

NETWORKS

# ETHERNET MEDIA CONVERTER USER MANUAL



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# Safety Information

Thank you for purchasing this FS Media Converter. The models listed below vary in the type and number of ports, connectors and added features, but all are designed so network managers can install fiber cabling anywhere within a network without changing the arrangement of copper-based Ethernet. The compact size of the converter allows for easy deployment in any narrow desktop location or wall-mount installation and, if needed, several converters can be grouped in a 19" rack-mountable chassis.

## FCC Warning

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and radiates radio frequency energy and, if not installed and used in accordance with the user manual, may cause interference, which the user will be required to correct at his own expense.

## CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures to avoid it.

## 1. Overview

Since all the FS Media Converter models represented in this manual do not share all the same features, refer to the product or its corresponding parameters to determine which of the following sections or items within the sections apply to the enclosed product. For example, not all of the LEDs defined in the status reference chart may be featured on your media converter.

## 2. Package contents

The following items should be found in your package:

- 1x The Media Converter
- 1x AC-DC Power Adapter (for external models) or Power Cord (for internal models)
- 1x The User's Manual



NOTE: Make sure that the package contains the above items. If any of the listed items are damaged or missing, please notify your Account Manager immediately.

# Chapter 1 Product Appearance

## 1.1 Port Locations and Layouts

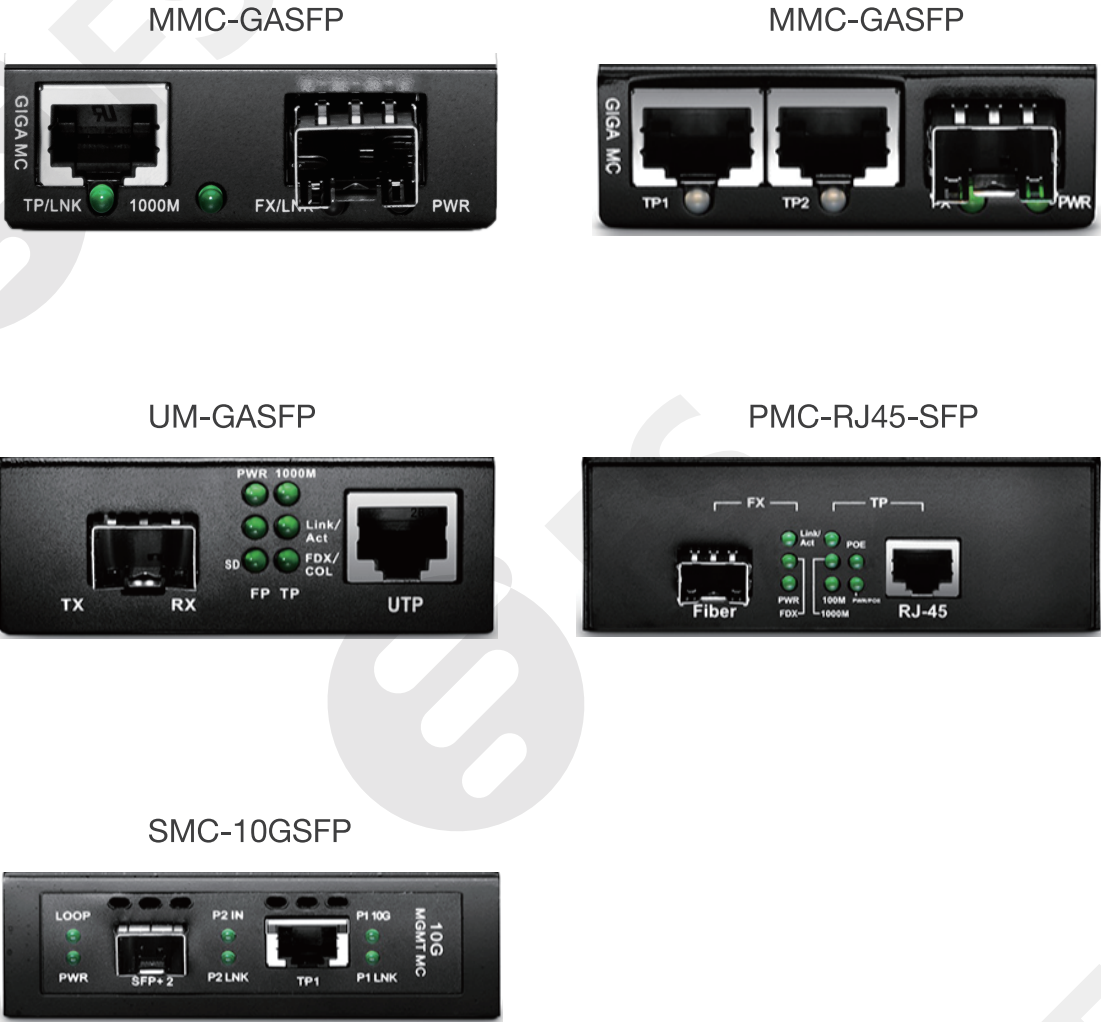


Figure 1-1

## 1.2 LED Indicators

Front panel LEDs provide at-a-glance network status and real-time connectivity information. Each of them has its own specific meaning as shown in the table below. Not all models will have all of the LED Indicators described.

LED		Status	Indication
PWR		ON	Power is on.
		OFF	Power is off.
FX/FP	LNK/ACT	ON	Fiber port is linked.
		Blinking	Fiber port is actively transmitting data.
		OFF	Fiber link is fail.
TP	LNK/ACT	ON	Copper port is linked.
		Blinking	Copper port is actively transmitting data.
		OFF	Copper link is fail.
1000M		ON	1000M (TP).
		OFF	100M/10M (TP).
SD		ON	Fiber port singal is detected.
		OFF	Fiber port singal does not detected.
FDX/COL		ON	Full duplex.
		OFF	Half duplex.
LOOP		ON	Loopback is on.
		OFF	Loopback is off.

Table 1-1

## 1.3 DIP Switch Setting

### 1.3.1 Mini Media Converter DIP Switches (MMC-GASFP)

#### 1 RJ45 to 1 SFP

NO	Function		Status	Description
1	LFP Function		OFF	Disable.
			ON	Enable.
2	Forward Mode*	H Bit	OFF/OFF	Store and forward.
OFF/ON			Modified cut through.	
3		L Bit	ON/OFF	Smart pass through.
			ON/ON	Pass through.
4	FX 100M		OFF	FX 1000M.
			ON	FX 100M.

#### \* Combined keys

Table 1-2

NO	Function	Status	Description
1	Reserved	X	X.
		OFF	Normal.
2	Jumbo Frame	ON	Up to 9KB.
		OFF/ON	Modified cut through.
3	Port Isolation*	OFF	Disable.
		ON	Enable.
4	FX 100M	OFF	FX 1000M.
		ON	FX 100M.

#### \* Between two RJ-45 ports

Table 1-3

### 1.3.2 PoE Media Converter DIP Switches (PMC-RJ45-SFP)

NO	Function	Status	Description
SW1-1	ENROM*	OFF	Disable.
		ON	Enable EEPROM SET.
SW1-2	FX100M*	OFF	FX 1000M(default).
		ON	FX 100M.
SW1-3	NULL	OFF	Reserved.
		ON	
SW1-4	LFP*	OFF	Disable.
		ON	Enable.
SW1-5	MODE1**	OFF/OFF	Store and Forward mode.
		OFF/ON	Modified cut through mode.
SW1-6	MODE0**	ON/OFF	Smart pass through mode.
		ON/ON	Pass through mode.

\*,\*\* combined keys.

The function of SW2 or SW4 can be effective when SW1 is on.

Table 1-4



# Chapter 2 Installation

## 2.1 Stand-alone Installation

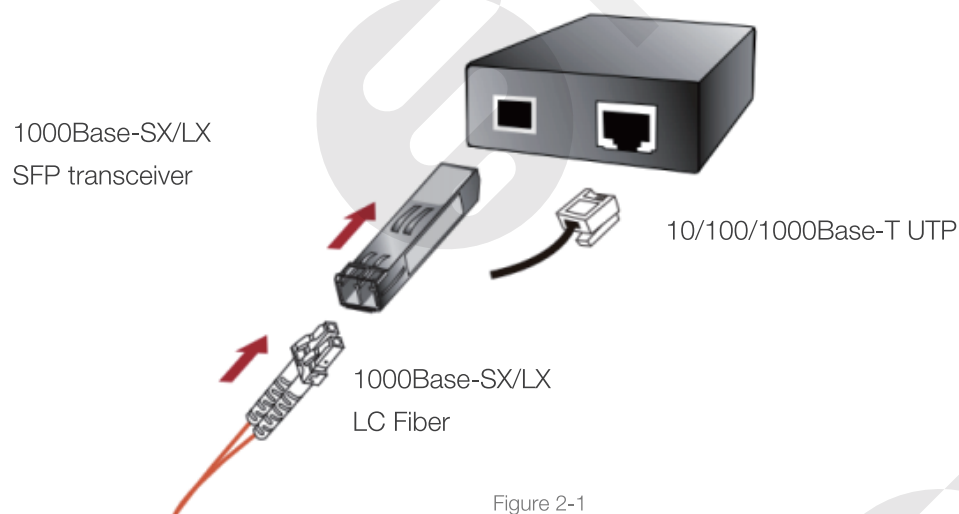
To install the media converter stand-alone, on a desktop or shelf, simply follow the steps below:

Step 1: Place the media converter on a flat, secure surface (such as a desk) leaving ample space around the unit for ventilation.

Step 2: Connect the Cat5e (or better) Ethernet cable to the RJ45 port of the media converter (This port is auto-negotiating). And connect the other end of the Cat5e (or better) Ethernet cable into your network device (switch, PC, router, etc.)

Step 3: Insert a SFP module into the open SFP slot, connect the fiber optic cable to the SFP transceiver. Both multimode cabling and single mode cabling are supported. Make sure both side of the SFP transfer are with the same media type. Plug the other end of the fiber optic cable to the fiber network.

Step 4: Connect the power adapter to the media converter, and plug the another end to the AC socket. The corresponding LED is ON for correct connection.



## 2.2 Rack-mount Installation (Use with MFMC-12DP 12 Slots Mini Media Converter Chassis)

FS 1U 12 slots media converter rack mount chassis is specially designed for accommodating mini media converters. It is a standard 19 inch 1U rack mount chassis which can be mounted in the standard 19-inch rack.

Step 1: Install the hanging ears on the media converters. The hanging ear is designed to be installed on the left rear side of the media converter with two screws.

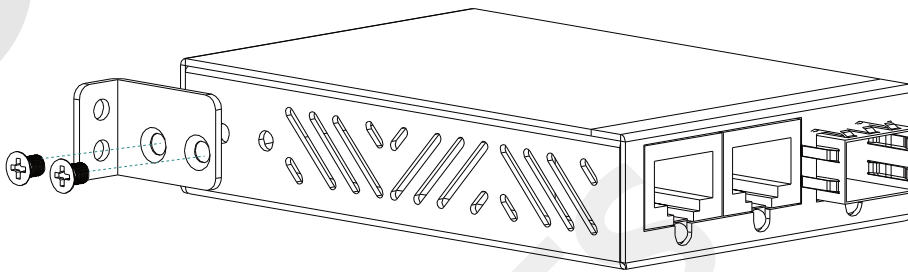


Figure 2-2

Step 2: Install the media converters in the chassis in sequence. We suggest to first install the lower level media converters (up to six), then install the upper level media converters (up to six). Each media converter can be fixed tightly in the chassis by two screws.

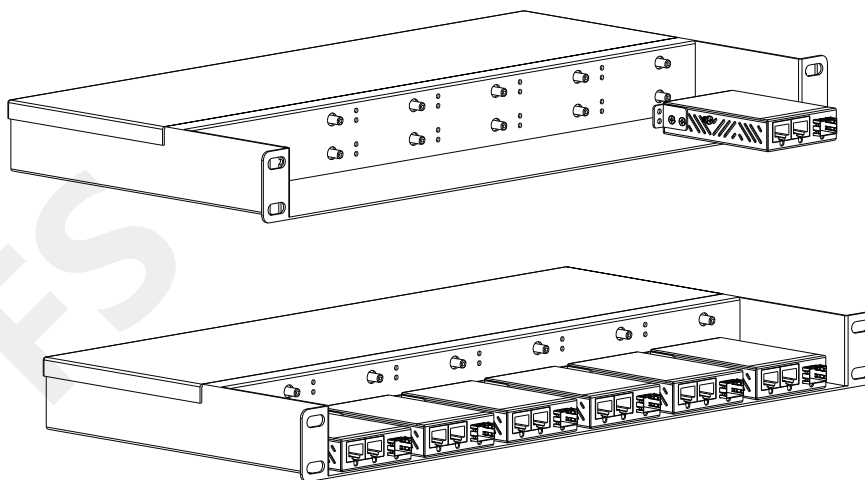


Figure 2-3

Step 3: Place the chassis into the rack. Align the brackets to the side holes on the rack and use the rack screws to secure the chassis to the rack.

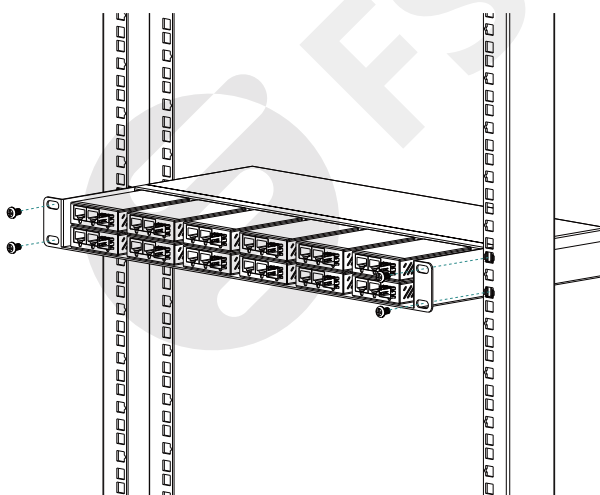


Figure 2-4

Step 4: Connect the CAT5e (or better) twisted-pair and fiber optic cables to other network devices. Then connect the power cords and turn on the power switch, the installed media converters will work. The corresponding LED is ON for correct connection.

## Chapter 3 Technical Specifications

Models	UM-GASFP	MMC-GASFP	MMC-GASFP	PMC-RJ45-SFP	SMC-10GSFP	MFMC-12DP
Standards	IEEE802.3U, IEEE802.3Z, 1000Base-TX				IEEE802.3an, IEEE802.3ae	N/A
Ports	1× RJ45 to 1× SFP	1× RJ45 to 1× SFP	2× RJ45 to 1× SFP	1× RJ45 to 1× SFP	1× RJ45 to 1× SFP+	12 Slots
Compatible Fiber Types	Depends on the transceiver modules					N/A
Optical wavelength	Depends on the transceiver modules					N/A
Duplex Modes	Full/Half					N/A
Auto MDIX	Yes					N/A
Power Supply	AC 100-240V 50/60Hz					
Operating Temperature	0°C to 50°C	0°C to 40°C	0°C to 40°C	0°C to 50°C		
Storage Temperature	-20°C to 85°C				-10°C to 70°C	-20°C to 70°C
Humidity	90% max, non-condensing					
Dimension (WxDxH)	70 x 95 x 26 (mm)	60 x 90 x 20 (mm)		110 x 140 x 40 (mm)	173 x 106 x 33 (mm)	485 x 270 x 44.5 (mm)

Table 3-1