

## 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
- Quick Guide

Please contact 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

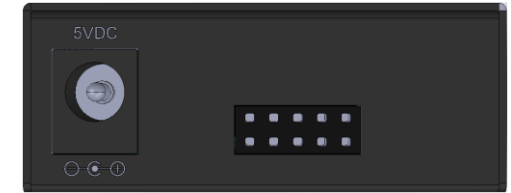


Fig. 3 Rear Panel of MCT-3002 Converter

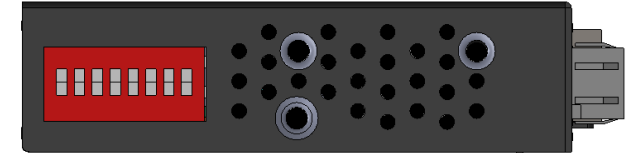


Fig. 4 Side Panel of MCT-3002 Converter

## 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 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:

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 or 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 Input</b> (Main Body)	I/P DC 5V	
<b>Power Adapter</b> (Including in package)	I/P AC 100-240V O/P DC 5V, 2A	
<b>Power Consumption</b>	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.

\*\*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.



## MCT-3002 SERIES

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

**User's Guide**

**Version 2.2**

## Safety instruction [GB]

Warning: Danger of electric shocks and short circuits!

Ensure proper earthing to avoid electric shocks.

Avoid overloading as this can lead to overheating and short circuits.

Check that the housing is undamaged and that there are no exposed contacts or bare wires.

Ensure that all electrical connections are made correctly and that the ambient conditions comply with the technical specifications.

Always keep a sufficient distance from live devices and avoid misuse.

Warning: Laser beams!

Open laser beams, especially in the visible, UV or infrared range, pose a significant safety risk.

Direct or indirect exposure to laser beams can lead to serious eye injuries, skin damage and other health problems.

Eye exposure is particularly dangerous as it can cause permanent damage such as retinal damage or blindness.

Avoid direct eye contact and do not look directly into the laser light.

## Sicherheitshinweis [DE]

Warnung: Gefahr durch elektrische Schläge und Kurzschlüsse!

Achten Sie auf eine ordnungsgemäße Erdung, um elektrische Schläge zu vermeiden.

Vermeiden Sie eine Überlastung, da diese zu Überhitzung und Kurzschlüssen führen kann.

Überprüfen Sie, dass das Gehäuse unbeschädigt ist und keine freiliegenden Kontakte oder blanken Leitungen vorhanden sind.

Stellen Sie sicher, dass alle elektrischen Anschlüsse korrekt ausgeführt sind und die Umgebungsbedingungen den technischen Vorgaben entsprechen.

Halten Sie immer ausreichenden Abstand zu stromführenden Geräten und vermeiden Sie Fehlanwendungen.

Warnung: Laserstrahlen!

Offene Laserstrahlen, insbesondere im sichtbaren UV- oder Infrarotbereich, stellen ein erhebliches Sicherheitsrisiko dar.

Direkte oder indirekte Bestrahlung durch Laserstrahlen kann zu schweren Augenverletzungen, Hautschäden und anderen gesundheitlichen Beeinträchtigungen führen.

Besonders gefährlich ist die Bestrahlung der Augen, da sie bleibende Schäden wie

Netzhautschäden oder Erblindung verursachen kann.

Vermeiden Sie direkten Augenkontakt und schauen Sie nicht direkt ins Laserlicht.

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