

## Trademarks

CTS is a registered trademark of Connection Technology Systems Inc. Contents are subject to revision without prior notice.

All other trademarks remain the property of their owners.

## Copyright Statement

Copyright © Connection Technology Systems Inc.

This publication may not be reproduced as a whole or in part, in any way whatsoever unless prior consent has been obtained from Connection Technology Systems Inc.

## FCC Warning

This equipment 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:

- One set of MCT-5002FSMSFP+ Media Converter
- 1X AC/DC Power Adapter
- Introduction of MCT-5002FSMSFP+ Signal Loss Alarm Behavior
- This User's Guide

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

## 2. Overview

MCT-5002FSMSFP+, a compact media converter designed for the pluggable fiber transceiver, extends transmission distance for Data Center conversion application or ISP Mobile DU (Distributed Unit) and Enterprise broadband service applications.

MCT-5002FSMSFP+ media converter is fully compliant with 802.3z and 802.3ae standards. Operation status can be locally monitored through a set of Diagnostic LEDs located on the front panel.

### Major Features:

- Support Signal Loss Alarm (For more details on the behavior of Signal Loss Alarm, please refer to our "Introduction of MCT-5002FSMSFP+ Signal Loss Alarm Behavior" file).
- Support Jumbo Frame 9K bytes
- Support the loopback mode in fiber ports
- Support the fully-transparent mode
- Fully compatible with CTS MCT-RACK-12/18-MGM chassis for in-rack management

## 3. Installation

- Attach the fiber cable from MCT-5002FSMSFP+ to the fiber network. The fiber connections must be matched – transmit socket to receive socket.
- Connect the power adapter to the power jack on the rear panel of MCT-5002FSMSFP+ and check that if the Power LED lights up. The F/O LEDs will light up when all the cable connections are satisfactory.

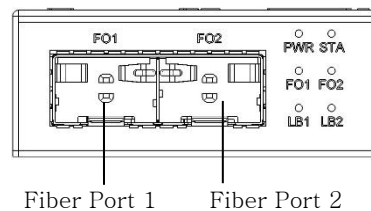


Fig 1. Front Panel of MCT- 5002FSMSFP+ Converter

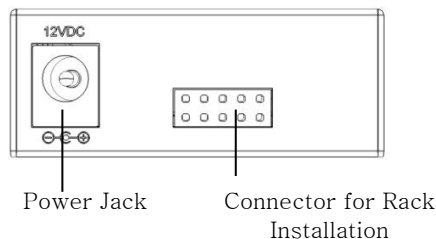


Fig 2. Rear Panel of MCT-5002FSMSFP+ Converter

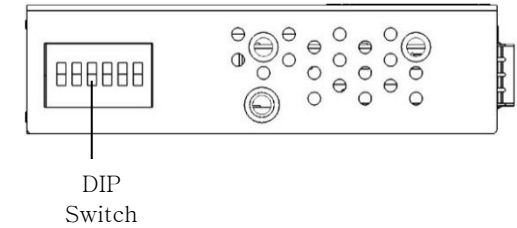
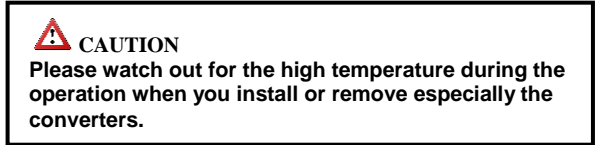


Fig 3. Side Panel of MCT-5002FSMSFP+ Converter



## 4. LED Description

LED	Color	Function
Power	Green	Lit when power is available.
FO1/2	OFF	Fiber port link is down.
	Green	Lit when Fiber 10Gbps port link is up.
LB1/2	Orange	Lit when Fiber 1Gbps port link is up.
	OFF	FO1/FO2 port works in normal mode.
Status	Green	Lit when FO1/FO2 port is in loopback mode.
	Orange	Lit when the converter module is in normal operation.
		Slowly blinking when the firmware of the converter module is not compatible with CTS MCT-RACK-MGM chassis. The converter module needs to be upgraded with the new firmware.
Orange ↕ Green	Rapidly blinking when the converter module works abnormally.	
	Orange ↕ Green	Slowly blinking when the system is upgrading the firmware.

**NOTE:** When the fiber port is on transmission, LED of FO1/2 will not blink.

## 5. DIP SWITCH Setting

The default setting for PIN5 is ON, and the rest of PINs are OFF.

Pin NO.	Function	OFF	ON
1	Fiber Port Speed	10Gbps	1Gbps
2	Signal Loss Alarm	Disable	Enable
3	FO1 Loopback Mode	Disable	Enable
4	FO2 Loopback Mode	Disable	Enable
5	Software Control	Configure via software of CTS MCT-RACK-MGM chassis	Configure via DIP Switch
6	No Function	Always Keep OFF	

### NOTE:

- Before adjusting the configuration of the DIP Switch, the power should be unplugged.
- PIN1, PIN 2, PIN 3 and PIN 4 work only when PIN 5 is set to ON.
- Make sure the speed of fiber port links is the same when adjusting PIN1.
- When the fiber loopback mode is enabled (PIN 3 or PIN 4 is set to ON), the media converter will loopback the received packets (The packets are generated from the testing packets generator) to ensure the circuit quality.
- In loopback mode, the fiber ports cannot transmit the packets with each other.

## 6. Installing MCT-5002FSMSFP+ on MCT-RACK Chassis Series

Up to 6 sets of MCT-5002FSMSFP+ installation can be supported by CTS MCT-RACK-12/18 chassis series. For more details on these installation, you may refer to our MCT-RACK-12/18-MGM chassis HW User's Guide.

For proper heat dissipation for MCT-RACK-18 chassis series, please avoid using slot 1 as well as slot 18, and not to install any modules next to the slot in which MCT-5002FSMSFP+ is installed to keep adequate ventilation. (See Fig. 4). As to MCT-RACK-12 chassis series, the staggered installation for your MCT-5002FSMSFP+ is highly recommended. (See Fig.5).

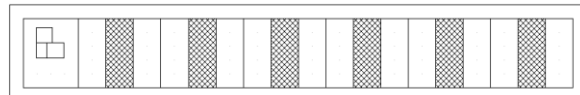


Fig 4. MCT-5002FSMSFP+ Installation on MCT-RACK-18 Chassis Series

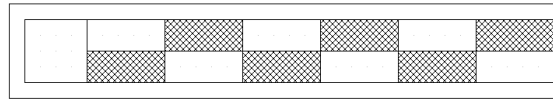


Fig 5. MCT-5002FSMSFP+ Installation on MCT-RACK-12 Chassis Series

## 7. Technical Specifications

<b>Standards:</b>	802.3z and 802.3ae
<b>Interfaces:</b>	2 X F/O port (SFP+)
<b>LEDs:</b>	Power, Status, Link/ACT of FO1~FO2, and LB1~LB2 (FO1~FO2 Loopback)
<b>Power:</b>	Input: AC 100-240V, 50/60Hz Output: DC 12V/2A Consumption: 6.5W (Max.)
<b>Weight:</b>	76g
<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
<b>Certification:</b>	FCC/CE Class A

\*Please contact us for further reports and updates.

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

## Contact Information

Connection Technology Systems INC (CTS)  
18F-6, No.79, Sec.1, Xintai 5th Rd., Xizhi Dist.,  
New Taipei City 221, TAIWAN, R.O.C.  
TEL: +886 2 26989661 FAX: +886 2 26989662  
E-Mail: [info@ctsystem.com](mailto:info@ctsystem.com)



## MCT-5002FSMSFP+

### 10GBASE-R SFP+ to SFP+ Standalone Media Converter

User's Guide

Version 1.0