domiciliar existente en el país o zona de instalación.



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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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