



Product Overview

The iConverter 2GXM2 Network Interface Device (NID) with integrated management provides Gigabit Ethernet (1000BASE-X) SFP fiber-to-fiber media conversion.

The 2GXM2 has built-in Operation, Administration and Maintenance (OAM) functionality enabling the 2GXM2 to operate as a managed demarcation point at the customer premises and network edge, offering Quality of Service capabilities.

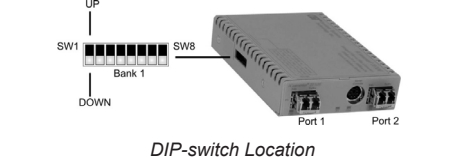
The 2GXM2 supports IPv4 addressing, IP-Less protocol using the 802.3ah OAM channel, SNMPv1/v2c/v3, Telnet and serial console port.

See data sheet for available models.

DIP-Switches

DIP-Switch Bank 1

The location of the DIP-switches is shown in below.



Specifications

Description	iConverter 2GXM2 1000BASE-X Fiber to 1000BASE-X Fiber Media Converter and Network Interface Device
Standard Compliances	IEEE 802.3, 802.1Q, 802.1p, 802.1ad, 802.3ah RFC 2819 (RMON), 2863, 2131 MEF 9, 14, 21
Regulatory Compliances	Safety: UL, CE, NEBS Level 3, UKCA EMI: FCC Class A ACT: TAA, BAA, NDAA
Environmental	RoHS, WEEE, REACH
Management	IPv4, Telnet, SNMPv1, SNMPv2c, SNMPv3, Serial Console
Frame Size	Up to 10,240 bytes
Port Types	Fiber: 1000BASE-X (SFP) Serial: RS-232 (Mini DIN-6 female) Mini DIN-6 to DB-9 adapter included
Cable Types	Fiber: Multimode: 50/125µm, 62.5/125µm Single-mode: 9/125µm Serial: RS-232, 22 to 24 AWG, 12 to 50 pF/ft

The functions of DIP-switch Bank 1 are outlined in below.

Switch	Left (Factory Default)	Right
SW1	AN: Fiber Port 1 Auto	Man: Fiber Port 1 Manual
SW2	AN: Fiber Port 2 Auto	Man: Fiber Port 2 Manual
SW3 - SW5	Reserved	Reserved
SW6 - SW8	See Link Mode Selection	

DIP-switch BANK 1 Definitions

SW1 - Fiber Port 1 Negotiation “AN/Man”

When this DIP-switch is in the Left “AN” position (factory default), the fiber optic port automatically determines the pause modes of the connecting fiber optic device. If the connecting fiber optic device cannot provide the proper signal to indicate its own mode of operation, the DIP-switch should be set to the Right “Man” position. When Port 1 is set to the “Man” position, no capabilities are advertised.

Gigabit fiber always operate in Full-Duplex mode.

NOTE: When Port 1 operates in Auto-Negotiation mode, the port advertises for Pause. When the Fiber optic ports (Port 1 and Port 2) operates in Manual mode, Pause is not advertised.

SW1 - Fiber Port 2 Negotiation “AN/Man”

When this DIP-switch is in the Left “AN” position (factory default), the fiber optic port automatically determines the pause modes of the connecting fiber optic device. If the connecting fiber optic device cannot provide the proper signal to indicate its own mode of operation, the DIP-switch should be set to the Right “Man” position. When Port 2 is set to the “Man” position, no capabilities are advertised.

Gigabit fiber always operate in Full-Duplex mode.

SW3, SW4 and SW5 - Reserved

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

SW6, SW7, SW8 - Link Modes

These three DIP-switches configure the link mode settings. It is recommended to have link modes Left (default) during the initial installation. After the circuit has been tested and operational, configure the module for the desire mode.

For detailed information on the operation of the different Link Modes, download the application note “iConverter Link Modes”.

SW6	SW7	SW8	Link Mode Selection
Left	Left	Left	Link Segment (LS) (Factory Default)
Right	Left	Left	Link Propagate (LP)
Left	Right	Left	Remote Fault Detect + Link Segment (RFD + LS)
Right	Right	Left	Remote Fault Detect + Link Propagate (RFD + LP)
Left	Left	Right	Symmetrical Fault Detect (SFD)
Right	Left	Right	Asymmetrical Link Propagate Port 1 to Port 2 (ALP P1-P2)
Left	Right	Right	Asymmetrical Link Propagate Port 2 to Port 1 (ALP P2-P1)
Right	Right	Right	Pass Remote Link Fault (PRLF)

Link Modes

Software Controlled Switch Settings

Additional settings are available via software control.

The following software settings can be controlled via Serial Console/Telnet Console, NetOutlook Management Software or other third-party SNMP-based clients:

- DIP-switch Configuration
- Port 1 and Port 2 Configuration
- 802.1ad Q-in-Q, QoS and Port Access Control
- MIB statistics
- Bandwidth control (rate limiting)
- Configurable Link Fault Propagation modes

The module can be configured by attaching the serial port to a DB-9 serial (RS-232) equipped computer with terminal emulation software such as ProComm or Putty. The Serial Console Port (DCE) is a mini DIN-6 female connector which can be changed to a DB-9 connector with the included adapter. Attach the ends of a serial cable to the serial port of the PC and the Serial Console Port of the module. The port is a standard RS-232 asynchronous serial interface with the following settings.

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

The default password is public.

When using Telnet or SNMP, the default IP address for the module is 192.168.1.220.

For more information on using and configuring the Advanced Features, register for access to the [NetOutlook Management Software user manual](#) or the [2GXM2 full user manual](#).

Mounting and Cable Attachment

Caution: Use proper ESD protection to reduce the risk of damage to your equipment.

a. The module is available as a standalone module with integrated wall-mount brackets. Attach the unit to a wall, backboard or other flat surfaces. Make sure the unit is placed in a safe, dry and secure location.

For AC models:

To power the unit using the AC/DC adapter, connect the AC/DC adapter to an 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 unit. Confirm that the unit has powered up properly by checking the power status LED located on the front of the unit.

For DC Models:

To power the unit using a DC power source, prepare a power cable using a two conductor insulated wire (not supplied) with 12AWG to 20AWG thickness. 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 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.

b. Insert the SFP fiber transceivers into the SFP receptacles on the module.

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

d. Connect an appropriate multimode or single-mode fiber cables to the fiber ports of the installed module. It is important to ensure that the transmit (TX) is attached

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The equipment covered by this manual must be disposed of or recycled in accordance with the Waste Electrical and Electronic Equipment Directive (WEEE Directive) of the European Community directive 2012/19/EU on waste electrical and electronic equipment (WEEE) which, together with the RoHS Directive 2015/863/EU, for electrical and electronic equipment sold in the EU after July 2019. Such disposal must follow national legislation for IT and Telecommunication equipment in accordance with the WEEE directive: (a) Do not dispose waste equipment with unsorted municipal and household waste. (b) Collect equipment waste separately. (c) Return equipment using collection method agreed with Omnitron.

 The equipment is marked with the WEEE symbol shown to indicate that it must be collected separately from other types of waste. In case of small items the symbol may be printed only on the packaging or in the user manual. If you have questions regarding the correct disposal of equipment go to [www.omnitron-systems.com/support](#) or e-mail to Omnitron at [intlinfo@omnitron-systems.com](#).

Safety Warnings and Cautions

 ATTENTION: Observe precautions for handling electrostatic discharge sensitive devices.

 WARNING: Potential damage to equipment and personal injury.

 WARNING: Risk of electrical shock.

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 2GXM2 must be connected to the Port 1 on the 2GXM2 or link partner.

LED Indicators

LED	Color	Description
Power "PWR"	Green	OFF: No power applied or faulty ON: Module has power
P1 Activity "P1"	Green	OFF: No fiber link ON: Fiber link is active Blinking Green: Data activity
P2 Activity "P2"	Green	OFF: No fiber link ON: Fiber link is active Blinking Green: Data activity