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FCC Warning

The converter has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These standards are designed to provide reasonable protection against harmful interference when these devices are operated in a commercial environment. These devices generate, use, and can radiate radio frequency energy and may cause harmful interference to radio communications unless installed in accordance with this User's Guide. Operation of these devices in a residential area is likely to cause harmful interference which will make the user responsible for the appropriate remedial action at his / her own expense.

CE Mark Warning

These are Class A products. In a domestic environment these products may cause radio interference in which case the user will need to consider adequate preventative methods.

1. Checklist

The package should contain the following items:

- Converter
- AC-DC Power Adapter
- Quick Guide

Please contact your sales representative immediately if any items are missing or damaged.

2. Overview

The converter converts traditional twisted-pair RJ-45 cable into various fiber media including multi-mode, single-mode, SC connector, bi-directional WDM, or a SFP slot for pluggable fiber transceiver, extending transmission distance for the deployment to the household, apartment or campus.

The converter is fully compliant with IEEE 802.3, 802.3u, 802.3ab & 802.3z standards. Besides, it is equipped with some switching features including store and forward. Operation status can be locally monitored through a set of Diagnostic LED located in the front panel.

Major Features:

- Auto-Negotiation in TP port
- MDI/MDIX Auto-Crossover supported
- Support Link Alarm
- Support Jumbo Frame 9K bytes (under 10,100,1000Mbps)
- Store and Forward Switching Mechanism
- Support Auto & Force mode configuration

3. Installation

| | |
|---|---|
| ❶ | Attach a fiber cable from the converter to the fiber network. The fiber connections must be matched – <u>transmit socket to receive socket</u> . |
| ❷ | Attach a UTP cable from the 10/100/1000BASE-T network to the RJ-45 port on the converter. |
| ❸ | Connect the power adapter to the converter and the PWR/STA LED will light up. The TP and F/O LEDs will light up as soon as if all the cable connections are satisfactory. |

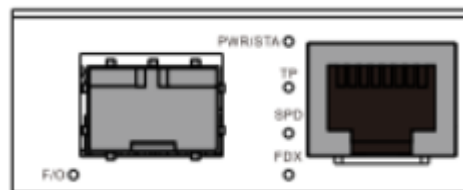


Fig. 1 WDM & SFP Front Panel



Fig. 2 Rear Panel



Fig. 3 Side Panel

4. DIP SWITCH Setting

The default setting for PIN 1 through 7 is ON and PIN 8 is OFF.

| PIN NO. | Function | OFF | ON |
|---------|---------------------|--|--------------|
| 1 | TP Auto-Negotiation | Disable | Enable |
| 2 | Manual TP speed | Please refer to NOTE 3,4 and 5 | |
| 3 | | | |
| 4 | Fiber Speed | Manual | Auto-Sensing |
| 5 | Fiber Manual Speed | 100M | 1000M |
| 6 | F/O mode | Force | Auto |
| 7 | N/A | N/A | N/A |
| 8 | Link Alarm | Disable | Enable |

NOTE:

- Before adjusting the configuration of the DIP Switch, the power should be unplugged.
- Disable TP Auto-Negotiation function before configuring TP speed manually.
- The TP speed is fixed in 10Mbps when PIN 2 & 3 are both set to ON or OFF.
- The TP speed is fixed in 100Mbps when PIN 2 is set to ON and PIN 3 is set to OFF.
- The TP speed is fixed in 1000Mbps when PIN 2 is set to OFF and PIN 3 is set to ON.
- Under TP speed 1000Mbps, it supports full-duplex mode only.
- PIN 4 & PIN 5 are for dual rate model only.

5. LED Description

| LED | Color | Function |
|---------|--------|--|
| PWR/STA | Green | Lit when power is available. |
| TP | Green | Lit when TP cable connection with remote device is good. Blinking when TP traffic is present. |
| F/O | Green | Lit when Fiber cable connection at 100M with remote device is good. Blinking when F/O traffic is present. (For dual rate model only) |
| | Orange | Lit when Fiber cable connection at 1000M with remote device is good. Blinking when F/O traffic is present. |
| FDX | Green | Lit when TP works in full-duplex. Off when TP works in half-duplex. |
| SPD | Green | Lit when TP works in 10M or 100M. |
| | Orange | Lit when TP works in 1000M. |

6. Technical Specifications

| | | |
|--|---|--|
| Standards | IEEE 802.3, 802.3u, 802.3ab, 802.3z | |
| Interface | 1 x RJ-45 connector 1 x F/O port or SFP Slot | |
| LED | Power/Status, FDX, Speed, F/O, TP | |
| Power Input (Main Body) | I/P DC 5V | |
| Power Adapter (Including in package) | I/P AC 100-240V O/P DC 5V, 2A | |
| Power Consumption | 3W ** | |
| Weight | 0.1Kg | |
| Dimensions | 51mm(W)X74mm(D)X20mm(H) | |
| Temperature | Operating: 0°~50°C Storage: -20°~60°C | |
| Humidity | 5%~90% RH non-condensing | |
| Certification | FCC/CE Class A | |
| Media | TP: | EIA/TIA-568 CAT 5e, 1000M |
| | Fiber: | 50/125 or 62.5/125 μ m multi-mode 9/125 or 10/125 μ m single-mode |

* Please contact us for further reports and updates.

**The wattage of power consumption will differ based on the fiber transceivers.

NOTE: Specifications may change without prior notice.

7. Fiber Transceiver Information

Dual Rate:

| TYPE | BTFC (SM-10) | W2A (SM-10) | W2B (SM-10) |
|------------------|-----------------|----------------|----------------|
| Connector Type | SC | SC | SC |
| Wavelength | 1310nm | 1310/1550nm | 1550/1310nm |
| Typical Distance | 10Km | 10Km | 10Km |
| Min TX PWR | -9.5dBm | -10.0dBm | -10.0dBm |
| Max TX PWR | -3.0dBm | -3.0dBm | -3.0dBm |
| Sensitivity | -20.0dBm | -20.0dBm | -20.0dBm |
| Link Budget | 10.5dB | 10.0dB | 10.0dB |

1000M:

- **Multi-Mode/Single-Mode**

| TYPE | BTFC | BTFC (SM-10) | BTFC (SM-20) | BTFC (SM-30) |
|------------------|----------|-----------------|-----------------|-----------------|
| Connector Type | SC | SC | SC | SC |
| Wavelength | 850nm | 1310nm | 1310nm | 1310nm |
| Typical Distance | 550m | 10Km | 20Km | 30Km |
| Min TX PWR | -9.5dBm | -9.5dBm | -9.0dBm | -5.0dBm |
| Max TX PWR | -1.5dBm | -3.0dBm | -2.0dBm | 3.0dBm |
| Sensitivity | -17.0dBm | -20.0dBm | -23.0dBm | -24.0dBm |
| Link Budget | 7.5dB | 10.5dB | 14.0dB | 19.0dB |

- **2 Wave-Length WDM**

| TYPE | W2A (SM-10) | W2B (SM-10) | W2A (SM-20) | W2B (SM-20) | W2A (SM-40) | W2B (SM-40) |
|------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Connector Type | SC | SC | SC | SC | SC | SC |
| TX Wavelength | 1310nm | 1550nm | 1310nm | 1550nm | 1310nm | 1550nm |
| RX Wavelength | 1550nm | 1310nm | 1550nm | 1310nm | 1550nm | 1310nm |
| Typical Distance | 10Km | 10Km | 20Km | 20Km | 40Km | 40Km |
| Min TX PWR | -10.0dBm | -10.0dBm | -9.0dBm | -9.0dBm | -5.0dBm | -5.0dBm |
| Max TX PWR | -3.0dBm | -3.0dBm | 0dBm | 0dBm | 3.0dBm | 3.0dBm |
| Sensitivity | -22.0dBm | -22.0dBm | -23.0dBm | -23.0dBm | -23.0dBm | -23.0dBm |
| Link Budget | 12.0dB | 12.0dB | 14.0dB | 14.0dB | 18.0dB | 18.0dB |

NOTE: Specifications may be changed without prior notice.

**10/100/1000BASE-T to
1000BASE-X or
100/1000BASE-X
Standalone Media Converter**

User's Guide

Version 2.1