

## Trademarks

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## FCC Warning

The MCT-3002 Series converters have 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 MCT-3002 package should contain the following items:

- MCT-3002 Converter
- AC-DC Power Adapter
- This User's Guide

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

## 2. Overview

The MCT-3002 series media 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.

MCT-3002 series media 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/MDI-X 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

- 1 Attach a fiber cable from MCT-3002 to the fiber network. The fiber connections must be matched – transmit socket to receive socket.
- 2 Attach a UTP cable from the 10/100/1000BASE-T network to the RJ-45 port on MCT-3002.
- 3 Connect the power adapter to MCT-3002 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 Dual Fiber Front Panel of MCT-3002 Converter



Fig. 2 WDM & SFP Front Panel of MCT-3002 Converter



Fig. 3 Rear Panel of MCT-3002 Converter

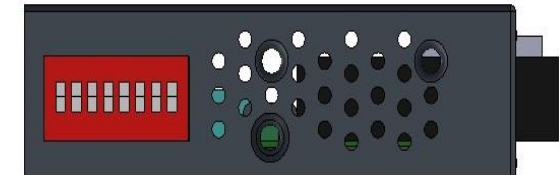


Fig. 4 Side Panel of MCT-3002 Converter

## 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 <b>NOTE 3,4 and 5</b>	
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:

1. Before adjusting the configuration of the DIP Switch, the power should be unplugged.
2. Disable TP Auto-Negotiation function before configuring TP speed manually.
3. The TP speed is fixed in 10Mbps when PIN 2 & 3 are both set to ON or OFF.
4. The TP speed is fixed in 100Mbps when PIN 2 is set to ON and PIN 3 is set to OFF.
5. The TP speed is fixed in 1000Mbps when PIN 2 is set to OFF and PIN 3 is set to ON.
6. Under TP speed 1000Mbps, it supports full-duplex mode only.
7. PIN 4 & PIN 5 are for dual rate model (MCT-3002-DR) 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. Lit when TP works in 100M.
	Orange	Lit when TP works in 1000M.

## 6. Technical Specifications

<b>Standards</b>	IEEE 802.3, 802.3u, 802.3ab, 802.3z	
<b>Interface</b>	1 X RJ-45 connector 1 X F/O port or SFP Slot	
<b>LED</b>	Power/Status, FDX, Speed, F/O, TP	
<b>Power</b>	I/P AC 100-240V O/P DC 3.3V	
<b>Power Consumption</b>	2.3W	
<b>Weight</b>	0.1Kg	
<b>Dimensions</b>	51mm(W)X74mm(D)X20mm(H)	
<b>Temperature</b>	Operating: 0°~50°C Storage: -20°~60°C	
<b>Humidity</b>	5%~90% RH non-condensing	
<b>Certification</b>	FCC/CE Class A	
<b>Media</b>	TP:	EIA/TIA-568 CAT 5e, 1000M
	Fiber:	50/125 or 62.5/125 $\mu$ m multi-mode 9/125 or 10/125 $\mu$ m single-mode

\* Please contact us for further reports and updates.

**NOTE:** Specifications may change without prior notice.

## 7. Fiber Transceiver Information

### Dual Rate

#### 2 Wave-Length WDM

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

### 1000M

#### Multi-Mode/Single-Mode

TYPE	BTFC	BTFC (SM-10)	BTFC (SM-20)	BTFC (SM-30)	BTFC (SM-50)	BTFC (SM-80)
Connector Type	SC	SC	SC	SC	SC	SC
Wavelength	850nm	1310nm	1310nm	1310nm	1550nm	1550nm
Typical Distance	550m	10 Km	20 Km	30 Km	50 Km	80 Km
Min TX PWR	-9.5dBm	-9.5dBm	-9.0dBm	-5.0dBm	-5.0dBm	0dBm
Max TX PWR	-1.5dBm	-3.0dBm	-2.0dBm	3.0dBm	3.0dBm	5.0dBm
Sensitivity	-17.0dBm	-20.0dBm	-23.0dBm	-24.0dBm	-24.0dBm	-24.0dBm
Link Budget	7.5dB	10.5dB	14.0dB	19.0dB	19.0dB	24.0dB

#### 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	10 Km	10 Km	20 Km	20 Km	40 Km	40 Km
Min TX PWR	-10.0dBm	-10.0dBm	-9.0dBm	-9.0dBm	-5.0dBm	-5.0dBm
Max TX PWR	-3.0dBm	-3.0dBm	0 dBm	0 dBm	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.

### Contact Information

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## MCT-3002 SERIES

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

**User's Guide**

**Version 1.1**