



Fiber Converters

TFC-110 Series

- Quick Installation Guide (1)

1. Before You Start

Package Contents

- Fiber Converter
- Multi-Language Quick Installation Guide
- Power Adapter

If any of the above contents are missing, please contact your reseller.

Minimum Requirements

- An environment that is fairly cool and dry
- An environment that is free from strong electromagnetic field generators (such as motors), vibration, dust and direct exposure to sunlight
- TFC-1600 chassis (optional) or sturdy, level surface that can support the weight of the Fiber Converter
- 10/100Mbps Ethernet Switch
- Multi-Mode or Single-Mode Fiber cables
- Cat. 5, 5e or 6 RJ-45 Ethernet Cable

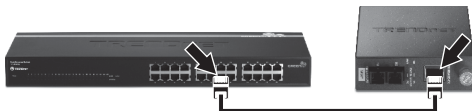
Optional Equipment

- Standard 19" rack
- TFC-1600 chassis

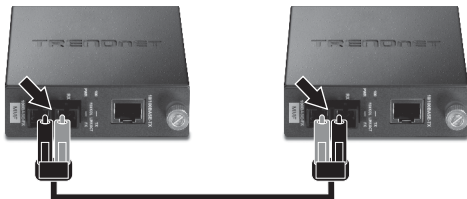
2. Hardware Installation

Installing two standalone Fiber Converters

1. Connect an RJ-45 Ethernet cable from the Ethernet port on the fiber converters to an Ethernet port on your switch (e.g TE100-S24g).



2. Connect the fiber cable to the fiber converters.



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



Note:

1. For the TFC-110MM/MST/MS/110S15/S15i/S30/S30i/S60/S60i/S100, the TX and RX cables must be reversed on the opposite fiber connection.
2. TFC-15MS100 converts Multi-Mode to Single-Mode fiber, it can be connected to a switch with Multi-Mode SC-type fiber connection (e.g TEG-424WS with fiber modules) to extend the distance up to 15km with Single-Mode fiber.
3. Cabling
 - a. Multi-Mode Optic Cable: TFC-110MSC, TFC-110MST, TFC-110MM.
 - b. Single-Mode Optic Cable: TFC-110S15, TFC-110S30, TFC-110S60, TFC-110S100, TFC-110S15i, TFC-110S30i, TFC-110S60i.
 - c. Single Strand Optic Cable for TFC-110S20D3, TFC-110S20D5, TFC-110S40D3, TFC-110S40D5.

Installing Fiber Converter in a Chassis

1. Unscrew the bay cover from the desired bay on the chassis.



2. Unfasten the thumbscrew and remove the fiber converter from the metal casing.



3. Slide the fiber converter into an available slot and fasten the thumbscrew.



Your installation is now complete.

3. LEDs and DIP switches

LEDs					
LED	Color	Sequence	Function		
			TFC-110MM/ MST/MS/110S15/S30/ S60/S100/ 20D3/20D5/ 40D3/40D5	TFC-110S15i/ 30i/60i	TFC-15MS100
PWR (Power)	Green	Solid	Device powered On		
	Off	n/a	Device powered Off		
100M	Green	Solid	100/200Mbps (Half/Full Duplex) Connection		n/a
	Off	n/a	10/20Mbps (Half/Full Duplex) Connection		n/a
FDX/ COL (TX)	Green	Solid	Connection on TX end in full duplex mode		n/a
	Green	Blinking	Data collision is detected		n/a
	Off	n/a	Connection on TX end in half duplex mode		n/a
FDX/ COL (FX)	Green	Solid	Connection on Fiber end in full duplex mode		n/a
	Green	Blinking	Data collision is detected		n/a
	Off	n/a	Connection on Fiber end in half duplex mode		n/a
LINK/ ACT (TX)	Green	Solid	100/200Mbps (Half/Full Duplex) or 10/20Mbps (Half/ Full Duplex) Connection		n/a
	Green	Blinking	100/200Mbps (Half/Full Duplex) or 10/20Mbps Data Transmitting/Receiving		n/a
	Off	n/a	The link is disconnected		n/a

LEDs (continued)					
LED	Color	Sequence	Function		
			TFC-110MM/ MST/MSC/ 110S15/S30/ S60/S100/ 20D3/20D5/ 40D3/40D5	TFC-110S15i/ 30i/60i	TFC-15MS100
LINK/ ACT (FX)	Action	Solid	100/200Mbps (Half/Full Duplex) Connection		n/a
	Green	Blinking	100/200Mbps (Half/Full Duplex) Data Transmitting/ Receiving		n/a
	Off	n/a	The link is disconnected		n/a
LINK/ ACT	Green	Solid	n/a		100/200Mbps (Half/Full Duplex) Connection
	Green	Blinking	n/a		100/200Mbps (Half/Full Duplex) Data Transmitting/ Receiving
	Off	n/a	n/a		The link is disconnected
FAIL (TX)	Green	Solid	n/a	The TX link is disconnected	n/a
	Off	n/a	n/a	The TX link is connected	n/a
FAIL (FX)	Red	Solid	n/a	The Fiber link is disconnected	n/a
	Off	n/a	n/a	The Fiber link is connected	n/a

4. Technical Specifications

Power Budget									
Model Number	Media	Connectors	Wavelength	Optical Output Power (dBm)		Optical Input Power (dBm)		Power	Distance
				Min.	Max.	Min. (Sensitivity)	Max.	Budget	
TFC-110MSC	MMF	RJ-45/SC (Duplex)	1310nm	-23.5	-14	-32	-14	13	2 km
TFC-110MST	MMF	RJ-45/ST (Duplex)	1310nm	-23.5	-14	-32	-8	8.5	2 km
TFC-110MM	MMF	RJ-45/MT-RJ (Duplex)	1300nm	-23.5	14	-31	-14 (typical)	7.5	2 km
TFC-110S15	SMF	RJ-45/SC (Duplex)	1310nm	-20	0	-32	0	12	15 km
TFC-110S30	SMF	RJ-45/SC (Duplex)	1310nm	-15	-8	-34	0	19	30 km
TFC-110S60	SMF	RJ-45/SC (Duplex)	1310nm	-5	0	-35	0	30	60 km
TFC-110S100	SMF	RJ-45/SC (Duplex)	1550nm	-5	0	-35	0	30	100 km
TFC-110S15i	SMF	RJ-45/SC (Duplex)	1310nm	-20	0	-32	0	12	15 km
TFC-110S30i	SMF	RJ-45/SC (Duplex)	1310nm	-15	-8	-34	0	19	30 km
TFC-110S60i	SMF	RJ-45/SC (Duplex)	1310nm	-5	0	-35	0	30	60 km
TFC-110S20D3	SMF	RJ-45/SC- (Simplex)	TX-1310nm/ RX-1550nm	-14	-8	-31	0	17	20 km
TFC-110S20D5	SMF	RJ-45/SC- (Simplex)	TX-1550nm/ RX-1310nm	-14	-8	-31	0	17	20 km
TFC-110S40D3	SMF	RJ-45/SC- (Simplex)	TX-1310nm/ RX-1550nm	-8	-3	-34	-3	26	40 km
TFC-110S40D5	SMF	RJ-45/SC- (Simplex)	TX-1550nm/ RX-1310nm	-8	-3	-34	-3	26	40 km

Troubleshooting

1. After connecting the Fiber converter, the LEDs do not turn on. What should I do?

1. Check that the power outlet is receiving power.
2. Make sure the power adapter is firmly connected to the Fiber converter and the power outlet.
3. Make sure the Ethernet and the Fiber cables are connected.

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

1. Verify that you are using the proper fiber cable (e.g. multi-mode fiber cable for multi-mode converter; single-mode fiber cables for single-mode converters).
2. Verify that the TX and RX cables have been reverse on the opposite Fiber connection (TFC-110MM, TFC-110MSC, TFC-110MST, TFC-110S15, TFC-110S30, TFC-110S60, TFC-110S100, TFC-110S15i, TFC-110S30i, TFC-110S60i).
3. Power down the fiber converters and the switches. Wait 15 seconds, then plug the switches and the fiber converters back in.

3. What is the maximum distance that is supported by the fiber converter?

Please reference section 4 for distance information.

If you still encounter problems or have any questions regarding the **Fiber converters** please contact TRENDnet's Technical Support Department.

Declaration of Conformity



Company Information:

Company Name:

TRENDnet, Inc.

Company Address:

20675 Manhattan Place

Torrance, CA 90501

USA



Product Information:

Product Description:

100Base-TX to 100Base-FX Fiber Converter

Model Number:

TFC-110MSC, TFC-110MST, TFC-110MM, TFC-110S15, TFC-110S30,
TFC-110S60, TFC-110S100, TFC-110S30i, TFC-110S60i, TFC-110S20D3,
TFC-110S20D5, TFC-110S40D3, TFC-110S40D5, TFC-15MS100

Brand name:

TRENDnet

Technical Standards:

EN 55022 : 2006 Class A

EN 61000-3-2 : 2006 Class A

EN 61000-3-3 : 1995 + A1 : 2001 + A2 : 2005

EN 55024 : 1998 + A1 : 2001 + A2 : 2003

Declaration:

The product is herewith confirmed to comply with the requirements of Directive 2004/108/EC of the Council (European Parliament) on the EMC directive and Energy-related products Directive 2009/125/EC.

I hereby declare that the products and devices mentioned above are consistent with the standards and provisions of the guidelines.

Sonny Su

Full Name

May 27, 2011

Date

Director of Technology

Position / Title

Signature

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 Converters– 3 Years Limited Warranty

AC/DC Power Adapter, Cooling Fan, and Power Supply carry a 1 year warranty.

If a product does not operate as warranted during the applicable warranty period, TRENDnet shall reserve the right, at its expense, to repair or replace the defective product or part and deliver an equivalent product or part to the customer. The repair/replacement unit's warranty continues from the original date of purchase. All products that are replaced become the property of TRENDnet. Replacement products may be new or reconditioned. TRENDnet does not issue refunds or credit. Please contact the point-of-purchase for their return policies.

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 by 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 within the applicable warranty period and providing a copy of the dated proof of the purchase. Upon proper submission of required documentation a Return Material Authorization (RMA) number will be issued. An RMA number is required in order to initiate warranty service support for all TRENDnet products. Products that are sent to TRENDnet for RMA service must have the RMA number marked on the outside of return packages and sent to TRENDnet prepaid, insured and packaged appropriately for safe shipment. Customers shipping from outside of the USA and Canada are responsible for return shipping fees. Customers shipping from outside of the USA are responsible for custom charges, including but not limited to, duty, tax, and other fees.

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 REPLACE. 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. Some TRENDnet products include software code written by third party developers. These codes are subject to the GNU General Public License ("GPL") or GNU Lesser General Public License ("LGPL").

Go to <http://www.trendnet.com/gpl> or <http://www.trendnet.com> Download section and look for the desired TRENDnet product to access to the GPL Code or LGPL Code. These codes are distributed WITHOUT WARRANTY and are subject to the copyrights of the developers. TRENDnet does not provide technical support for these codes. Please go to <http://www.gnu.org/licenses/gpl.txt> or <http://www.gnu.org/licenses/lgpl.txt> for specific terms of each license.



Product Warranty Registration

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

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.



This Class-A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe-A est conforme à la norme NMB-003 du Canada.

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.

TRENDnet
20675 Manhattan Place
Torrance, CA 90501. USA