

iConverter® GX/TM2 Standalone



Quick Start

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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.

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Description

The iConverter GX/TM2 media converter and Network Interface Device (NID) provides 10BASE-T, 100BASE-TX or 1000BASE-T copper to 1000BASE-X fiber media conversion.

The GX/TM2 has built-in Operation, Administration and Maintenance (OAM) functionality enabling the GX/TM2 to operate as a managed demarcation point at the customer premises and network edge, offering Quality of Service capabilities.

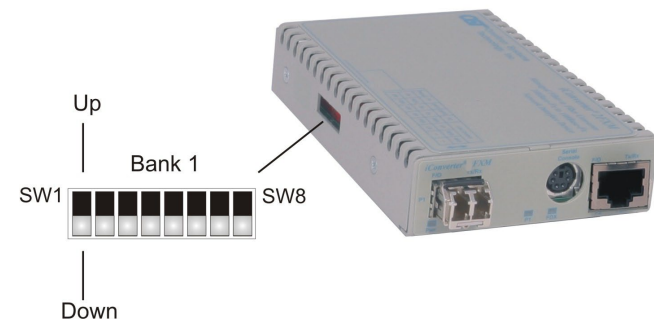
The GX/TM2 supports IPv4 addressing, IP-Less protocol using the 802.3ah OAM channel, SNMPv1/v2c/v3, Telnet and serial console port.

[See data sheet for available models.](#)

DIP-Switches

DIP-Switch Bank 1

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



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

Switch	Down (Factory Default)	Up
SW1	AN: Fiber Auto	Man: Fiber Manual
SW2	AN: RJ-45 Auto	Man: RJ-45 Manual
SW3	1000: RJ-45 1000Mbps	10-100: RJ-45 10-100Mbps
SW4	100: RJ-45 100Mbps	10: RJ-45 10Mbps
SW5	FDX: RJ-45 Full-Duplex	HDX: RJ-45 Half-Duplex
SW6 - SW8	See Link Mode Selection	

SW1 - Fiber Negotiation “AN/Man”

When this DIP-switch is in the Down “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 Up “Man” position. When Port 1 is set to the “Man” position, no capabilities are advertised.

Gigabit fiber always operate in Full-Duplex mode.

SW2, SW3, SW4 and SW5 - RJ-45 Mode of Operation

DIP-switches SW2, SW3, SW4 and SW5 control the setting of the RJ-45 port.

SW2	SW3	SW4	SW5	RJ-45 Mode of Operation
AN	1000	100 or 10	FDX	Port is set to auto-negotiation with the following modes advertised: 1000F, 1000H, 100F, 100H, 10F, 10H
AN	1000	100 or 10	HDX	Port is set to auto-negotiation with the following modes advertised: 1000H, 100F, 100H, 10F, 10H
AN	100-10	100	FDX	Port is set to auto-negotiation with the following modes advertised: 100F, 100H, 10F, 10H
AN	100-10	100	HDX	Port is set to auto-negotiation with the following modes advertised: 100H, 10F, 10H
AN	100-10	10	FDX	Port is set to auto-negotiation with the following modes advertised: 10F, 10H
AN	100-10	10	HDX	Port is set to auto-negotiation with the following modes advertised: 10H
Man	100-10	100	FDX	Port is set to manual negotiation and is forced to: 100F
Man	100-10	100	HDX	Port is set to manual negotiation and is forced to: 100H
Man	100-10	10	FDX	Port is set to manual negotiation and is forced to: 10F
Man	100-10	10	HDX	Port is set to manual negotiation and is forced to: 10H

When SW2 is set to MAN and SW3 is set to 1000, the module is operating per the IEEE specification in Auto-Negotiation mode.

SW6, SW7, SW8 - Link Modes

These three DIP-switches configure the link mode settings. It is recommended to have link modes Down (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
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	Up	Remote Fault Detect + Link Propagate (RFD + LP)
Down	Down	Up	Symmetrical Fault Detect (SFD)
Up	Down	Up	Asymmetrical Link Propagate Port 1 to Port 2 (ALP P1-P2)
Down	Up	Up	Asymmetrical Link Propagate Port 2 to Port 1 (ALP P2-P1)
Up	Up	Up	Pass Remote Link Fault (PRLF)

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 [GX/TM2 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. When using a model with a SFP port, 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.

c. Connect the RJ-45 ports via a Category 5 or better cables to a 10BASE-T, 100BASE-TX or 1000BASE-T Ethernet devices.

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 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.

LED Indicators

LED	Color	Description
Power "PWR"	Green	OFF: No power applied or faulty ON: Module has power
P1 Activity "FO"	Green	OFF: No fiber link ON: Fiber link Blinking Green: Data activity
P2 Speed "100"	Green	OFF: Port is not linked at 100M ON: Port linked at 100M Blinking Green: Data activity
P2 Speed "1000"	Green	OFF: Port is not linked at 1000M ON: Port linked at 1000M Blinking Green: Data activity
P2 Speed "1000 + 100"	Green	OFF: Port is not linked at 10M ON: Port linked at 10M Blinking Green: Data activity
P2 Duplex "FDX"	Green	OFF: Half-Duplex ON: Full-Duplex

Specifications

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: EMI: ACT:	UL, CE, NEBS Level 3, UKCA FCC Class A TAA, BAA, NDAA
Environmental	RoHS, WEEE, REACH	
Management	IPv4, Telnet, SNMPv1, SNMPv2c, SNMPv3, Serial Console	
Frame Size	Up to 10,240 bytes	
Port Types	Copper: Fiber: Serial:	10/100/1000BASE-T (RJ-45) 1000BASE-X (SFP, ST, SC, LC) RS-232 (Mini DIN-6 female) Mini DIN-6 to DB-9 adapter included
Cable Types	Copper: Fiber: Serial:	EIA/TIA 568A/B, Cat 5 UTP and higher Multimode: 50/125µm, 62.5/125µm Single-mode: 9/125µm RS-232, 22 to 24 AWG, 12 to 50 pF/ft
AC Power Requirements	AC Adapter: 100 - 240VAC/50 - 60Hz, 0.08A @ 120VAC (max)	
DC Power Requirements	DC Input (Terminal): +8 to +15VDC, 0.6A @ 9VDC 2-Pin Terminal (non-isolated)	
	DC Input (AC Adapter): +8 to +15VDC, 0.6A @ 9VDC 2.5mm Barrel Connector	
Dimensions W x D x H	Standalone:	3.1" x 4.8" x 1.0" (78.7 mm x 121.9 mm x 25.4 mm)
	Standalone with Mounting Brackets:	3.8" x 4.8" x 1.0" (96.5 mm x 121.9 mm x 25.4 mm)
Weight	Module: with AC Adapter:	1.0 lb. (453.6 grams) 1.5 lbs. (680.4 grams)
Temperature	Commercial: Wide: Extended: Storage:	0 to 50°C -40 to 60°C -40 to 75°C -40 to 80°C
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m	
MTBF (hrs)	Module: US Adapter: Universal Adapter:	450,000 250,000 100,000
Warranty	Lifetime warranty and, 24/7/365 free Technical Support	

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