

iConverter GX/TM Standalone Module QUICK START GUIDE

The Omnitron *iConverter*[®] GX/TM media converter and Network Interface Device (NID) provides 10BASE-T, 100BASE-TX or 1000BASE-T UTP to 1000BASE-FX fiber media conversion.



The GX/TM conforms to Ethernet in the First Mile (EFM) fiber standards to support Fiber-to-the-X (FTTX) Metropolitan access and Enterprise LAN networks. Built-in Operation, Administration and Maintenance (OAM) functionality enables the GX/TM to operate as a managed copper demarcation point at the customer premises and network edge, offering Quality of Service capabilities.

The GX/TM 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 GX/TM Standalone 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 Module in Chassis and Connect Cables
- 3) Configure Module via Command Line Interface
- 4) Verify Operation

1) CONFIGURE DIP-SWITCHES

DIP-SWITCH BANK 1

SW1 - FIBER AUTO/MANUAL NEGOTIATION "AN MAN"

When this DIP-switch is in the DOWN "AN" position (factory default), the fiber optic port automatically determines the duplex and 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 fiber optic "Man" position.

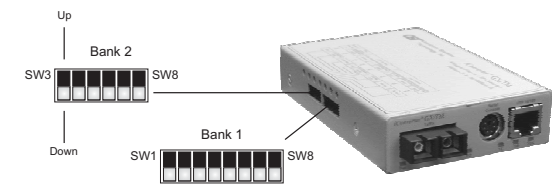


Figure A: DIP-Switch Locations

NOTE: The fiber optic port of the GX/TM is always in Full-Duplex mode.

SW2 - UTP AUTO/MANUAL NEGOTIATION "AN/MAN"

When this DIP-switch is in the DOWN UTP "AN" position (factory default), the UTP port automatically determines the Speed, Duplex and Pause mode of the connecting UTP device. If the connecting UTP device cannot provide the proper signal to indicate its own mode of operation, then the DIP-switch should be set to the UP "Man" position. Manual mode requires manually configuring the UTP port to match the Speed and Duplex mode of the connecting UTP device using the "10/100" and "FDX/HDX" DIP-switches.

position before insertion.

- c. Connect the UTP port via a Category 5 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) CONFIGURE MODULE VIA COMMAND LINE INTERFACE

To access the Command Line Interface (CLI), connect the GX/TM 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 GX/TM 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.

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 GX/TM 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 modules 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.

The UTP link LED indicates the module has established a connection across its UTP port.

LED Function "Legend"	Color	Off State	On / Blinking State
Power "Pwr"	Amber	No power	On: Module has power
1000Mbps Fiber Optics "FO"	Green	No Fiber Link	On: Fiber Link Blinking: Fiber Data Activity
UTP port 100Mbps "100"	Green	Not linked at 100Mbps	On: UTP linked at 100Mbps Blinking: UTP Data Activity
UTP port 1000Mbps "1000"	Green	Not linked at 1000Mbps	On: UTP linked at 1000Mbps Blinking: UTP Data Activity
UTP port 10Mbps "100" + "1000"	Green	Not linked at 10Mbps	On: UTP linked at 10Mbps Blinking: UTP Data Activity
UTP port Full-Duplex "FDX"	Green	Half-Duplex when any UTP link is active	On: Full-Duplex when any UTP link is active

Figure D: LED Indicators

SW3 - UTP SPEED GIGABIT/10-100 “1000/10-100”

When the “1000/10-100” DIP-switch is in the “1000” position (factory default), the UTP port always operates in 10/100/1000Mbps Auto-Negotiation mode. The UTP port auto-negotiates to a speed of 10Mbps, 100Mbps or 1000Mbps with the connected UTP device. In this mode, the UTP “AN/Man” and UTP “100/10” DIP-switches have no effect.

When the “1000/10-100” DIP-switch is in the “10-100” position and the UTP “AN/Man” DIP-switch is in the “Man” position, the UTP port operates at the Speed, Duplex and Pause modes set by the “100/10”, “FDX/HDX” and “Off/Pause” DIP-switches.

When the “1000/10-100” DIP-switch is in the “10-100” position and the UTP “AN/Man” DIP-switch is in the “AN” position, the UTP port maximum auto-negotiation setting for the Speed, Duplex and Pause mode is determined by the “100/10”, “FDX/HDX” and “Off/ Pause” DIP-switches.

SW4 - UTP 100/10MBPS “100/10”

When the UTP “AN/Man” DIP-switch (described above) is in the manual “Man” position, the “100/10” DIP-switch determines the speed of operation for the UTP port. Set the “100/10” DIP-switch to match the speed of the connected UTP device.

SW5 - UTP FULL/HALF DUPLEX “FDX/HDX”

Setting the UTP Full/Half-Duplex DIP-switch to the UTP “FDX” position (factory default) forces the UTP port to operate in Full-Duplex. Setting this DIP-switch to UTP “HDX” forces the UTP port to operate in Half-Duplex. Adjust the UTP Full/Half-Duplex DIP-switch to match the duplex mode of the connected UTP device.

SW6, SW7, SW8 - LINK MODES

These three DIP-switches configure the link mode settings. The following table details possible Link Mode DIP-switch configurations.

Switch	Down (Factory Default)	Up
SW1	AN: Fiber Auto-Negotiation	Man: Fiber Manual Negotiation
SW2	AN: UTP Auto-Negotiation	Man: UTP Manual
SW3	1000: UTP 1000Mbps	10-100: UTP 10-100Mbps
SW4	100: UTP 100Mbps	10: UTP 10Mbps
SW5	FDX: UTP Full-Duplex	HDX: UTP 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-Switch Bank 1

DIP-SWITCH BANK 2

SW1, SW2 - NOT VISIBLE

SW3 - PAUSE DISABLE/ENABLE “OFF/PAUSE”

When the UTP port is operating in Auto-Negotiation mode, it advertises for Pause based on the Pause Disable/Enable “Off/Pause” DIP-Switch setting. Setting the Pause DIP-switch to the “Off” position (factory default) forces the UTP port to negotiate to No Pause. Setting this DIP-switch to the “Pause” position allows the UTP port to negotiate

to Symmetrical Pause, Asymmetrical Pause or No Pause mode. When the UTP port is operating in Manual mode, Pause is disabled.

SW5 - UTP 10/100 AUTO/MANUAL CROSSOVER “AX/MANX”

The 10/100 Auto Crossover feature is only available when the UTP port is operating in 10/100 Auto-Negotiation mode.

When “AX/MANX” DIP-switch is set to “AX” (factory default), the 10/100 UTP Auto Crossover feature is enabled. When it is set to “MANX”, the UTP Manual Crossover DIP-switch is enabled to allow the user to manually set either a Crossover or Straight-through connection.

Switch	Down (Factory Default)	Up
SW3	Off: Pause Disable	Pause: Pause Enable
SW4	Reserved	Reserved
SW5	Auto: UTP Auto Crossover	Man: UTP Manual Crossover
SW6	=: Manual UTP Straight-Through	X: Manual UTP Crossover
SW7	Reserved	Reserved
SW8	Reserved	Reserved

Figure C: DIP-Switch Bank 2

SW6 - UTP MANUAL CROSSOVER “=/X”

When this DIP-switch is set to “MANX”, the UTP Manual Crossover Switch is enabled. Set this DIP-switch to “=” (factory setting) when connecting the UTP port to a workstation, or set it to “X” when connecting to a hub or switch. Only use this setting in 10/100Mbps Manual negotiation mode.

SW4, SW7, SW8 - RESERVED

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

2) INSTALL MODULE IN CHASSIS AND CONNECT CABLES

- The GX/TM 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 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.

- When using a GX/TM SFP model (8939-0), insert the SFP Fiber transceiver into the Port 1 SFP receptacle on the GX/TM.

NOTE: The release latch of the SFP Fiber transceiver must be in the closed