

***iConverter* 2FXM Standalone Module QUICK START GUIDE**

The Omnitron *iConverter*® 2FXM media converter and Network Interface Device (NID) provides Fast Ethernet (100BASE-FX) fiber-to-fiber media conversion.



The 2FXM conforms to Ethernet in the First Mile (EFM) fiber standards to support Fiber-to-the-X (FTTX) Metropolitan and Enterprise LAN networks. Built-in Operation, Administration and Maintenance (OAM) functionality enables the 2FXM to operate as a managed demarcation point at the customer premises and network edge, offering service provisioning functions, such as Quality of Service and Bandwidth Control (rate-limiting) capabilities.

The 2FXM can be managed using Omnitron's *NetOutlook*™ SNMP Management Software, 3rd Party SNMP Client, Telnet or the Command Line Interface (CLI).

For more information, including the complete User Manual on the 2FXM module, access Omnitron's documentation download web page to view all relevant documents:

<http://www.omnitron-systems.com/downloads.php>

INSTALLATION PROCEDURE

- 1) Configure DIP-Switches
- 2) Install Standalone Module and Connect Cables
- 3) Configure Module via Command Line Interface
- 4) Verify Operation

1) CONFIGURE DIP-SWITCHES

DIP-SWITCH BANK 1

SW1 - PAUSE ENABLE

When the Pause Enable DIP-switch is in the DOWN "Off" position (factory default), the 2FXM disables the fiber ports' ability to send and receive Pause frames during network congestion. Setting this DIP-switch to

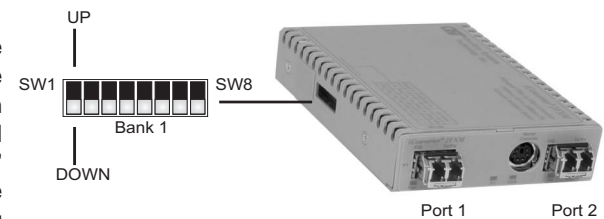


Figure A: DIP-Switch Location

the UP "On" position, enables the 2FXM to receive Pause frames from its link partner. This enables the 2FXM to stop transmitting traffic to its link partner and store incoming frames from the other port in the internal buffer until the congestion clears. If the internal buffer of the 2FXM becomes congested, it will transmit a Pause frame to its link partner.

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Management Options iConverter, Serial Agent
Network Management
1: Chassis and Module Management
2: Set Module Name Preferences
Management Module Preferences
3: IP and Control Preferences
4: SNMP Preferences
5: Abandon Preference Changes
6: Save Preference Changes
7: Restore Factory Defaults
8: Restart Management Module
9: Other Networking Features
Management Module Maintenance
10: Firmware Update
11: Set Date/Time

IP Address = 192.168.1.220
Chassis Number = 1

Enter Choice, <H>=elp, E<x>=it >
```

Figure C: Command Line Interface Menu Options

The CLI interface allows for the detailed configuration of the module. It is recommended to configure the module with an IP address associated with the attached network. Also, SNMP trap host address should be configured if the module is managed with an SNMP-based Management System. See the 2FXM User Manual for complete information.

4) VERIFY OPERATION

Once the module has been installed and configured per steps 1 - 3, verify the module is operational by viewing the LED indicators.

The Power LED indicates the module is receiving power.

The Fiber Optic link LED indicates the fiber optic connection has been established. Verify the Link Mode selection is set to Link Segment (LS). Until a stable link is established, leave the Link Mode configured for LS.

After a Link presence is established, the Link Mode selection can be modified.

LED Function "Legend"	Color	Off State	On / Blinking State
Power "Pwr"	Amber	No power	On: Module has power
Port 1 Fiber Link Activity "P1"	Green	No Fiber Link	On: Fiber link is active Blinking: Fiber Data Activity
Port 1 Half/Full Duplex "FDX"	Green	Half-Duplex	On: Full-Duplex
Port 2 Fiber Link Activity "P2"	Green	No Fiber Link	On: Fiber link is active Blinking: Fiber Data Activity
Port 2 Half/Full Duplex "FDX"	Green	Half-Duplex	On: Full-Duplex

Figure D: LED Indicators

SW2 - FIBER PORT 1 FULL/HALF DUPLEX

Setting this DIP-switch to Half-Duplex “HDX” facilitates a connection that supports Half-Duplex. Setting this DIP-switch to Full-Duplex “FDX” facilitates a connection that supports Full-Duplex operation.

SW3, SW4 - RESERVED

These DIP-switches are for factory use only and must always remain in the DOWN (factory default) position.

SW5 - FIBER PORT 2 FULL/HALF DUPLEX

Setting this DIP-switch to Half-Duplex “HDX” facilitates a connection that supports Half-Duplex. Setting this DIP-switch to Full-Duplex “FDX” facilitates a connection that supports Full-Duplex operation.

SW6, SW7, SW8 - LINK MODES

The module supports multiple link modes for fault detection and isolation. Link Segment should be used for the initial installation of the module. Once installed and operational, the link mode can be modified.

Switch	Down (Factory Default)	Up
SW1	Off: Pause Disable	PAUS: Pause Enable
SW2	FDX: Fiber Port 1 Full-Duplex	HDX: Fiber Port 1 Half-Duplex
SW3	Reserved	Reserved
SW4	Reserved	Reserved
SW5	FDX: Fiber Port 2 Full-Duplex	HDX: Fiber Port 2 Half-Duplex
SW6	See Link Mode Selection	
SW7		
SW8		

SW6	SW7	SW8	Link Mode Selection
Down	Down	Down	Link Segment (LS) (Factory Default)
Up	Down	Down	Link Propagate (LP)
Down	Up	Down	Remote Fault Detect + Link Segment (RFD + LS)
Up	Up	Down	Remote Fault Detect + Link Propagate (RFD + LP)
Down	Down	Up	Symmetrical Fault Detect (SFD)
Up	Down	Up	Illegal Setting
Down	Up	Up	Illegal Setting
Up	Up	Up	Illegal Setting

Figure B: DIP-Switches

2) INSTALL STANDALONE MODULE AND CONNECT CABLES

- The 2FXM Network Interface Device (NID) is available in tabletop and wall-mounting models. For wall-mounting, attach the NID to a wall, backboard or other flat surfaces. For tabletop installations, place the unit on a flat level surface. Attach the rubber feet to the bottom of the NID to prevent the unit from sliding. Make sure the unit is placed in a safe, dry and secure location.

To power the unit using the AC/DC adapter, connect the AC/DC adapter to the AC outlet. Then connect the barrel plug at the end of the wire on the AC/DC adapter to the 2.5mm DC barrel connector (center-positive) on the chassis. Confirm that the unit has powered up properly by checking the power status LED located on the front of the unit.

To power the unit using a DC power source, prepare a power cable using a two-conductor insulated wire (not supplied) with a 14 AWG gauge minimum. Cut the power cable to the length required. Strip approximately 3/8 of an inch of insulation from the power cable wires. Connect the power cables to the standalone unit by fastening the stripped ends to the DC power connector.

Connect the power wires to the DC power source. The Power LED should indicate the presence of power.

WARNING: Note the wire colors used in making the positive and negative connections. Use the same color assignment for the connection at the DC power source.

NOTE: If mounting with a safety ground attachment, use the safety ground screw at the rear of the unit.

- Insert the SFP Fiber transceivers into the Port 1 and Port 2 SFP receptacles on the 2FXM.

NOTE: The release latch of the SFP Fiber transceiver must be in the closed position before insertion.

- Connect an appropriate multimode or single-mode fiber cable to the SFP fiber ports of the installed module. It is important to ensure that the transmit (TX) is attached to the receive side of the device at the other end and the receive (RX) is attached to the transmit side. Single-fiber (SF) media converter models operate in pairs. The TX wavelength must match the RX wavelength at the other end and the RX wavelength must match the TX wavelength at the other end.

NOTE: In order to support Remote OAM Management Mode, Port 1 of the 2FXM must be connected to the Port 1 on the 2FXM or link partner.

3) CONFIGURE MODULE VIA COMMAND LINE INTERFACE

To access the Command Line Interface (CLI), connect the 2FXM RS-232 Console Port to the COM port of a computer equipped with terminal emulation software such as HyperTerminal. The Console Port (DCE) is a mini DIN-6 female connector which can be changed to a DB-9 connector with the included adapter. The 2FXM Console Port is a standard asynchronous serial interface.

Start HyperTerminal and select the correct COM Port in the HyperTerminal “Connect To:” window. Set the serial port to the following:

Bits Per Second	57,600
Stop Bits	1
Data Bits	8
Parity	NONE
Hardware Flow Control	NONE

Once connected, press <ENTER> to bring up a command line prompt on the attached PC. A new 2FXM module does not have a password, and will skip the **Password Entry** screen and go straight to the **Management Options** screen. If a password has been set, the **Password Entry** screen will be displayed. Type the password and press <ENTER>, the 2FXM will respond with the **Management Options** screen: