LED Function "Legend"	Color	OFF State	ON/Blinking State
Power "PWR"	Green	No power	Module has power
P1 Link Activity[1] "100"	Green/ Amber	Port not linked at 100M	**Solid Green:** Port linked at 100M **Blinking Green:** Data activity **Blinking Amber:** Port is operating at 100M and receiving FEFI
P1 Link Activity "1000"	Green/ Amber	Port not linked at 1000M	**Solid Green:** Port linked at 1000M **Blinking Green:** Data activity **Blinking Amber:** Port is operating at 1000M and receiving a remote fault
P1 Link Activity[1] "100" and "1000"	Green	Port not linked at 10M	**Solid Green:** Port linked at 10M **Blinking Green:** Data activity
P1 Duplex "P1 FDX"	Green	Port is configured for half duplex per DIP-switch or resolved by auto-negotiation	**Solid Green:** Port is configured for full duplex operation per DIP-switch or resolved by auto-negotiation
P1 SFP DMMI Alarm[1] "P1 Stat"	Green/ Amber	Installed transceiver does not support digital diagnostics or no transceiver installed	**Solid Green:** Installed transceiver supports digital diagnostics and no alarm detected **Solid Amber:** Installed transceiver has detected an alarm
P2 Negotiation Mode "P2 AN"	Green	Port is configured for Manual operation	**Solid Green:** Port is configured for Auto-negotiation **Blinking Green:** Port is configured for auto-negotiation but has not completed the process with attached link partner
P2 Link Activity "100"	Green/ Amber	Port not linked at 100M	**Solid Green:** Port linked at 100M **Blinking Green:** Data activity **Blinking Amber:** Port receiving a remote fault at 100Mbps
P2 Link Activity "1000"	Green/ Amber	Port not linked at 1000M	**Solid Green:** Port linked at 1000M **Blinking Green:** Data activity **Blinking Amber:** Port receiving a remote fault at 1000Mbps
P2 Link Activity "100" and "1000"	Green	Port not linked at 10M	**Solid Green:** Port linked at 10M **Blinking Green:** Data activity
P2 Duplex "P2 FDX"	Green	Port is configured for half duplex per DIP-switch or resolved by auto-negotiation	**Solid Green:** Port is configured for full duplex operation per DIP-switch or resolved by auto-negotiation

Figure 6: LED Indicators

[1] LEDs are not installed on the fixed fiber models

LED Legend/State		Link Speed
"1000"	"100"	
OFF	OFF	Port not linked
OFF	ON	Port linked at 100Mbps
ON	OFF	Port linked at 1000Mbps
ON	ON	Port linked at 10Mbps

Figure 7: Port Speed LED Indicators

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Omnitron Systems

iConverter GX/T2

Standalone Module User Manual

Product Overview

The GX/T2 is a 10/100/1000BASE-T UTP to 100BASE-FX or 1000BASE-X modular fiber media converter that supports jumbo frames up to 10,240 bytes. The GX/T2 features Small Form Pluggable (SFP) transceivers that support both 100BASE-FX and 1000BASE-X for interoperability with Fast Ethernet and Gigabit fiber equipment.

Installation Procedure

1) Configure DIP-switches

2) Install Standalone Module and Connect Cables

3) Verify Operation

1) CONFIGURE DIP-SWITCHES

DIP-SWITCH BANK 1

The location of the DIP-switches is shown in Figure 1. The functions of DIP-switch Bank 1 are outlined in Figure 2.

SW1 and SW2: Reserved

These DIP-switches are reserved and must be in the Down (default) position.

DIP-switch Locations

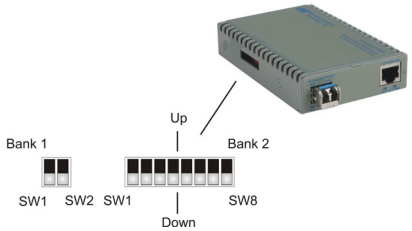

Figure 1: DIP-switch Locations

Switch	Legend	Function	DOWN (Default)	UP
SW1	OPT1	Reserved	Off	On
SW2	OPT2	Reserved	Off	On

Figure 2: DIP-switch BANK 1 Definitions

DIP-SWITCH BANK 2

The functions of DIP-switch Bank 2 are outlined in Figure 3.

SW1: Port 1 "Auto/100"

This DIP-switch configures the speed of the transceiver installed in Port 1. If the DIP-switch is in the Down "Auto" (default) position, the port detects the data rate of the transceiver installed and operates at 100M or 1G accordingly. If the DIP-switch is in the Up "100" position, the port is expecting a 100M capable transceiver to be installed.

NOTE: SW1 is not available for fixed fiber models. The fiber port is always set to 1000.

SW2: Port 2 “AN/Man”

This DIP-switch configures Port 2 for Auto Negotiation or Manual operation.

Switch	Legend	Function	DOWN (Default)	UP
SW1	Auto/100	Port 1 Speed and Duplex	Auto	100
SW2	AN/Man	Port 2 Negotiation	Auto	Manual
SW3	100/10	Port 2 Speed	100	10
SW4	FDX/HDX	Port 2 Duplex	FDX	HDX
SW5	Mode 1	Asymmetrical Link Propagate Port 1 to Port 2	Link Segment	Link Propagate Port 1 to Port 2
SW6	Mode 2	Asymmetrical Link Propagate Port 2 to Port 1	Link Segment	Link Propagate Port 2 to Port 1
SW7	Off/On	Pause	Off	On
SW8	On/Off	MAC Learning	On	Off

Figure 3: DIP-switch Bank 2 Definitions

SW3 and SW4: Port 2 Speed “100/10” and Duplex “FDX/HDX”

See Figure 4 for configuring negotiation, duplex mode and speed.

SW2 AN/Man	SW3 100/10	SW4 FDX/HDX	RJ-45 Mode of Operation
AN	10 or 100	FDX or HDX	When set to auto-negotiation the following modes are advertised: 1000FDX, 1000HDX, 100FDX, 100HDX, 10FDX, 10HDX
Man	100	FDX	The RJ-45 port is set to manual and is forced to 100FDX
Man	100	HDX	The RJ-45 port is set to manual and is forced to 100HDX
Man	10	FDX	The RJ-45 port is set to manual and is forced to 10FDX
Man	10	HDX	The RJ-45 port is set to manual and is forced to 10HDX

Figure 4: Port Speed and Duplex Selection

SW5 and SW6: Link Modes “Mode 1” and “Mode 2”

These DIP-switches configure the link mode settings. It is recommended to have link modes DOWN “Off” position (default) during the initial installation. After the circuit has been tested and operational, configure the module for the desired mode.

Link Segment

In Link Segment mode, all ports operate independently. A loss of a receive link signal will only affect the port detecting the loss of signal. All the other ports will continue to generate a link signal.

Link Propagate

In Link Propagate mode, the loss of a receive link signal will continue to propagate through to the next port in the network causing the port to drop link.

Asymmetrical Link Propagate

In Asymmetrical Link Propagate mode, faults are propagated based on the port notation. Port 1 to Port 2 notation indicates the direction the loss of link signal will propagate. A loss of receive link on the fiber optic Port 1 causes the UTP Port 2 to drop its link due to the propagated state (Port 1 to Port 2). The loss of link on the in the Port 1 to Port 2 direction. See Figure 5 for valid Link Mode configurations.

SW5	SW6	Function
Down	Down	Link Segment
Down	Up	Link Propagate Port 2 to Port 1
Up	Down	Link Propagate Port 1 to Port 2
Up	Up	Link Propagate

Figure 5: Link Modes

SW7: Pause “Off/On”

The Pause DIP-switch sets the flow control functionality for all ports on the module, including pause mode advertisement, pause functionality, and half duplex back pressure. When the DIP-switch is in the Pause “On” position, flow control functionality is enabled. When this DIP-switch is in the Pause “Off” position (factory default), flow control functionality is disabled.

If Pause is On and the port is in half duplex, then half duplex flow control is enabled. When a port is in half duplex flow control it generates a back pressure signal when internal buffer resources are low.

If Pause is On and the port is in full duplex, then full duplex flow control is enabled. When a port is in full duplex flow control and internal buffering resources are low, a pause frame is generated to slow down the traffic flow to the port.

SW8: MAC Learning “On/Off”

When this DIP-switch is in the “On” position (factory default), all ports on the module will learn the source MAC address of each received packet and store the address so packets destined for the stored addresses can be forwarded to the appropriate interface on the module. When the DIP-switch is in the “Off” position, learning is turned off and all received packets are forwarded to all ports.

2) INSTALL STANDALONE MODULE AND CONNECT CABLES

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

a. The GX/T2 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.

   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 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.

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

b. When using a GX/T2 SFP model, insert the SFP fiber transceiver into the Port 1 SFP receptacle on the GX/T2.

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

c. Connect the UTP port via a Category 5 or better cable to a 10BASE-T, 100BASE-TX or 1000BASE-T Ethernet device.

d. Connect an appropriate multimode or single-mode fiber cable to the fiber port 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.

3) VERIFY OPERATION

Verify the correct LED is illuminated based on the configuration of the port. Figure 6 and 7 on the next page indicates the operation of the port based on the illuminated LEDs. If the 100 LED is illuminated, the port is operating at 100Mbps. If the 1000 LED is illuminated, the port is operating at 1000Mbps and if the 100 and 1000 LEDs are illuminated, the port is operating at 10Mbps.