Trademarks

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Copyright Statement

FCC Warning

The MCT-100 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-100 package should contain the following items:

- MCT-100 Converter
- AC-DC Power Adapter
- Quick Guide

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

2. Overview

Connection Technology Systems (CTS) MCT-100 series media converters are the Ethernet 10/100Base-TX to 100Base-FX media converter. The media converter converts traditional twisted-pair RJ-45 cable into various fiber media, including multi-mode, single-mode, SC/ST connector or bi-directional WDM, and extends transmission distance for the deployment to the household, apartment or campus.

The installation and operation procedures of MCT-100 are simple & straightforward. Operation status can be monitored through a set of Diagnostic LED indicators on the front panel.

Major Features:

- Provide one 10/100Base-TX RJ-45 port & one 100Base-FX SFP port
- Compatible with IEEE 802.3, 802.3u
- Support 9K Jumbo Frames
- Store & Forward Switching Mechanism
- MDI/MDIX Auto-Crossover supported
- Support Auto-Negotiation or Manual mode for TP port's speed & duplex configuration.
- Support Link Alarm function
- Support 128K bytes packet buffer

3. Installation

Please follow the steps described below and refer to Figure 1 or 2 and 3 to complete the network installation.

❶ Attach a fiber cable from MCT-100 to the fiber network.
❷ Attach a UTP cable from the 10/100Base-TX network to the RJ-45 port on MCT-100.
❸ Connect the power adapter to MCT-100 and the PWR/STA LED will light up. The TP and F/O Link/Act LEDs will light up as soon as if all the cable connections are satisfactory.

Fig. 1 Dual Fiber Front Panel of MCT-100 Converter

Fig. 2 WDM & SFP Front Panel of MCT-100 Converter

Fig. 3 Rear Panel of MCT-100 Converter

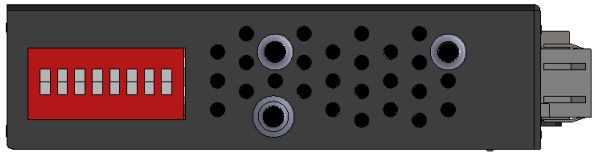
Fig. 4 Side Panel of MCT-100 Converter

4. LED Description

LED	Color	Function
PWR/ STA	Green	Lit when power is available.
TP	Green	Lit when TP cable connection with the remote device is good. Blinking when TP traffic is present.
F/O	Green	Lit when Fiber cable connection at the speed of 100Mbps with the remote device is good. Blinking when F/O traffic is present.
FDX	Green	Lit when TP port works in full-duplex mode. Off when TP port works in half-duplex mode.
SPD	Green	Lit when TP 100Mbps port link is up. Off when TP 10Mbps port link is up.

5. DIP Switch Setting

The default setting for PIN 1 to PIN 8 is OFF.

Pin NO.	Function	OFF	ON
1	TP Auto-Negotiation	Enable	Disable
2	Manual TP Speed	100M	10M
3	Manual TP Duplex	Full	Half
4	Link Alarm	Disable	Enable
5	Reserved	Always Keep OFF	
6	Reserved	Always Keep OFF	
7	Reserved	Always Keep OFF	
8	Reserved	Always Keep OFF	

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/duplex manually.

6. Technical Specifications

Standards	IEEE 802.3 & IEEE 802.3u
MAC Table	2K Entries
Forward & Filter Rate	10Base-T: 14,880 pps
(64 Bytes)	100Base-TX: 148,800 pps
LED	PWR/STA, TP, SPD, FDX, F/O
Power Input	I/P DC 5V
(Main Body)	
Power Adapter	I/P AC 100-240V
(Including in package)	O/P DC 5V, 2A
Power Consumption	3W **
Weight	0.1Kg
Dimensions	51mm x 74mm x 20mm (WxDxH)
Temperature	Operating: 0 ~ 50 °C
	Storage: -20 ~ 60 °C
Humidity	5% ~ 90% RH non-condensing
Certification	FCC/CE Class A
Media	TP: Cat. 5 UTP cable
	Fiber: 50/125 or 62.5/125μm multi-mode
	9/125μm 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. Link Alarm

Link Alarm allows users to easily identify and diagnose the linking status. If Link Alarm is enabled (PIN 4 is set to ON), the UTP and fiber port can link up only when both linking conditions are good. In addition, if the fiber or UTP port link is down during the operation, the other port link will also be turned into the "Down" status to alert the user. Configure Link Alarm DIP switch as "Enabled" status, it provides users transparent link indication between two network devices interconnected by MCT-100.

If Link Alarm is disabled, the UTP and fiber port will link up based on their individual linking condition. Furthermore, if the fiber port link is down during the operation, the UTP port link will not be turned into the "Down" status, and vice versa.

8. Fiber Transceiver Information

100M Multi-Mode:

TYPE		BTFC	BTFT
Connector Type		SC	ST
Wavelength		1310nm	1310nm
Typical Distance		2Km	2Km
Min TX PWR	OM1	-20.0dBm	-20.0dBm
	OM2	-23.5dBm	-23.5dBm
Max TX PWR	OM1	-14.0dBm	-14.0dBm
	OM2		
Sensitivity		-31.0dBm	-31.0dBm
Link Budget		11.0dB	11.0dB

100M Single-Mode:

TYPE	BTFC (SM-30)	BTFC (SM-50)	BTFC (SM-80)	BTFC (SM-100)
Connector Type	SC	SC	SC	SC
Wavelength	1310nm	1310nm	1310nm	1550nm
Typical Distance	30Km	50Km	80Km	100Km
Min TX PWR	-15.0dBm	-7.0dBm	0dBm	-5.0dBm
Max TX PWR	-8.0dBm	0dBm	5.0dBm	0dBm
Sensitivity	-34.0dBm	-32.0dBm	-36.0dBm	-35.0dBm
Link Budget	19.0dB	25.0dB	36.0dB	30.0dB

100M 2 Wave-Length WDM:

TYPE	W2A (SM-20)	W2B (SM-20)	W2A (SM-40)	W2B (SM-40)
Connector Type	SC	SC	SC	SC
TX Wavelength	1310nm	1550nm	1310nm	1550nm
RX Wavelength	1550nm	1310nm	1550nm	1310nm
Typical Distance	20Km	20Km	40Km	40Km
Min TX PWR	-15.0dBm	-15.0dBm	-9.0dBm	-9.0dBm
Max TX PWR	-3.0dBm	-3.0dBm	0dBm	0dBm
Sensitivity	-31.0dBm	-31.0dBm	-32.0dBm	-32.0dBm
Link Budget	16.0dB	16.0dB	23.0dB	23.0dB

NOTE: Specifications may change without prior notice.

Contact Information

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CTS
CONNECTION TECHNOLOGY SYSTEMS

MCT-100 Series

10/100BASE-TX to 100BASE-FX Standalone Media Converter

User's Guide

Version 3.2