



## Fiber Converters

### TFC-1000 Series

- [Quick Installation Guide \(1\)](#)
- [Technical Specifications \(4\)](#)

## 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
- Gigabit Ethernet Switch
- Multi-Mode or Single-Mode Fiber cable
- Cat. 5e or Cat. 6 RJ-45 Ethernet Cable

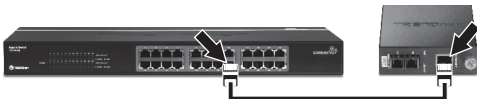
### Optional Equipment

- Standard 19" rack
- TFC-1600 chassis
- Mini-GBIC module (e.g. TEG-MGBSX, TEG-MGBS10, TEG-MGBS40, TEG-MGBS80, TEG-MGBS10D35, TEG-MGBS40D35) for Mini-GBIC slot (TFC-1000MGB/TFC-1000MGA only)

## 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 TEG-S24Dg).



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-1000MSC / S20/ S50 / S70, the TX and RX cables must be reversed on the opposite fiber connection.

### **2. Cabling**

- Multi-Mode Optic Cable: TFC-1000MSC, TFC-1000MGB/TFC-1000MGA with TEG-MGBSX module
- Single-Mode Optic Cable: TFC-1000S20, TFC-1000S50, TFC-1000S70, TFC-1000MGB/TFC-1000MGA with TEG-MGBS10/TEG-MGBS40/TEG-MGBS80 module
- Single Strand Optic Cable for TFC-1000S10D3, TFC-1000S10D5, TFC-1000S40D3, TFC-1000S40D5, TFC-1000MGB /TFC-1000MGA with TEG-MGBS10D35/TEG-MGBS40D35 module

## 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 media converter into an available slot and fasten the thumbscrew.



**Your installation is now complete.**

### 3. LEDs and DIP switches

| LEDs               |       |          |   |
|--------------------|-------|----------|---|
| LED                | Color | Sequence | Function  |
| <b>PWR (Power)</b> | Green | Solid    | Device powered On   |
|                    | Off   | n/a      | Device powered Off  |
| <b>LINK/ACT</b>    | Green | Solid    | 2000Mbps (Full Duplex) Connection (per port)                  |
|                    | Green | Blinking | 2000Mbps (Full Duplex) Data Transmitting/Receiving (per port) |
|                    | Off   | n/a      | The link is disconnected                                      |

| Dip Switches |            |                     |
|--------------|------------|---------------------|
| Switch       | Action     | Function            |
| <b>1</b>     | <b>On</b>  | TX Forced Mode      |
|              | <b>Off</b> | TX Auto-Negotiation |
| <b>2</b>     | <b>On</b>  | LLR Enable          |
|              | <b>Off</b> | LLR Disable         |

#### **Note:**

1. After changing the DIP Switch settings, power cycle the Fiber Converter
2. LLR stands for Link Loss Return. When LLR is enabled, the fiber port's transmitter shuts down if its receiver fails to detect a valid receive link. If one of the optical conductors is bad, the Fiber converter with LLR enabled will return a no link condition to its link partner. LLR is used to detect link problems only on the fiber port. If LLR is enabled on one Fiber converter, the opposite Fiber converter must have LLR disabled

## 4. Technical Specifications

### Power Budget

| Model Number  | Media | Connectors             | Wavelength              | Optical Output Power (dBm) |      | Optical Input Power (dBm) |       | Power  | Distance  |
|---------------|-------|------------------------|-------------------------|----------------------------|------|---------------------------|-------|--------|---|
|               |       |                        |                         | Min.                       | Max. | Min.<br>(Sensitivity)     | Max.  | Budget |   |
| TFC-1000MSC   | MMF   | RJ-45/SC<br>(Duplex)   | 850nm                   | -9.5                       | -4   | -12.5                     | -13.5 | 7.5    | 220m<br>(62.5/125μm)<br>cable<br>550m<br>(50/125 μm)<br>cable |
| TFC-1000S20   | MMF   | RJ-45/SC<br>(Duplex)   | 1310nm                  | -9.5                       | -3   | -20                       | -3    | 11.5   | 20km  |
| TFC-1000S50   | MMF   | RJ-45/SC<br>(Duplex)   | 1550nm                  | -4                         | 1    | -23                       | -3    | 19     | 50km  |
| TFC-1000S70   | SMF   | RJ-45/SC<br>(Duplex)   | 1550nm                  | 0                          | 5    | -24                       | -3    | 24     | 70km  |
| TFC-1000S10D3 | SMF   | RJ-45/SC-<br>(Simplex) | TX-1310nm/<br>RX-1550nm | -9                         | -3   | -21                       | -3    | 12     | 10km  |
| TFC-1000S10D5 | SMF   | RJ-45/SC-<br>(Simplex) | TX-1550nm/<br>RX-1310nm | -9                         | -3   | -21                       | -3    | 12     | 10km  |
| TFC-1000S40D3 | SMF   | RJ-45/SC-<br>(Simplex) | TX-1310nm/<br>RX-1550nm | -7                         | -2   | -23                       | -2    | 16     | 40km  |
| TFC-1000S40D5 | SMF   | RJ-45/SC-<br>(Simplex) | TX-1550nm/<br>RX-1310nm | -7                         | -2   | -23                       | -2    | 16     | 40km  |

# Declaration of Conformity



## Company Information:

Company Name:  
TRENDnet, Inc.

Company Address:  
20675 Manhattan Place  
Torrance, CA 90501  
USA

## Product Information:

Product Description:  
1000Base-TX to 1000Base-SX/LX Fiber Converter



Model Number:  
TFC-1000MSC, TFC-1000S20, TFC-1000S50, TFC-1000S70  
TFC-1000MGB, TFC-1000MGA, TFC-1000S10D3,  
TFC-1000S10D5 1000S40D3, TFC-1000S40D5

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 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 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