LANTRONIX®



C3100 Series

ION Fiber to Fiber Media Converter Module

SFP to SFP for Data Rates from 100Mbps to 2.5 Gbps

Install Guide

Part Number 33580 Revision D January 2024

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Contacts

Lantronix Corporate Headquarters

48 Discovery, Suite 250 Irvine, CA 92618, USA Toll Free: 800-526-8766 Phone: 949-453-3990 Fax: 949-453-3995

Technical Support

Online: <u>https://www.lantronix.com/technical-support/</u>

Sales Offices

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Revision History

Date	Rev	Description
09/19/14	А	Initial release for v 1.2.
7/24/23	В	Clarify "CLI access" references. Initial Lantronix re-brand.
8/30/23	С	FW v 2.0.3; clarify management support and features set.
1/16/24	D	Update technical specifications.

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Product Description

The ION C3100 is a fiber to fiber media converter module. It is protocol independent and supports data rates from 100Mbps to 2.5Gbps through two open SFP slots. This any-rate to same-rate converter can be used to perform reliable and cost-effective single mode to multimode fiber conversion or it can be used to provide wavelength conversion in CWDM applications. The ION C3100 is a manageable device when installed in a managed ION chassis.

The C3100 also supports:

- CWDM Wavelength transponder, general wavelength to specific wavelength.
- Connections between different types of fiber, such as SM-to-MM.
- Fiber repeater; MM-to-MM or SM-to-SM.

The C3100 can be used in telecom and enterprise applications where 100Mb - 2.5Gb links require fiber extension or where 100Mb - 2.5Gb links require an interface between two fiber networks.

The C3100 performs a variety of protocol transparent services; it supports virtually any protocol from 100Mbps to 2.5Gbps. The x3100 can inter-connect with another x3100 and can support:

- 100Mb (FE/FDDI)
- 1.25Gb (GE)
- 150Mb
- 200Mb (ESCON/SBCON)
- 155/622Mb (OC-3/12)
- 2488Mb (OC-48)
- 2.500Gb (2.5 InfiniBand/PCI-E)
- 1.06/2.12 (2/1 GFC)

The x3100 is a "similar rate" to "similar rate" converter with no rate conversions. The x3100 is protocol independent. Rate configuration is not required. LPT is always enabled.

Model Numbers

C3100-4040: 100Mbps - 2.5Gbps Fiber Repeater, ION Chassis version (dual SFP).

S3100-4040: 100Mbps - 2.5Gbps Fiber Repeater, Standalone version (dual SFP).

Lantronix SFP modules fully comply with Multi-Sourcing Agreement (MSA).

Management Features

Manageable **C3100** features are available when used in an ION chassis with an ION Management Module (IONMM) including:

- Provides port link statistics (C3100 only).
- Provides information on type of SFP installed (C3100 only).
- Supports Digital Diagnostics (DMI) on both ports.
- Link-pass-through (LPT) is always supported and can not be disabled.

Manual Overview

The purpose of this manual is to provide the information needed to install the C3100 to the point of operation. Note that there is a separate install guide for the S3100. Transition Networks is now Lantronix. Some products/firmware items are still in process of being re-branded and may still reflect the Transition Networks name/logo.

Related Manuals and Online Help

A printed documentation card is shipped with each x3100 device. Context-sensitive Help screens, as well as cursor-over-help (COH) facilities are built into the Web interface. For Lantronix Drivers, Firmware, Manuals, Product Notifications, Warranty Policy & Procedures, etc. go to the Lantronix Technical Resource Center. Note that this manual provides links to third party web sites for which Lantronix is not responsible. Other ION system and related device manuals are listed below.

- 1. Product Documentation Postcard, 33504
- 2. ION C3100 Install Guide, 33580 (this manual)
- 3. ION S3100 Install Guide, 33581
- 4. ION x3100 Web User Guide, 33582
- 5. ION x3100 CLI Reference, 33583
- 6. Release Notes (firmware version specific)

Note: Information in this document is subject to change without notice. All information was deemed accurate and complete at the time of publication. This manual documents the latest software/firmware version. While all screen examples may not display the latest version number, all of the descriptions and procedures reflect the latest software/firmware version, noted in the Revision History on page 2.

Application Examples

The x3100 can be used in telecom and enterprise applications where 100Mb - 2.5Gb links require fiber extension or where 100Mb - 2.5Gb links require an interface between two fiber networks. The x3100 performs a variety of protocol transparent services; it supports virtually any protocol from 100Mbps to 2.5Gbps. The figure below shows two typical applications.

CWDM Application

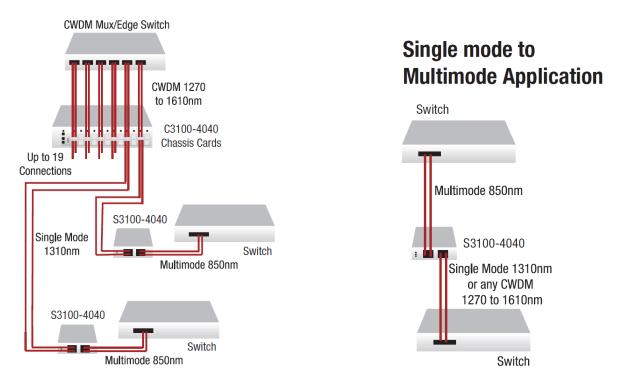


Figure 1: Application Examples

Pre-Installation

Safety

Before installing the C3100, read the "Safety Cautions and Warnings" on pages 3-4 of this manual and ensure that the requirements noted are met. During installation and maintenance, avoid direct exposure to laser beams. Specifically, do not look into laser ports. Ensure that each SFP port at which laser beams are (or will be) present is occupied by an SFP that is locked in position. See the related SFP manual for details. See "Electrical Safety Warnings" on page 30 for Electrical Safety Warnings translated into multiple languages.

Unpacking

- 1. Carefully unpack all C3100 contents.
- 2. Verify receipt of all C3100 components; see "Package Contents" below.
- 3. Place the C3100 and related materials in the desired install location.
- 4. Save the C3100 shipping carton and packing materials for future use.

Package Contents

The C3100 is shipped with some standard and some optional components. Make sure you have received the following standard items:

- One C3100 device
- One printed Product Documentation postcard

CAUTION: Wear a grounding device and observe electrostatic discharge precautions when handling the C3100. Failure to observe this caution could result in damage or failure of the C3100.

Installation and Setup

General

This section describes how to install the C3100 and the procedures to access and initially set it up via either a local serial interface (USB) or a remote Ethernet connection (Telnet session or Web interface).

Install the C3100 in the ION Chassis

The C3100 is a slide-in module that can be installed in a Lantronix ION chassis. For a complete list of ION platform products, go to <u>https://www.lantronix.com/products-class/media-converters/</u>.

The following describes how to install the C3100 in the ION chassis.

Caution: Failure to wear a grounding device and observe electrostatic discharge precautions when installing the C3100 could result in damage or failure of the module.



Figure 3: Chassis Installation

IMPORTANT

The C3100 slide-in cards are "hot swappable" devices, and can be installed with chassis power on.

- 1. Locate an empty slot in the ION System chassis. If necessary, remove a chassis slot cover from the ION Chassis (*keep the slot cover and screw*).
- 2. Grasp the edges of the C3100 by its front panel, align the card with the upper and lower slot guides, and carefully insert the C3100 into the slot.
- 3. Firmly seat the C3100 against the chassis back panel.
- 4. Push in and rotate clockwise the panel fastener screw to secure the C3100 to the chassis (Figure 3).
- 5. Note that the card's Power LED lights. See Accessing the C3100 on page 14.

Port Locations

The C3100 has two ports. The locations of PORT1 and PORT 2 (SFP) are shown below.

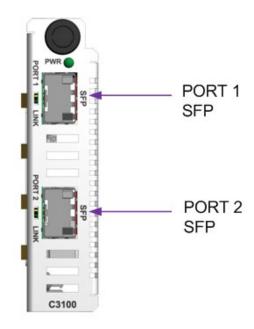


Figure 4: Port Locations

Installing SFP Devices

The C3100 lets you install SFP devices of choice to make a fiber connection via two SFP ports.

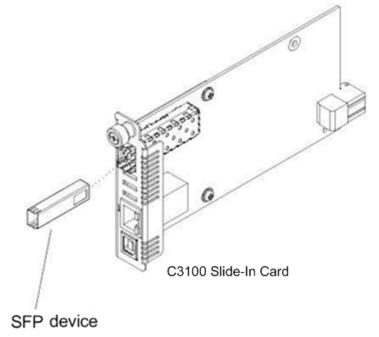


Figure 5: SFP Installation

SFP Optical Transceivers

Lantronix SFP devices are small form factor, hot-pluggable transceivers which allow for a single piece of network equipment to be connected to a multitude of interfaces, protocols, and transmission media via the SFP port. All Lantronix SFPs devices are compliant with the Multi-Sourcing Agreement (MSA) ensuring interoperability with all other MSA compliant networking devices. The SFP module used defines the fiber length and type that can be used. Identical SFP modules must be used at each end of a datalink for a given port.

To install an SFP device in the C3100:

- 1. Position the SFP device at either installation slot, with the label facing up.
- 2. Carefully slide the SFP device into the slot, aligning it with the internal installation guides.
- 3. Ensure that the SFP device is firmly seated against the internal mating connector.
- 4. Connect the fiber cable to the fiber port connector of the SFP device.

See the Lantronix SFP webpage for the latest information.

Cabling

The x3100 can be used in telecom and enterprise applications where 100Mb - 2.5Gb links require fiber extension or where 100Mb - 2.5Gb links require an interface between two fiber networks. The x3100 performs a variety of protocol transparent services; it supports virtually any protocol from 100Mbps to 2.5Gbps



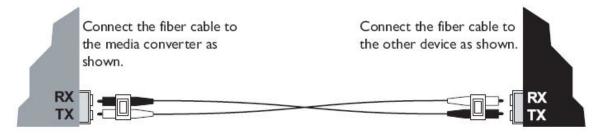
Figure 6: C3100-to-S3100 Connection

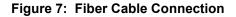
The figure above shows cabling a C3100 to an S3100. The procedure is provided below.

Install Fiber Cable

Port 1 and 2: Fiber Ports

- 1. Locate a fiber cable with male, two-stranded TX to RX connectors installed at both ends. See "Cable Specifications" on page 27 for details.
- 2. Connect the fiber cable to the SFP fiber port (Port 2 labeled SFP) on the C3100 as described:
 - Connect the male TX cable connector to the female TX connector.
 - Connect the male RX cable connector to the female RX connector.
- 3. Connect the fiber cables to the 10GE fiber port on the other device (*another media converter, hub, S3100, etc.*) as described:
 - Connect the male TX cable connector to the female RX connector.
 - Connect the male RX cable connector to the female TX connector.





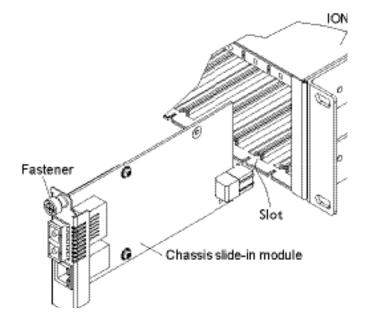
IONMM Installation

For IONMM Management Module installation information, see the *IONMM Install Guide*, 33420. For IONMM operation see the *ION Management Module (IONMM) User Guide*, 33457.

Replacing a Chassis Resident C3100

The C3100 is a "hot swappable" device (it can be removed and installed while the chassis is powered on). To replace a chassis resident C3100, do the following.

- 1. Backup the configuration (see the x3100 Web User Guide or CLI Reference manual).
- 2. Disconnect any cables attached to the C3100.



- 3. Loosen the panel fastener by turning it counterclockwise.
- 4. Pull the C3100 from the ION Chassis.
- 5. Carefully slide the new C3100 fully into the slot until it seats into the backplane.
- 6. Push in and rotate the attached panel fastener screw clockwise to secure the x3100 to the ION chassis.
- 7. Connect the appropriate cables to the C3100.
- 8. Load the configuration into the new C3100 (see the *x3100 Web User Guide* or *CLI Reference* manual).

Operation

Power and Fiber Status LEDs

The status LEDs (labeled **PWR** and **PORT x LINK**) are located on the front panel. Use the status LEDs to monitor C3100 operation in the network.

LED Label	Meaning	Operation	
PWR Power		Green ON for power applied to board.	
PORT 1 LINK	SDF Fiber Status 1	On = Fiber Signal Detected. Off = Fiber Signal Not Detected.	
PORT 2 LINK SDF Fiber Status 2		On = Fiber Signal Detected. Off = Fiber Signal Not Detected.	

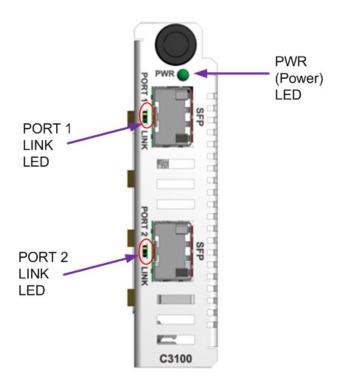


Figure 8: Power and Port Status LEDs

Accessing the C3100

The C3100 can be accessed through the IONMM installed in the ION chassis along with the C3100. The network connection can be done via a Telnet session or a Web graphical user interface (GUI).

Access via Local Serial Interface (USB)

The IONMM can be connected to a local management station (PC) through a serial interface using a USB connection. The IONMM and the C3100 can be controlled by entering command line interface (CLI) commands at the local management station. To use the serial interface (USB) the following is required:

- Personal computer (PC)
- USB cable (type A male connector on one end and type B male connector on the other)
- Terminal emulator program (e.g., HyperTerminal) on the PC
- USB driver installed on the PC
- Configured COM port

IMPORTANT

In order to control the chassis slide-in module through a USB serial interface, the command line prompt must be showing the location of the module to be managed.

Operating Systems Supported

USB drivers are available at the Lantronix website on the ION Product Page.

Windows [®] 7	Windows 7 x64	Windows XP [®] 32 bit
Windows 2000	Windows 2003 32 bit	Windows 8 (32- and 64-bit)
Windows Vista x64	Windows XP 64 bit	

Virtual COM port (VCP) drivers make the USB device appear as an additional COM port available to the PC. Application software can access the USB device in the same way as it would access a standard COM port.

Installing the USB Driver (Windows XP)

IMPORTANT

The following driver installation instructions are for the *Windows XP* operating system only. Installing the USB driver using another operating system is similar, but not necessarily identical to the following procedure.

To install the USB driver on a computer running *Windows XP*, do the following.

- 1. Extract the driver (from the Lantronix <u>website</u>) and place it in an accessible folder on the local drive of the PC.
- 2. Connect the C3100 to the USB port on the PC.

Note: for slide-in modules installed in an ION Chassis, the USB connection will be made to the ION Management Module (IONMM) if one is installed in the ION chassis.

The Welcome to the Found New Hardware Wizard window displays.

Found New Hardware Wizard			
	Welcome to the Found New Hardware Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Read our privacy policy		
	Can Windows connect to Windows Update to search for software? Yes, this time only Yes, now and every time I connect a device No, not this time Click Next to continue.		
< Back Next > Cancel			

- 3. Select No, not this time.
- 4. Click Next.

The installation options window displays.

Found New Hardware Wizard			
If your hardware came with an installation CD If your want the wizard to do? Install from a list or specific location (Advanced) Icitek Next to continue.			
< Back Next > Cancel			

- 5. Select Install from a list or specific location (Advanced).
- 6. Click Next.

The driver search installation options window displays.

Please cho	ose your search and installation options.	100
 Searce 	th for the best driver in these locations.	
	he check boxes below to limit or expand the default search, which includes loc and removable media. The best driver found will be installed.	al
	Search removable media (floppy, CD-ROM)	
	Include this location in the search:	
	C:\D2X Drivers Browse	
O Don't	search. I will choose the driver to install.	
	se this option to select the device driver from a list. Windows does not guarant iver you choose will be the best match for your hardware.	tee th
	<back next=""> Can</back>	cel

- 7. Click Browse.
- 8. Locate and select the USB driver downloaded in step 1 above.
- 9. Click Next. Driver installation begins.
- 10. When the finished installing screen displays, click **Finish**. The USB driver installation is complete. You must now configure access the C3100 via an Ethernet network.

Access via an Ethernet Network

The C3100 can be managed remotely through the Ethernet network via either a Telnet session or the Web interface. Before this is possible, you must set up the IP configuration for the C3100.

IMPORTANT

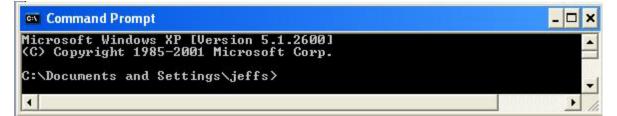
It is recommended that you initially set up the IP configuration through the serial interface (IONMM USB connection). See "Accessing the C3100" on page 14.

Otherwise, in order to communicate with the C3100 across the network for the first time, you must change the network settings (IP address, subnet mask and default gateway address) of your PC to coincide with the defaults of the C3100 (see "Defaults" on page 30). Make note of the original settings for the PC as you will need to reset them after setting the IP configuration for the C3100.

Starting a Telnet Session

The C3100 can be controlled from a remote management station via a Telnet session over an Ethernet connection. The C3100 is controlled and configured through CLI commands. Use the following procedure to connect to and access the C3100 via a Telnet session.

- 1. Click Start.
- 2. Select All Programs > Accessories.
- 3. Click **Command Prompt**. The command prompt window displays.



4. At the command line type: **telnet** <**xx**> where:

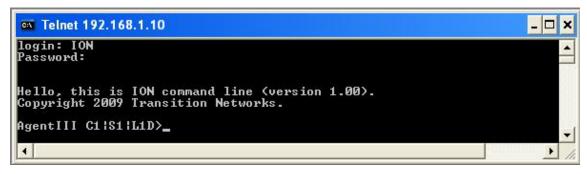
xx = IP address of the C3100 (e.g., 192.168.1.10)

5. Press Enter. The login prompt displays.

Note: If your systems uses a security protocol (e.g., RADIUS, SSH, etc.), enter the login and password required by that protocol.

- 6. Type your login (the default is **ION**). **Note:** the login is case sensitive.
- 7. Press Enter. The password prompt displays.
- 8. Type your password (the default is **private**). Note: the password is case sensitive.

9. Press Enter. The command line prompt displays.



- 10. Enter a **go** command to change the location for the command prompt. The **go** command format is: go [c=<0-16>] [s=<0-32>] [l1ap=<1-15>] [l2ap=<1-15>] (l1p=<1-5>|l2p=<1-15>|l3p=<1-15>|l1d|l2d|l3d)
- 11. Enter commands to set up the various configurations for the C3100. For web GUI configuration, see the *x3100 Web User Guide*. For CLI command descriptions see the *x3100 CLI Reference* manual.

Note: If required by your organization's security policies and procedures, use the CLI command **set community write=<xx>** to change the default password. See the x3100 *CLI Reference* manual.

Terminating a Telnet Session

To terminate the Telnet session:

- 1. Type **q(**uit).
- 2. Press the Enter key.

Note: The C3100-4040 does not have a CLI port. References to this port concern the CLI port on the IONMM as it shows how to manage the C3100 in the ION219 chassis via the IONMM. The C3100 and S3100 do not support remote management when they are deployed as remote stand-alone converters. The x3100 devices do not support remote in-band management over the fiber, even when the remote unit is linked back to a local unit installed in a managed ION219 chassis.

Web Browsers Supported

The ION system supports the latest version of the latest version of most popular web browsers.

Starting the Web Interface

The C3100 can be controlled and configured from a remote management station via a Web graphical user interface (GUI) over an Ethernet connection. Information is entered into fields on the various screens of the interface. **Note:** fields that have a grey background can not be modified.

A Web session can be used to connect to and set up the C3100.

IMPORTANT

- Do not use the browser's back button to navigate the screens. This causes the connection to drop.
- Do not use the browser's back space key in grayed out fields. This causes the connection to drop.
- For DHCP operations, a DHCP server must be on the network and available.

To sign in to the C3100via the Web:

1. Open a web browser.

🕙 ION System Web Interface - Mozilla Firefox	/>/>ION System Web Interface - Windows Internet Explorer	
Eile Edit View Higtory Bookmarks Iools Help	C C + I http://192.168.1.10/web.html	
C X 🟠 🗋 http://192.168.1.10/login.html	File Edit View Favorites Tools Help	
Most Visited Getting Started Latest Headlines I ION System Web Inte	Revorites A ION System Web Interface	

- 2. In the address (URL) block, type the IP address of the IONMM (the default address is 192.168.1.10).
- 3. Click **Go** or press **Enter**.

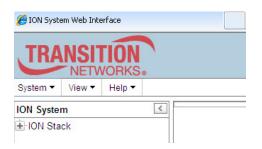
The ION System sign in screen displays.

TRANSITION NETWORKS.	
Sign in to ION Syster	n Web Interface
User Name: Password:	
Sign in	

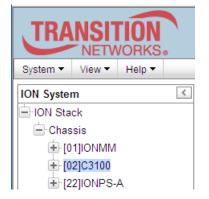
Note: If your systems uses a security protocol (e.g., RADIUS, SSH, etc.), you must enter the login and password required by that protocol.

- 4. Type the System name (the default is **ION**). **Note:** the System name is case sensitive all upper case.
- 5. Type the password (the default is **private**). **Note:** the password is case sensitive all lower case.

6. Click Sign in or press Enter. The opening screen displays.



- 7. Click the plus sign [+] next to **ION Stack**. This unfolds "ION Stack" node in the left tree view and will refresh device status.
- 8. Click the plus sign [+] next to Chassis to unfold the chassis devices.



9. Select the appropriate C3100 device. The MAIN screen displays for the selected C3100.

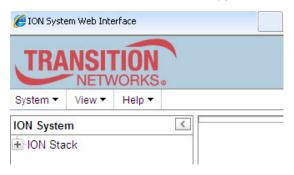
TRANSITION NETWORKS.		
System ▼ View ▼ Help ▼		
ION System	MAIN Model Information Serial Number Model 1010 C3100-4040 12.1 1.0 Bootloader Revision 1.2.1 0.10 System Configuration System Name System Up Time Canfiguration System Name System Name Isostem Up Time Configuration Software MAC Address 2 MAC Address 2 Docio.CF.222.16-EB Uptime Reset/System Reboot/Reset To Factory Config Device Description	
Getting values finished	Ver	sion: 1.3.11

10. You can use the various fields to configure the device and ports. For configuration information, see the *x3100 Web User Guide* manual for more information.

Note: If required, use the **set community** CLI command to change the default password according to your organization's security policies and procedures. See the *x3100 CLI Reference* manual for more information.

Terminating the Web Interface

To sign out from the Web interface, in the upper left corner of the ION System Web Interface:



- 1. Click the **System** dropdown.
- 2. Click Sign out.



The ION sign- in screen displays.

Note: The C3100 does not automatically log out upon exit or after a timeout period, which could leave it vulnerable if left unattended. Follow your organizational policy on when to sign out from the ION System via the Web Interface

Product Features

The features described and illustrated in this section include:

- Link Pass through
- Digital Monitoring Interface (DMI)

Link Pass Through (LPT)

This function causes loss of link on one side of a media converter to be passed through to the other side, so that upstream equipment can see fault conditions that would otherwise be hidden by the media converters.

The LPT feature allows the Device to monitor the Fiber RX (receive) ports for loss of signal. For example, when the Fiber #1 link on the near end device is lost (1), the local Device turns off the fiber transmit on Fiber #2 (2), thus, "passing through" the link loss. The remote Device disables the Fiber #1 link to the farend device (3), which prevents the loss of valuable data unknowingly transmitted over an invalid link.

Note that although the link from local fiber #2-Tx to remote #2-Rx is disabled, the link from remote #2-Tx to local #2-Rx is still alive (4). The LPT process is shown below.

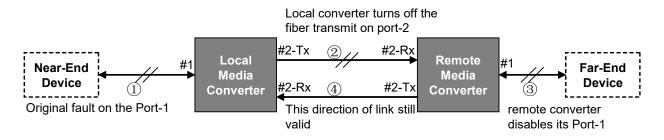


Figure 9: Link Pass Through (LPT)

Digital Monitoring Interface (DMI)

The Diagnostic Monitoring Interface (DMI) feature allows diagnosing problems within the network. The DMI function displays C3100 diagnostic / maintenance information such as 10Gbps fiber interface characteristics, diagnostic monitoring parameters, and supported fiber media lengths. All DMI events will trigger notification. Intrusion detection, based on Rx Power level, is available for triggering any drop in the Rx power.

Within each function, the DMI device will send a trap whenever a high or low warning event or high or low alarm event occurs (for a total of 16 traps). If both the local and remote NIDs are DMI models, the DMI device will indicate whether the trap event is from a local or remote device.

C3100 Diagnostic Monitoring Interface information includes:

```
DMI connector type: e.g., LC
DMI indentifier: e.g., SFP
DMI Nominal bit rate: e.g., 10500*Mbps
DMI 9/125u Singlemode Fiber (m): N/A
DMI 50/125u Multimode Fiber (m): 80*m
DMI 62.5/125u Multimode Fiber (m): 3*10m
Copper(m): N/A
DMI fiber interface wavelength: 850*nm
DMI temperature: 42.0*C
DMI temperature: 107.6*F
DMI temperature alarm: normal
DMI transmit bias current: 6240*uA
DMI transmit bais alarm: normal
DMI Transmit power: 589*uW
DMI Transmit power: -2.299*dBM
DMI Transmit power alarm: normal
DMI Receive power: 573*uW
DMI Receive power: -2.418*dBM
DMI Receive power alarm: normal
DMI Receive power intrusion threshold: 0*uW
```

Technical Specifications

Standards:	ITU.G.709 / SFF8431		
Data Rates	Multi-Source Agreement (MSA) Small Form Factor Pluggable (SFP) Data Rates Protocol Independent 100Mbps to 2.5 Gbps		
Max Frame Size	16384 bytes Jumbo Frames supported		
Status LEDs	PWRON (Green) = PowerPort 1 LinkON = Fiber Signal DetectedPort 2 LinkON = Fiber Signal Detected		
Dimensions	Width: 0.86" [22 mm] x Depth: 6.5" [165 mm] x Height: 3.4" [86 mm]		
Power Source	12VDC from ION backplane		
Power Consumption	1.05W + SFP Modules. 1.75W with 2 TN-SFP-SXD 1G SFPs installed		
Environment	See ION chassis specifications		
Operating Temperature	0 to 50 degrees C		
Storage Temperature	-40 to 85 degrees C		
Altitude	0-10,000 feet		
Operating Humidity	5% to 95% (non-condensing)		
Shipping Weight	1 lb. (0.45 kilograms)		
MTBF	Greater than 250,000 hours (MIL-HDBK-217F) Greater than 687,000 hours (Bellcore)		
Regulatory Compliance for: Emission FCC Class A; EN55022 Class A Immunity EN55024			
Safety Compliance NDAA Compliant TAA Compliant	CE Mark		
Warranty:	Lifetime		

The information in this manual is subject to change. For the latest information, see the online user guide at https://www.lantronix.com/products/c3100-4040-2/#product-resources.

WARNING: Visible and invisible laser radiation when open. DO NOT stare into the beam or view the beam directly with optical instruments. Failure to observe this warning could result in an eye injury or blindness.

WARNING: Use of controls, adjustments or the performance of procedures other than those specified herein may result in hazardous radiation exposure.

Defaults

After you configure the C3100 and insert it into ION chassis, it will start up and run automatically using its defaults. The C3100 initialization default values are shown below.

Parameter	Default Value	Property
- Link Pass Though	LPT Enabled	Read & Write
- Configuration mode	Software (SW) mode	Read only
Fiber Port		
- Admin Status	Admin Enabled	Read & Write

You can change the default configuration via the ION Web UI or the ION CLI (Command Line Interface).

Cable Specifications

The physical characteristics must meet or exceed IEEE 802.3[™] specifications.

Fiber port:

Lantronix' ION x3100 is a SFP-to-SFP fiber repeater with two SFP ports for direct physical connection back to back. The x3100 performs signal reamplify (1R) signal regeneration. The x3100 also supports:

- CWDM Wavelength transponder, general wavelength to specific wavelength.
- Connections between different types of fiber, such as SM-to-MM.
- Fiber repeater; MM-to-MM or SM-to-SM.

The x3100 can be used in telecom and enterprise applications where 100Mb - 2.5Gb links require fiber extension or where 100Mb - 2.5Gb links require an interface between two fiber networks.

The x3100 performs a variety of protocol transparent services; it supports virtually any protocol from 100Mbps to 2.5Gbps.

The x3100 can inter-connect with another x3100 and can support:

- 100Mb (FE/FDDI)
- 1.25Gb (GE)
- 150Mb (ION x6120 and 6010)
- 200Mb (ESCON/SBCON)
- 155/622Mb (OC-3/12)
- 2488Mb (OC-48)
- 2.500Gb (2.5 InfiniBand/PCI-E)
- 1.06/2.12 (2/1 GFC)

The x3100 is a "similar rate" to "similar rate" converter with no rate conversions. The x3100 is protocol independent.

Troubleshooting

Procedure

If a problem or exception occurs, the C3100 will send related Trap message to the Trap Server to report this event.

1. Is the **PWR** (power) LED lit?

NO

- Is the C3100 inserted properly into the chassis?
- Is the power cord properly installed in the ION chassis and in the grounded AC outlet?
- · Does the grounded AC outlet provide power to the ION chassis?
- Contact Tech Support.

YES

- Proceed to step 2.
- 2. Is the LINK LED lit?

NO

- Check that the SFP device is supported and properly connected. See "Installing " on page 9.
- Check the fiber cables for proper connection.
- Verify that the cable specs are met. See "Cable Specifications" on page 26.
- Re-seat the SFPs. Note that with two copper SFP modules used in the converter, no link is established. At least one of the two SFPs must be a fiber SFP.
- Contact Tech Support.

YES

- Proceed to step 3.
- 3. Is the CLI accessible?

NO

- Check the Install process. See "Installation and Setup" on page 8.
- Check the cabling. See "Install Fiber Cable" on page 11.
- Contact Tech Support.

YES

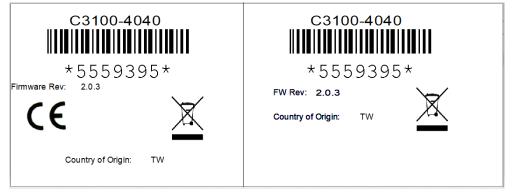
- Proceed to step 4.
- 4. Is the web GUI accessible?

NO

- Check the Install process. See "Installation and Setup" on page 8.
- Check the cabling. See "Cable Specifications" on page 27.
- Contact Tech Support.

Product and Packaging Labels

The product and packaging labels provide valuable information that you can provide to help the Technical Support Engineer in solving a problem.



Product Label

Packaging Label

Compliance Information

Declaration of Conformity

Manufacture's Name: Lantronics, Inc. Manufacture's Address: 48 Discovery, Suite 250, Irvine, California 92618 USA

Declares that the product(s):

C3100-4040

S3100-4040

Conforms to the following Product Regulations:

FCC Part 15 Class A; EN55022-2010

EN55024-2010; Directive 2004/108/EC

Low Voltage Directive 2006/95/EC

IEC/EN 60950-1

With the technical construction on file at the above address, this product carries the CE Mark

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s). Place: Irvine, California Date: April 27, 2023 Signature: *Eric Bass* Full Name: Eric Bass Position: Vice President of Engineering

FCC Regulations

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

Canadian Regulations

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la lass A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

European Regulations

Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Achtung !

Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten. In diesem Fäll ist der Benutzer für Gegenmaßnahmen verantwortlich.

Attention !

Ceci est un produit de Classe A. Dans un environment domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilsateur de prende les measures spécifiques appropriées.



In accordance with European Union Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003, Lantronix will accept post usage returns of this product for proper disposal. The contact information for this activity can be found in the 'Contact Us' portion of this document.



CAUTION: RJ connectors are NOT INTENDED FOR CONNECTION TO THE PUBLIC TELEPHONE NETWORK. Failure to observe this caution could result in damage to the public telephone network.

Der Anschluss dieses Gerätes an ein öffentlickes Telekommunikationsnetz in den EGMitgliedstaaten verstösst gegen die jeweligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer

Electrical Safety Warnings

Electrical Safety

IMPORTANT: This equipment must be installed in accordance with safety precautions.

Elektrische Sicherheit

WICHTIG: Für die Installation dieses Gerätes ist die Einhaltung von Sicherheitsvorkehrungen erforderlich.

Elektrisk sikkerhed

VIGTIGT: Dette udstyr skal 30nstallers I overensstemmelse med sikkerhedsadvarslerne.

Elektrische veiligheid

BELANGRIJK: Dit apparaat moet in overeenstemming met de veiligheidsvoorschriften worden geïnstalleerd.

Sécurité électrique

IMPORTANT : Cet équipement doit être utilisé conformément aux instructions de sécurité.

Sähköturvallisuus

TÄRKEÄÄ : Tämä laite on asennettava turvaohjeiden mukaisesti.

Sicurezza elettrica

IMPORTANTE: questa apparecchiatura deve essere installata rispettando le norme di sicurezza.

Elektrisk sikkerhet

VIKTIG: Dette utstyret skal 30nstallers I samsvar med sikkerhetsregler.

Segurança eléctrica

IMPORTANTE: Este equipamento tem que ser instalado segundo as medidas de precaução de segurança.

Seguridad eléctrica

IMPORTANTE: La instalación de este equipo deberá llevarse a cabo cumpliendo con las precauciones de seguridad.

Elsäkerhet

OBS! Alla nödvändiga försiktighetsåtgärder måste vidtas när denna utrustning används

Safety Instructions for Rack Mount Installations

The instructions below (or similar) are intended for rackmount installation environments:

1. Elevated Operating Ambient: if installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may exceed room ambient. Install the equipment in an environment compatible with the maximum ambient temperature (Tma) specified.

2. Reduced Air Flow: install the equipment in a rack so that the amount of air flow required for safe operation is not compromised.

3. Mechanical Loading: Mount the equipment in the rack so that a hazardous condition does not occur due to uneven mechanical loading (weight distribution/rack balance).

4. Circuit Overloading: give consideration to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Consider all equipment nameplate ratings when addressing this concern.

5. Reliable Earthing: maintain reliable earthing of rack-mounted equipment; pay particular attention to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

LANTRONIX®

Lantronix Corporate Headquarters

48 Discovery, Suite 250 Irvine, CA 92618, USA Toll Free: 800-526-8766 Phone: 949-453-3990 Fax: 949-453-3995

Technical Support

Online: https://www.lantronix.com/technical-support/

Sales Offices

For a current list of our domestic and international sales offices, go to the Lantronix web site at <u>www.lantronix.com/about/contact</u>.