VALUE Gigabit Ethernet Media Converter

21.99.1199

User manual

Please read the manual before using!

The manual may be changed without prior notice.

Overview

The Gigabit Ethernet Media Converter converts 10/100/1000Base-T electrical signals to 1000Base-FX optical signals. It provides an economic way to extend the network transmission distance from 100m over copper cables to 100km over fiber optical cables. It complies with IEEE802.3 10Base-T, IEEE802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, and IEEE802.3z 1000Base-X. It supports auto full/half duplex, auto MDI/MID-X and can be used for many different applications.

Item	Specifications
MC-GE-MM	10/100/1000M, MMDF 550m~2km, SC/FC/ST
MC-GE-SM	10/100/1000M, SMDF 20km~120km, SC/FC/ST
MC-GE-WDM	10/100/1000M, SMSF20km~120km, SC/FC/ST
MC-GE- SFP	10/100/1000M, SFP slot

Packing list

Make sure that you receive the full package in good condition. If anything is missing or damaged, please contact us.

Gigabit Ethernet Media Converter	1
Power Adaptor (external)	1
Power Line (internal)	1
User Manual	1

Technical parameters

Standard		IEEE802.3 10Base-T, IEEE802.3u 100Base-TX/FX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE802.3x Flow Control
Ports		4x 10/100/1000Base-Tx 1x100BaseFx
		2x 10/100/1000Base-Tx 1x100BaseFx
		1x10/100Base-Tx 1x100/1000BaseFx
Reach		UTP: ≤250m @10Base-Tx; ≤100m @100/1000Base-Tx Fiber: ≤20km @MMF; ≤120km @SMF
Connector		Ethernet port: RJ45 Fiber: SC/ST/FC/LC(SFP) available
Voltage input		DC5V
		DC5V
		DC5V
Power		<5W
		<3.5W
		<3W
Operating		-10~+65℃; 10%~90%, non-condensing
Storage		-40~+75℃; 5%~90%, non-condensing
Dimension	External:	71* 96*26mm
		71* 96*26mm
		71* 96*26mm
	Card Internal:	114*88*26mm
		114*88*26mm
		140*110*30mm
		/
		/
		/

Optical Parameters

Options	wavelength	Reach	power	Sensibility
MC-GE-MM	850nm	550m	-10~-3dBm	≤-17dBm
MC-GE-MM	1310nm	2km	-10~-3dBm	≤-17dBm
MC-GE-SM	1310nm	20Km	-9~-3dBm	≤-22dBm
MC-GE-SM	1550nm	40Km	-5~0dBm	≤-24dBm
MC-GE-SM	1550nm	60Km	-6~+1dBm	≤-24dBm
MC-GE-SM	1550nm	80-100Km	-2~+3dBm	≤-24dBm
MC-GE-WDM	1310/1550nm	3km	-12~-4dBm	≤-23dBm
MC-GE-WDM	1310/1550nm	10~20km	-9~-3dBm	≤-23dBm
MC-GE-WDM	1310/1550nm	40~60km	-2~+3dBm	≤-23dBm
MC-GE-WDM	1490/1550nm	60~100km	-2~+3dBm	≤-23dBm

LED indicator

The LED indicators facilitates to monitor the working status and troubleshoot. Refer to the below table for the status of LED indicator.

LED	Status	Description
FX LINK/ACT	On	Fiber port connected and link good
	Blink	Data sending and receiving on fiber port
	Off	Fiber port disconnected or link error
TX LINK/ACT	On	Ethernet port connected and link good
	Blink	Data sending and receiving on Ethernet port
	Off	Ethernet port disconnected or link error
1000	On	Data rate is 100Mbps on Ethernet port
100	On	Data rate is 100Mbps on Ethernet port
FDX	On	Full duplex on Ethernet port
PWR	On	Power supply is ok
	Off	Power supply error

⚠ Caution

1. The media converter is for indoor use;

2. Cover the dust cap when the fiber port is not used；

3. DON'T stare at the fiber port with naked eyes when it is working, or it may hurt your eyes;

4. WDM media converter should be in pairs.

Installation

Ethernet Port Connection

Connect the network device (work station, hub or switch) to the RJ-45 jack of the media converter by CAT5e or better TP cable. Please use quality RJ-45 and well-made patch cords. It auto identifies MDI or MDI-X cable.

1000Base Tx RJ45 Pinouts **8-pin RJ45**

MDI/MDI-X Pinouts

Pin	Signal	Pin	Signal
1	TRD(0)+	5	TRD(2)-
2	TRD(0)-	6	TRD(1)-
3	TRD(1)+	7	TRD(3)+
4	TRD(2)+	8	TRD(3)-

Fiber Port Connection

For dual fiber port, connect TX of media converter with the RX of the network device, and RX of the media converter with the TX of the network device by a duplex fiber optic patch cord.

For single fiber optical port, connect the optical port of media converter with that of the network device by a simplex fiber optic patch cord.

Power connections

Connect the DC socket of media converter, and power supply with the power adapter.

We recommend to use our default power adapter. If not, make sure that the rated input voltage of power adapter is 5V.

Trouble shooting

1. Power LED is OFF

- ✓ If installed on a desktop, check that the power adapter is securely connected.
- ✓ If installed in our chassis, check that the unit is fully seated in the slot.
- ✓ Verify that the power outlet has power output.
- ✓ Try using another power adapter.

2. TX LINK/ACT LED is OFF

- ✓ Check if the connected device is powered ON and operating properly.
- ✓ Check that the TP cable is securely connected.
- ✓ Make sure that the TP cable does not exceed 100 meters.

3. FX LINK/ACT LED is OFF

- ✓ Check if the connected device is powered ON and operating properly.
- ✓ Check that the fiber is securely connected.
- ✓ Make sure the TX and RX port is connected correctly.
- ✓ Test if the attenuation on the fiber cable does not exceed the acceptable values.

4. FX LINK/ACT is ON, but still problem in communication

- ✓ Check if the data rate of the both sides is 100Mbps
- ✓ Check if the duplex mode of the both sides is same
- ✓ Check if wavelength of the both sides is same
- ✓ Check if the loss budget off fiber is not exceeded.