

## 2-Port Gigabit Ethernet 10/100/1000Base-T and 1000Base-X (SFP) Dual Media to 1000Base-X(SFP) Media Converter User's Manual (620-1251-000)

### 1. Overview

The converter is designed to make Fiber Gigabit Ethernet conversion between 10/100/1000Base-T (RJ-45) / 1000Base-SX/LX(SFP) dual media to 1000Base-SX/LX(SFP). It integrates multiple connection functions in a single converter : gigabit copper to fiber; gigabit multimode to single-mode fiber, gigabit repeater. In addition, the converter implements jumbo frame forwarding capability. The overall network flexibility is enhanced, and the network efficiency is also improved to accommodate and deliver high bandwidth applications.

### 2. Checklist

Before you start installing the converter, verify that the package contains the following:

- The TP-SFP(Dual)-SFP Fiber Converter
- AC-DC Power Adapter
- One SFP Transceiver
- This User's Manual

Please notify your sales representative immediately if any of the aforementioned items is missing or damaged.



Fig. 1 TP/SFP(Dual)-SFP Fiber Converter

### 3. SFP Transceiver Description

| Model       | Description  |
|-------------|--|
| SFP.LC      | 1000Mbps LC, Multi-Mode, SFP Fiber transceiver       |
| SFP.LC.S10  | 1000Mbps LC, 10km, SFP Fiber transceiver             |
| SFP.LC.S30  | 1000Mbps LC, 30km, SFP Fiber transceiver             |
| SFP.LC.S50  | 1000Mbps LC, 50km, SFP Fiber transceiver             |
| SFP.BL5.S10 | 1000Mbps BiDi-LC, 10km, 1550nm SFP Fiber transceiver |
| SFP.BL3.S10 | 1000Mbps BiDi-LC, 10km, 1310nm SFP Fiber transceiver |
| SFP.BL5.S20 | 1000Mbps BiDi-LC, 20km, 1550nm SFP Fiber transceiver |
| SFP.BL3.S20 | 1000Mbps BiDi-LC, 20km, 1310nm SFP Fiber transceiver |

#### Note:

- 1000Mbps Single Fiber WDM transceiver is designed with an optic Wavelength Division Multiplexing (WDM) technology that transports bi-directional full duplex signal over a single fiber simultaneously.
- All converters are ordered by model.
- The slide-in converters should be supplied only by the same manufacturer/vendor. Both converter and chassis rack are built to match each other at dimensions, power bus/receptacle and power safety, etc.
- SFP.BL5.S20 and SFP.BL3.S20 must be installed in pair, i.e., SFP.BL5.S20 at one end and SFP.BL3.S20 at the other.

### 4. LED Description

| LED            | Color           | Function   |
|----------------|-----------------|--|
| PWR            | Green           | Lit when +5V power is coming up  |
| P2 SFP LNK/ACT | Green           | Lit when fiber connection is good<br>Blinks when any traffic is present                                    |
| P1 SFP LNK/ACT | Green           | Lit when fiber connection is good<br>Blinks when any traffic is present                                    |
| P1 TP SPD      | Green/<br>Amber | Green Lit when 1000Base-T is active<br>Amber Lit when 100Base-TX is active<br>OFF: when 10Base-T is active |
| P1 TP LNK/ACT  | Green           | Lit when TP connection is good<br>Blinks when any traffic is present                                       |

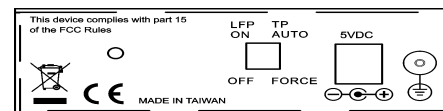
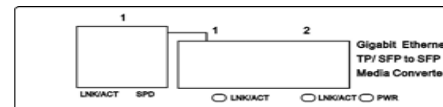


Fig. 2 Front and Rear Panel

### 5. Installing the Converter

Note: Wear a grounding device for electrostatic discharge.

- ⇒ Verify the AC-DC power adapter (for External Power Converter) and conforms to your country AC power requirement
- ⇒ Install the media cable for network connection

|                    |  |
|--------------------|--|
| <b>P2 SFP Port</b> | <b>Default: 1000FDX</b><br>Insert SFP transceiver then attach the fiber cable.<br>The Tx, Rx fiber cable must be paired at both ends   |
| <b>P1 SFP Port</b> | <b>Default: 1000FDX</b><br>Insert SFP transceiver then attach the fiber cable.<br>The Tx, Rx fiber cable must be paired at both ends   |
| <b>P1 TP Port</b>  | Attach TP Cat. 5 cable to TP port<br>Mode: 10/100/1000Mbps with NWay<br>The 10/100/1000Mbps TP port is transmit/receive wires auto-link (e.g. either MDI-X or MDI-II). It will auto-cross-connect transmit/receive wires to a switch or to a workstation. Make sure of the proper wiring and that the Link LED will light up when TP Cat. 5 cable was attached to TP port. |

## 6. DIP Switch Setting

|           |                                       |
|-----------|---------------------------------------|
| Converter | AUTO, FORCE selectable: Bit 2 of SW1  |
| TP Port   | a. AUTO: 10/100/1000 Nway (default)   |
| 1000TP    | b. FORCE: 1000 FDX                    |
| Converter | LFP function selectable: Bit 1 of SW1 |
| LFP       | a. LFP function: ON (default)         |
| Function  | b. LFP function: OFF                  |

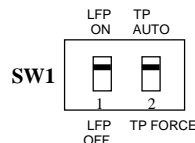


Fig. 3 SW1—Bit 1, 2 Configuration and Setting

SW1-1 LFP function: LFP ON (default) or OFF  
 SW1-2 TP port mode: AUTO (default) or FORCE

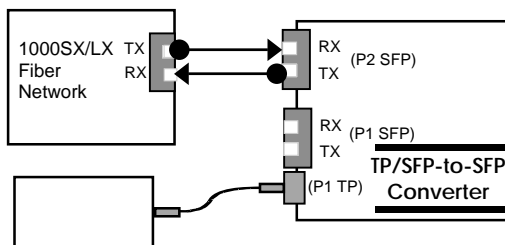


Fig. 4 Basic Network Connection 1

### • LFP : (Link Fault Pass-through)

When LFP enabled and (Fig.5) any segment cable broken, the both ports in each converter will be turned link-off. If all segment cables connected good (Fig.5), the both ports in each converter will be turned link on.

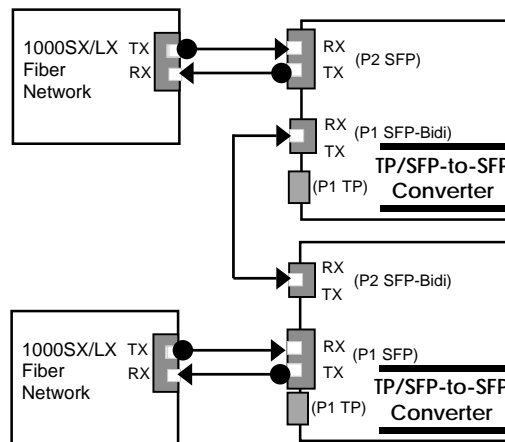


Fig. 5 Basic Network Connection 2

## 7. TP-Fiber Technical Specifications

- **Standards:**  
 IEEE802.3 10Base-T,  
 IEEE802.3u 100Base-TX,  
 IEEE802.3z/ab 1000Base-T,  
 IEEE802.3x full-duplex flow control,  
 1000Base-SX/LX
- **UTP Cable:** Cat. 5 cable and up to 100m
- **Fiber Cable:**  
 9/125 $\mu$ m single-mode  
 62.5/125 $\mu$ m, 50/125 $\mu$ m multi-mode
- **LED Indicators :**  
 PWR (Power),  
 P2 SFP LNK/ACT (LINK/ACT),  
 P1 SFP LNK/ACT (LINK/ACT),  
 P1 TP LNK/ACT (LINK/ACT),  
 P1 TP SPD (10/100/1000Mbps)

### • Data Transfer Rate:

| Speed    | Forwarding Rate |
|----------|-----------------|
| 1000Mbps | 1,488,000 PPS   |
| 100Mbps  | 148,800 PPS     |
| 10Mbps   | 14,880 PPS      |

- **TP:** 10/100/1000FDX/HDX with NWay auto-negotiation  
**Fiber:** 1000FDX
- **Power Requirement :** 0.9A up @+5VDC
- **Power Consumption :** 3.6W
- **Ambient Temperature :** 0° to 40°C
- **Humidity :** 5% to 90%
- **Dimensions :** 140.7(W)\*87.7(D)\*29.4(H) mm
- **Order information :**

| Model   | Description   |
|---------|---|
| LC      | 10/100/1000Base-T/ SFP to SFP Gigabit Ethernet Converter, MM LC, 850nm            |
| LC.S10  | 10/100/1000Base-T/ SFP to SFP Gigabit Ethernet Converter, SM LC 10km, 1310nm      |
| LC.S30  | 10/100/1000Base-T/ SFP to SFP Gigabit Ethernet Converter, SM LC 30km, 1310nm      |
| LC.S50  | 10/100/1000Base-T/ SFP to SFP Gigabit Ethernet Converter, SM LC 50km, 1550nm      |
| BL5.S10 | 10/100/1000Base-T/ SFP to SFP Gigabit Ethernet Converter, SM Bidi LC 10km, 1550nm |
| BL3.S10 | 10/100/1000Base-T/ SFP to SFP Gigabit Ethernet Converter, SM Bidi LC 10km, 1310nm |
| BL5.S20 | 10/100/1000Base-T/ SFP to SFP Gigabit Ethernet Converter, SM Bidi LC 20km, 1550nm |
| BL3.S20 | 10/100/1000Base-T/ SFP to SFP Gigabit Ethernet Converter, SM Bidi LC 20km, 1310nm |

Note: One SFP transceiver is included.