

MOXA Media Converter User's Guide

1. Overview

IEEE802.3/u Ethernet supports two types of media for network connections: 10/100BaseTX and 100BaseFX. MOXA Media Converter (ME50) is designed with a switch controller and buffer memory to provide a smooth connection between the two types of segments.

2. Checklist

Before installing MOXA Media Converter, verify that the package contains the following items:

- Media Converter
- AC-DC Power Adapter
- This User's Guide

Please notify your sales representative if any of the above items is missing or damaged.

3. Model Descriptions

- ME50-M-SC** 10/100Base-TX to 100BaseFxm media converter, supports multi mode, SC type fiber connection
- ME50-M-ST** 10/100Base-TX to 100BaseFxm media converter, supports multi mode, ST type fiber connection
- ME50-S-SC** 10/100Base-TX to 100BaseFxm media converter, supports single mode, SC type fiber connection

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4. Installing MOXA Media Converter

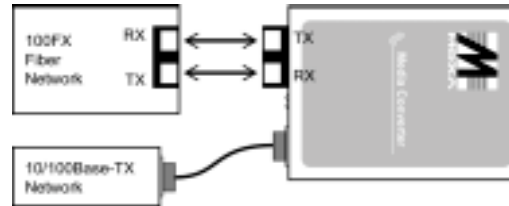
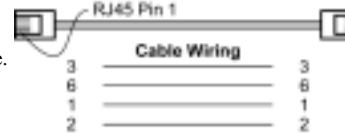


Fig. 1: Basic Network Connection

- Verify that the AC-DC adapter conforms to your country's AC power requirement and then insert the power plug.
- Connect the media cables for network connection as described in Sections 5 and 6.

5. TP port cable connection

- a. Use a straight-through cable, as shown here.



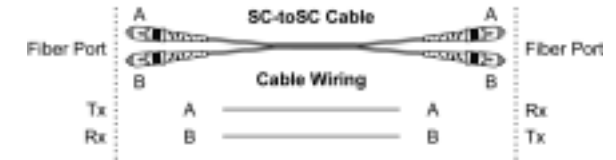
- b. Set the MPR-DTE selection-switch on the side panel (see Fig. 2 below) for cable connection to a Hub (MPR) or NIC (workstation).
- MPR (**Default**) : To a Switch or Hub
DTE : To a workstation, or NIC
- c. Check the Link LED status to verify that the wiring is correct.
- d. MOXA Media Converter supports auto-negotiation to determine the transmission speed.



Fig. 2: Side Panel

6. Fiber Port Cable Connection

- a. Use an SC connector cable.



Attach the fiber cable by connecting Tx to Rx at both ends. Select the duplex mode that matches the remote fiber partner's mode.

- b. The transmission speed is 100 Mbps, with the duplex mode switch-selectable (the default is full duplex mode).
- Full-duplex (FDX) for 100Fdx fiber link partner
 - Half-duplex (HDx) for 100Hdx fiber link partner
- The full duplex (FDX) mode selection-switch is located on the rear panel (see Fig. 3 below).
- c. Check the Link LED status to verify that the wiring is correct.



Fig. 3: Rear Panel

Fiber Link Partners should be set at the same duplex mode. The default FX Mode is FDX (full-duplex).

7. LED Description

LED	Color	Function
FX LNK/ACT	Green	Lit when connected Blinks when transmitting
FX 100	Green	Lit for fiber 100M operation
FX FCX/COL	Amber	Lit for full-duplex mode Blinks when collisions occur
TP LNK/ACT	Green	Lit for TP connection Blinks when transmitting TP data
TP 100	Green	Lit when TP speed is 100 Mbps Off when TP speed is 10 Mbps
PWR	Green	Lit when +5V power is on

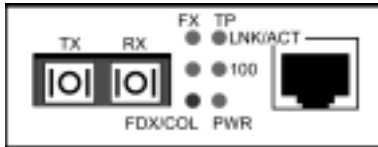


Fig. 4: Bridge Media Converter Front panel

8. Cable Limitations

100Base-X networks allow a 512-bit time delay between any two mode stations in a collision domain. The overall bit-time of TP/Fiber wires and devices must be within 512 bits in a segment. A switch can be used to break up the collision domain and extend the cabling distance.

- **TP Cable Limitations:** Cat. 5 100 m

- **Multi-mode Converter Fiber Cable Limitations:**

Multi-mode	Node to Node	412 m
Half-duplex	Node to Switch	412 m
Multi-mode	Node to Node	2 km
Full-duplex	Node to Switch	2 km

- **Single-mode Converter Fiber Cable Limitations:**

Single-mode	Node to Node	20 km
Full-duplex	Node to Switch	20 km

9. Specifications

- **Standards:** IEEE802.3u 100Base-TX/FX

- **Models:**

ME50-M-SC 10/100Base-TX to 100BaseF_x media converter, supports multi mode, SC type fiber connection

ME50-M-ST 10/100Base-TX to 100BaseF_x media converter, supports multi mode, ST type fiber connection

ME50-S-SC 10/100Base-TX to 100BaseF_x media converter, supports single mode, SC type fiber connection

- **UTP Cable:** Cat. 5 cable up to 100

Fiber Cable:

50/125, 62.5/125, or 100/140 μm multi-mode

8.3/125, 8.7/25, 9/125 or 10/125 μm single-mode

- **LED Indicators:**

POWER, FX LNK/ACT, 100, TP LNK/ACT, FDX/COL

- **Data Transfer Rate:**

Speed	Forwarding Rate
100 Mbps	148,800 pps
10 Mbps	14,880 pps

- **Flow Control:**

IEEE802.3x compliant for full-duplex

Back pressure flow control for half-duplex

- **Power Requirement:**

1A @ +5VDC

- **Ambient Temperature:**

0 to 50°C

- **Humidity:**

5% to 90%

- **Dimensions:**

26.2 × 70.3 × 94 mm (H × W × D)

Note: When connecting to a Router, Bridge, or Switch, please refer to that device's technical manual.

10. Service Information

Customer satisfaction is our number one concern. To ensure that customers receive the full benefit of our products, Moxa Internet Services has been set up to provide technical support, driver updates, product information, and user's manual updates.

- E-mail for technical support:

service@moxa.com.tw

- FTP site for free driver updates:

<ftp://ftp.moxa.com>

<ftp://ftp.moxa.com.tw>

user ID: ftp

password: your_email_address

- World Wide Web (www) site for product information:

<http://www.moxa.com>

<http://www.moxa.com.tw>

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