

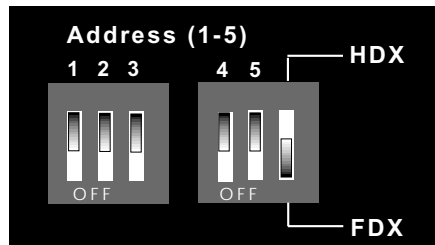
TRANSCEIVER TECHNICAL SPECIFICATIONS

| | | | |
|---------------------------|---|------------------------|--|
| Standards | IEEE 802.3 | | |
| Case dimensions | 2.8" x 1.75" x 0.75" (71mm x 43mm x 18mm) | | |
| Maximum in series: | Two (2) | | |
| Environment | Temperature: | 0-40°C (32° to 104° F) | |
| | Humidity | 10-90%, non condensing | |
| | Altitude | 0-10,000 feet | |
| Warranty | Lifetime | | |

Setting the Transceiver Physical Address

Additive switch settings allow a physical address to be set by selecting (or not selecting) among the following:

| | | |
|---------------|----------------|----|
| Switch 1 DOWN | 2 ⁰ | 1 |
| Switch 2 DOWN | 2 ¹ | 2 |
| Switch 3 DOWN | 2 ² | 4 |
| Switch 4 DOWN | 2 ³ | 8 |
| Switch 5 DOWN | 2 ⁴ | 16 |



In the switch setting shown above, the transceiver physical address is set to **0** (0+0+0+0+0). The data transfer mode is set to full-duplex.

Compliance Information
 UL Listed
 C-UL Listed (Canada)
 CISPR/EN55022 Class A

FCC Regulations

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 limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

Canadian Regulations

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

European Regulations

Warning

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

Copyright Restrictions

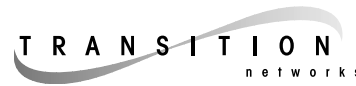
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33036.D



Minneapolis, MN 55344 USA

Fast Ethernet™ Fiber Transceiver

E-FX-MC01, E-FX-MC01(SM), E-FX-MC01(SC)

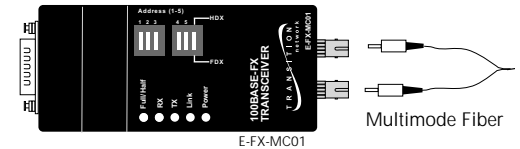
USER'S GUIDE

The TRANSITION Networks FX-MC01 transceivers connect Fast Ethernet™ hubs and terminal devices, through a Media Independent Interface (MII) connector, to *1300mn multimode* fiber-optic cable (E-FX-MC01 and E-FX-MC01(SC)) OR to *1300mn singlemode* fiber-optic cable (E-FX-MC01(SM)).

All E-FX-MC01 transceivers can be configured, using a switch on the front of the transceiver, to operate in full-duplex or in half-duplex mode. A set of switches also on the front can be used to set a unique physical address for each transceiver.

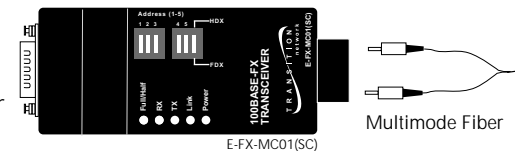
E-FX-MC01

Provides an MII connector and a set of RX (receive) and TX (transmit) ST 100BASE-FX connectors to 1300mn *multimode* fiber cable.



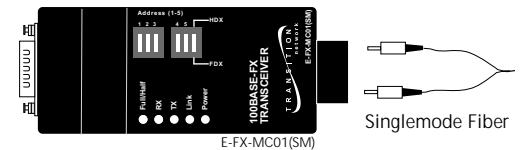
E-FX-MC01(SC)

Provides an MII connector and an RX (receive) and TX (transmit) SC 100BASE-FX connector to 1300mn *multimode* fiber cable.



E-FX-MC01(SM)

Provides an MII connector and an RX (receive) and TX (transmit) SC 100BASE-FX connector to 1300mn *singlemode* fiber cable.



Status LEDs provide the following information:

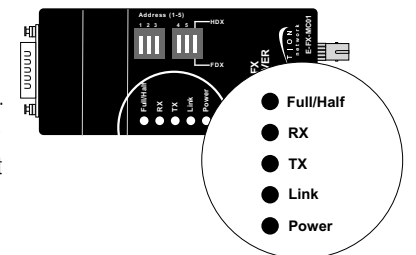
Full/Half: Illuminated green LED indicates full-duplex operation.

RX Flashing or illuminated green LED indicates packet(s) are being received.

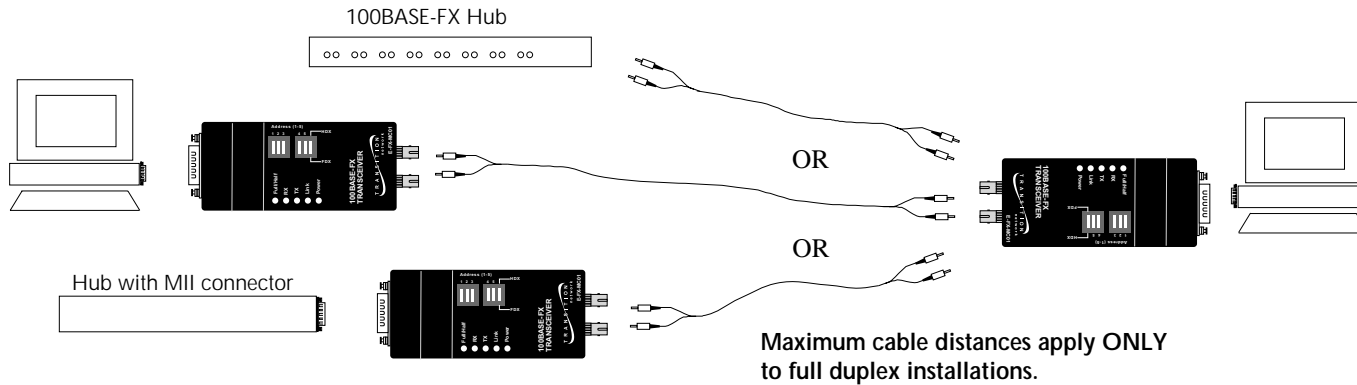
TX Flashing or illuminated green LED indicates packet(s) are being transmitted.

Link Illuminated green LED indicates the unit is receiving link pulses from a compliant device.

Power: Illuminated green LED indicates connection to external power



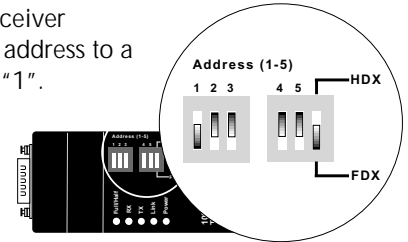
The physical characteristics of the media cable must meet or exceed IEEE 802.3 100BASE-FX specifications.



Installation Notes

Switches 1-5: The transceiver is shipped with rocker switch 1 set to the default OFF=*DOWN* and rocker switches 2-5 set to the default

ON=*UP*, which sets the transceiver physical address to a value of "1".



In all known cases, the default rocker switch 1-5 setting is the correct physical address for network installations. **ONLY IF THIS ADDRESS SHOULD FAIL**, refer to the chart on the back page for direction for setting the binary transceiver physical address to a site-specific value from 1 to 31.

Troubleshooting the Transceiver

If the E-FX-MC01 transceiver fails, determine the answers to the following questions:

1. Is the power LED on the transceiver illuminated?

NO

- Verify that the transceiver is installed properly in the MII port and that the device is powered ON?
- Contact Technical Support at (800) 260-1312 or at (800) LAN-WANS.

YES

- Proceed to step 2.

2. Is the Link LED illuminated?

NO

- Check the fiber cables for proper connection. (If possible, try a different pair of fiber cables.)
- Try setting a non-zero physical address.
- Contact Technical Support at (800) 260-1312 or at (800) LAN-WANS.

YES

- Proceed to step 3.

3. Is the fiber cable connected properly?

NO

- Verify that TX and RX cables on transceiver are connected to RX and TX ports, respectively, on each device.
- Contact Technical Support at (800) 260-1312 or at (800) LAN-WANS.

YES

- Contact Technical Support at (800) 260-1312 or at (800) LAN-WANS.

Switch 6 The transceiver is shipped with rocker switch 6 set to the default OFF=*DOWN*, which sets the data-transfer mode to "full-duplex".

Set the data transfer mode rocker switch to half-duplex (HDX) when the transceiver is connected to a device that IS NOT capable of full-duplex. Keep the data transfer mode switch at full-duplex (FDX) when the transceiver is connected to a device that IS capable of full-duplex.

100BASE-FX CABLE SPECIFICATIONS

1300nm MULTIMODE

| | |
|-----------------------------------|------------------------------------|
| Fiber Optic Cable Recommended: | 62.5 / 125 μ m multimode fiber |
| Fiber Optic Transmitter Power: | Average: -19 dBm |
| Fiber Optic Receiver Sensitivity: | Average: -32.5 dBm |
| Bit error rate: | $\leq 10^{-9}$ |
| Maximum Cable Distance: | 5 kilometers (16,500 feet) |

1300nm SINGLEMODE

| | |
|-----------------------------------|--------------------------------|
| Fiber Optic Cable Recommended: | 9/125 micron single mode fiber |
| Fiber Optic Transmitter Power: | Average: -14 dBm |
| Fiber Optic Receiver Sensitivity: | Average: -33 dBm |
| Bit error rate: | $\leq 10^{-10}$ |
| Maximum Cable Distance: | 20 kilometers (66,000 feet) |