3) CONFIGURE MODULE VIA COMMAND LINE INTERFACE

To access the Command Line Interface (CLI), connect the GM3 RS-232 Serial 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 GM3 Console Port is a standard RS-232 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 GM3 module does not have a password, and will skip the Password Entry screen and go straight to the Management Options screen.

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.

LED Function "Legend"	Color	OFF State	ON/Blinking State
Power "PWR"	Green	No power	ON: Module has power
P1 Link Activity "100"	Green	Port not linked at 100M	ON: Port linked at 100M Blinking: Data activity
P1 Link Activity "1000"	Green	Port not linked at 1000M	ON: Port linked at 1000M Blinking: Data activity
P1 Link Activity "100" and "1000"	Green	Port not linked at 10M	ON: Port linked at 10M Blinking: Data activity
P2 Link Activity "100"	Green	Port not linked at 100M	ON: Port linked at 100M Blinking: Data activity
P2 Link Activity "1000"	Green	Port not linked at 1000M	ON: Port linked at 1000M Blinking: Data activity
P2 Link Activity "100" and "1000"	Green	Port not linked at 10M	ON: Port linked at 10M Blinking: Data activity
Test/Alarm "Tst/Alm"	Green	Reserved	Reserved
Management Mode "Msr/Slv"	Green	N/A	ON: Chassis Master (normal) 5 Hz Blinking: Secure Slave
P3 Link Activity "100"	Green	Port not linked at 100M	ON: Port linked at 100M Blinking: Data activity
P3 Link Activity "1000"	Green	Port not linked at 1000M	ON: Port linked at 1000M Blinking: Data activity
P3 Link Activity "100" and "1000"	Green	Port not linked at 10M	ON: Port linked at 10M Blinking: Data activity

Figure 6: LED Indicators

Omnitron Systems Technology, Inc.

iConverter 3-Port GM3 Network Interface Device Quick Start Guide

PRODUCT OVERVIEW

This document describes the basic installation and configuration of the 3-Port GM3 plug-in modules.

The GM3 features a RS-232 Serial Console Port and UTP and/or SFP ports. The SFP ports support SERDES 100/1000BASE-X SFP fiber and Omnitron approved SGMII 10/100/1000BASE-T copper transceivers.

NOTE: When using third party 100BASE-FX and unapproved SGMII SFPs, the port must be manually configured using the Connectivity Fault Management (CFM) Command Line Interface (CLI). Interface settings can be changed using the *portattribute* command.

For more information including the complete User Manual on the 3-Port GM3 modules, access Omnitron's registration page and register the product:

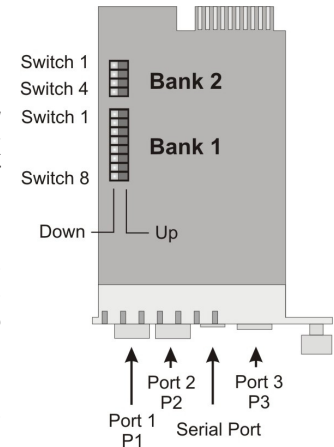http://www.omnitron-systems.com/forms/product_registration.php

Figure 1: DIP-switch Locations

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

The function of DIP-switch Bank 1 is outlined in Figure 2 below.

Switch Position	Legend	Down (Default)	Up
1	P1 AN/MAN	AN	MAN
2	P2 AN/MAN	AN	MAN
3	P3 AN/MAN	AN	MAN
4	Port Redundancy (See Figure 3)		
5			
6	Link Modes (See Figure 4)		
7			
8			

Figure 2: DIP-switch Bank 1

SW1 - SW3: P1, P2 and P3
AUTO/MANUAL NEGOTIATION "AN/MAN"

When these DIP-switches are in the "AN" Auto-negotiation position (factory default), the corresponding port automatically determines the duplex and pause modes of the connected device. If the connecting device cannot provide the proper signal to indicate its own mode of operation, the DIP-switch should be set to the "MAN" Manual position. When in manual mode, no capabilities are advertised and the port operates in full-duplex mode.

NOTE: UTP ports configured for MAN operate at 100Mbps full-duplex.

SW4 and SW5 control the port redundancy mode of the 3-Port GM3 module. When SW5 is in the "Normal" (default) position, the ports operate in a non-redundant (independent) mode. When SW5 is in the "1:1" position, the redundancy mode is based on the position of SW4. See Figure 3 below for more information.

Switch 4	Switch 5	Function
RTP (Down)	Normal (Down)	Non-redundant mode - normal mode
OFF (Up)	Normal (Down)	Non-redundant mode - normal mode
RTP (Down)	1:1 (Up)	Redundant mode - return to primary
OFF (Up)	1:1 (Up)	Redundant mode - no return to primary

Figure 3: Port Redundant Modes

SW6, SW7 and SW8: Link Modes

The DIP-switches shown in Figure 4 are used to configure the link modes. It is recommended to keep link mode DIP-switches in the default Down position during the initial installation. After the circuit has been tested and operational, configure the module for the desired mode.

SW6	SW7	SW8	Function	Link Mode Association
Down	Down	Down	Link Segment (LS)	Independent
Up	Down	Down	Asymmetrical Link Propagate Redundant Uplink (ALP RU)	P1 + P2 ➤ P3
Down	Up	Down	Asymmetrical Link Propagate Multi-Tenant 1 (ALP MT1)	P3 ➤ P1 & P2
Up	Up	Down	Asymmetrical Link Propagate Multi-Tenant 2 (ALP MT2)	P1 ➤ P2 & P3
Down	Down	Up	Remote Fault Detect 3-Port (RFD 3P)	Independent
Up	Down	Up	Asymmetrical Link Propagate + Remote Fault Detect Redundant Uplink (ALP+RFD RU)	P1 + P2 ➤ P3
Down	Up	Up	Asymmetrical Link Propagate + Remote Fault Detect Multi-Tenant 1 (ALP+RFD MT1)	P3 ➤ P1 & P2
Up	Up	Up	Asymmetrical Link Propagate + Remote Fault Detect Multi-Tenant 2 (ALP+RFD MT2)	P1 ➤ P2 & P3

Figure 4: Link Mode Settings

Link mode association describes the relationship between the port(s) experiencing a fault condition and to what port(s) the fault will propagate. P1+P2 ➤ P3 indicates faults on both Port 1 and Port 2 will propagate to Port 3. If only Port 1 or Port 2 has a fault, the fault will not be propagated to Port 3. It requires faults on both ports to propagate a fault condition.

For detailed information on the operation of the different Link Modes, download the complete User Manual on the 3-Port GM3 modules by accessing Omnitron's registration page and register the product:

http://www.omnitron-systems.com/forms/product_registration.php

DIP-SWITCH BANK 2

The function of DIP-switch Bank 2 is outlined in Figure 5 below.

Switch Position	Legend	Down (Default)	Up
1	A-DS	Disable	Enable
2	B-DS	Disable	Enable
3	M/SL	Master (Auto Select)	Slave
4	Reserved	Reserved	Reserved

Figure 5: DIP-switch Bank 2

SW1 and SW2: BACKPLANE ENABLE

When these DIP-switches are in the "DS" position (factory default), the Backplane Port of the GM3 is isolated from the Ethernet Backplane on the chassis. When these DIP-switches are in the "EN" position, the Backplane Port is enabled. This allows Ethernet Backplane connectivity to an adjacent module via the chassis A/B Backplane Link depending on the switch setting.

SW3: MASTER/SLAVE

Setting this DIP-switch to the "M/SL" position (factory default), allows chassis mastership to be automatically negotiated by the installed management modules. To designate the GM3 module as the master of the chassis when an Network Management Module (NMM2) is not installed, set the DIP-switch on the module to the "M/SL" position, and set the DIP-switch on the other installed management modules to the "SL" position to enable Slave-Only mode.

SW4: RESERVED

This DIP-switch is for factory use only and must always remain in the Down position (factory default).

2) INSTALL MODULE IN CHASSIS AND CONNECT CABLES

a.   Carefully slide the module into an open slot in the chassis. Align the module with the installation guides and ensure that the module is firmly seated against the backplane. Secure the module by fastening the front panel thumbscrew (push in and turn clockwise to tighten) to the chassis front. Verify the "Pwr" LED is ON (indicating the chassis is powered).

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

b.   When using a GM3 model with SFP ports, insert the SFP fiber transceivers into the SFP receptacles on the module.
   NOTE: The release latch of the SFP fiber transceiver must be in the closed (up) position before insertion.

   When using Omnitron SFP fiber transceivers, the GM3 module will detect the speed and automatically configure the port to match the speed of the SFP. Some 3rd party SFP fiber transceivers will require configuration using the CFM CLI option to set the speed of the port to match the speed of the SFP.

c.   Connect the 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. When using single-fiber (SF) GM3 models, 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.

d.   When using a GM3 model with UTP port(s), connect the port via a Category 5 or better cable to a 10BASE-T, 100BASE-TX or 1000BASE-T Ethernet device (depending on the configuration of the port).