MRV Communications, Inc.

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EM316LX

Linux-Based Secure Console Server Modules

EM316LX1   EM316LX2

Overview

Bringing secure console and remote presence management solutions to the Fiber Driver® product line, MRV Communications introduces the Fiber Driver Console Server (EM316LX) modules. Based on the popular In-Reach LX-4000S series of console/alarm servers, these modules are designed for applications requiring secure console or serial port management, sensor management and power control, and are used to connect serial devices to a TCP/IP network.

The EM316LX modules, like the In-Reach LX-4000S, are powered by our LINUX-based operating system (IROS) and have a RISC processor architecture. They offer all the powerful security and ease of use features found in the In-Reach LX series, and introduce top of the line console server power management and remote access server features in an ultra compact, 1-slot form factor that fits in any Fiber Driver chassis.

Security

The IROS Linux-based operating system is tuned for optimal performance, security and reliability. Access to the system is achieved via an industry-familiar Command Line Interface (CLI) or via a user-friendly browser-based Graphical User Interface (GUI), making it simple and cost-effective to deploy. Easily editable ASCII configuration files and administrative logging capabilities further enhance the product's ease of use and management. Configuration file and IROS updates are accomplished through remote downloads via FTP or TFTP protocols.

The unique flexibility of the EM316LX Console Server modules enables them to meet today's console, alarm, sensor and power management needs with the capacity and scalability to address even the most demanding future needs. They support SNMPv3, are SNMP MIB II compatible and can be configured to send SNMP traps to any Fault Management System (FMS) in response to alarm events. In addition to SNMP, enhanced messaging includes e-mail, text messaging, paging and logging.

Features

- **Serial to IP Conversion:** Access and acquire data from virtually anywhere
- **Power Management:** Remotely turn on, off and reboot equipment
- **Industry-leading Security:** Grant flexible access without compromising security
- **Ease of Use:** Non-disruptive to install, simple to manage and maintain
- **Scripting & Menus:** Automated and guided processes save time and money
- **IROS, Linux-based OS:** Reliable and easily extensible software foundation
- **Sun Break Compatible:** Prevents inadvertent shutdowns of Sun Servers
- **Virtual Management Ports:** Simultaneous multiple user access with individual rights
- **Console, Alarm, Sensor & Power (CASP):** A single solution for all remote management needs
- **Instant Event Messaging:** Instant event notification anywhere
- **Automated response to alarm conditions:** Trigger action
- **Software Upgradeable:** Investment protection with cost-effective migration path

Applications

- Low-density console management
- Power management with the In-Reach IR-5150 power control products
- Secure remote access server applications
- Out-of-band IT infrastructure management
- Telecom and utility remote site console and alarm management
- Unmanned equipment configuration, provisioning and management

The Fiber Driver Console Server solutions are designed for applications requiring secure console or serial port management, sensor management and power control. Because you can't grant remote access unless you know it is secured, the products include the most comprehensive security features. These security features include per port password protection, RADIUS, LDAP, Secure Shell v2.0, SecurID, TACACS+, PPP PAP/CHAP, PPP dial-back, on-board data–base and others. It also integrates the secure management of the In-Reach IR-5150 series power management products to enable remote power control for hundreds of power outlets per chassis.

Summary

Console management capabilities, combined with powerful alarm and power control capabilities, make the Fiber Driver® EM316LX Console Server the ideal solution for converging serial data acquisition or console management and your alarm, sensor, and control output requirements over a single IP infrastructure.
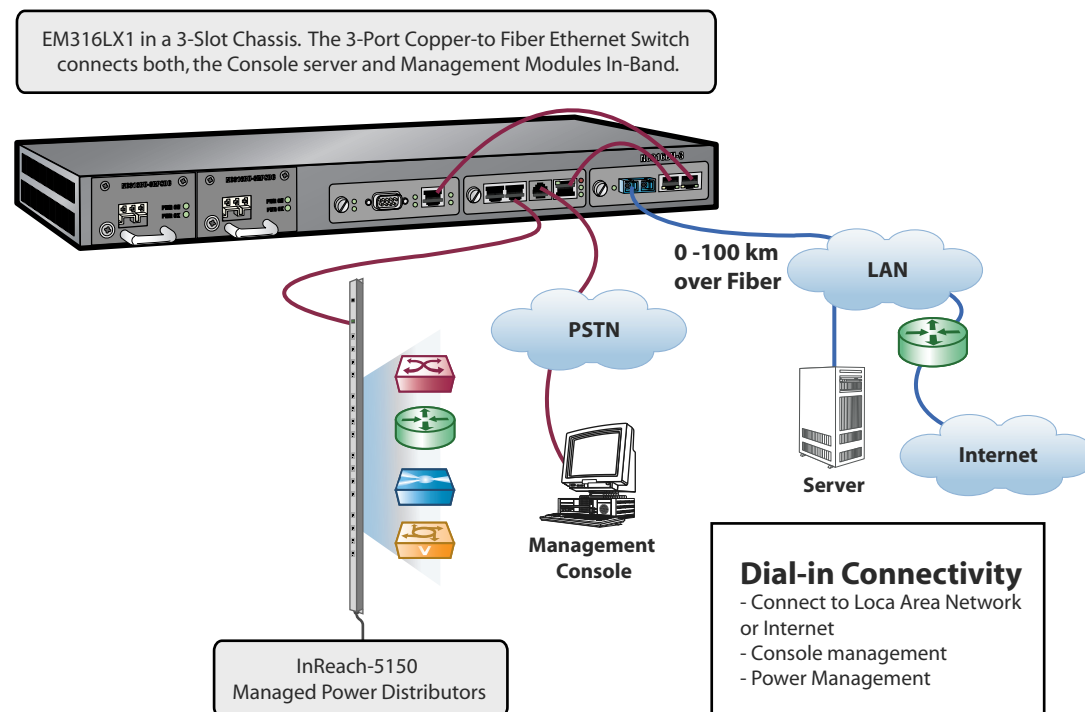
With the EM316LX in service you can feel as confident in your ability to monitor and manage remote equipment, network devices and servers as if you were physically there.

Sales, Service and Support

Delivering value added service and support for nearly 20 years, MRV Communications provides worldwide technical assistance through a highly trained team of dedicated corporate and field based engineers as well as through certified channel partners. Whether your needs are for 24x7 dedicated support, same day replacement parts shipment, on-site support or network design and installation related professional services, you'll gain the opportunity to build a responsive and accountable partnership with the MRV service and support experts.

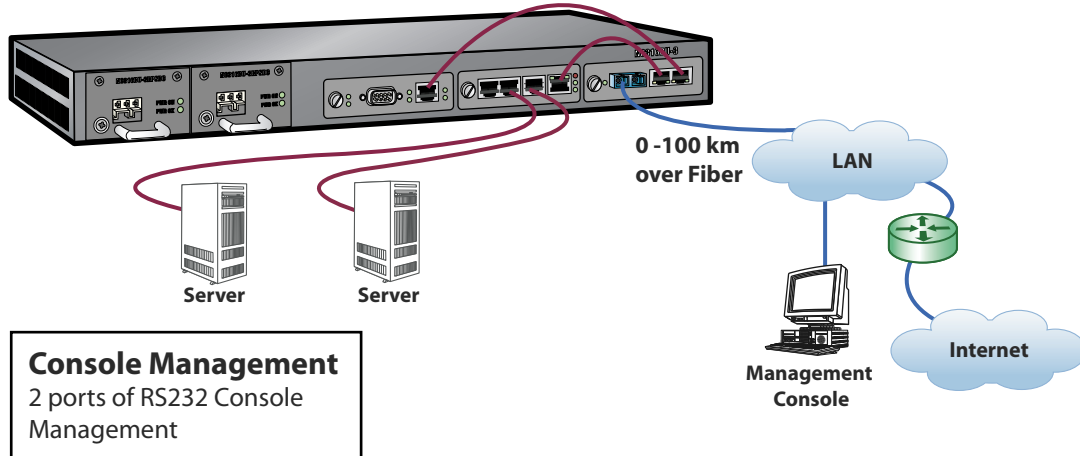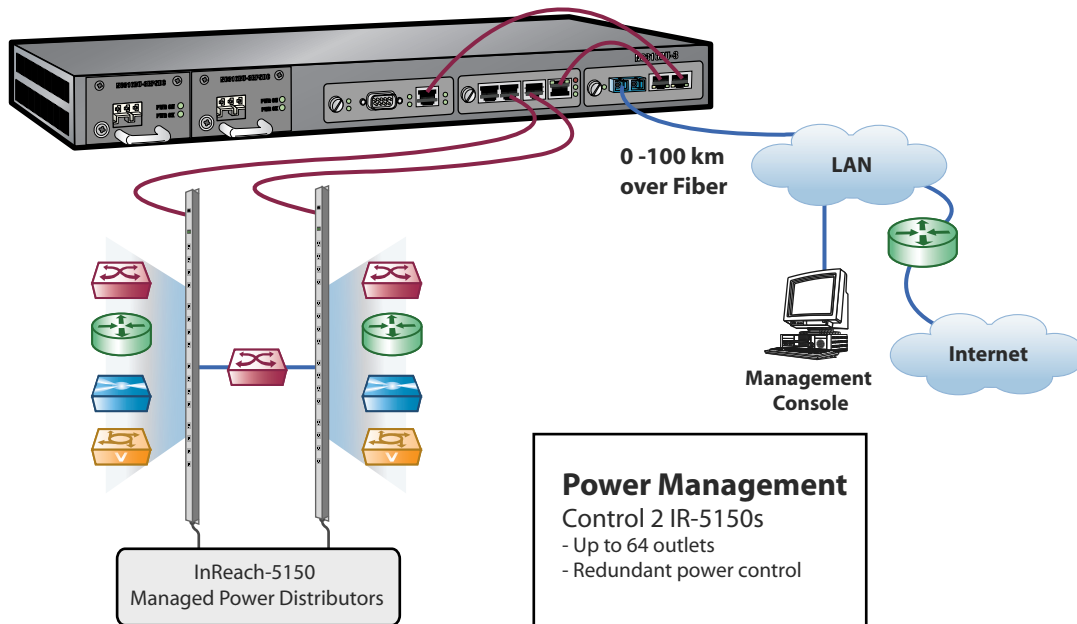For more information contact your nearest authorized MRV representative.

Application A

EM316LX1 in a 3-Slot Chassis. The 3-Port Copper-to Fiber Ethernet Switch connects both, the Console server and Management Modules In-Band.

0 -100 km over Fiber

LAN

PSTN

Server

Internet

Management Console

InReach-5150 Managed Power Distributors

Dial-in Connectivity
- Connect to Loca Area Network or Internet
- Console management
- Power Management

Application B

EM316LX2 in a 3-Slot Chassis. The 3-Port Copper-to Fiber Ethernet Switch connects both, the Console server and Management Modules In-Band.

0 -100 km over Fiber

LAN

Internet

Management Console

Server   **Server**

Console Management
2 ports of RS232 Console Management

Application C

EM316LX2 in a 3-Slot Chassis. The 3-Port Copper-to Fiber Ethernet Switch connects both, the Console server and Management Modules In-Band.

0 -100 km over Fiber

LAN

Internet

Management Console

InReach-5150
Managed Power Distributors

Power Management
Control 2 IR-5150s
- Up to 64 outlets
- Redundant power control

Physical Specifications: EM316LX Modules

Operating Temperature Range:	0°C to 50°C (32°F to 122°F)
Storage Temperature:	0°C to 70°C (32°F to 158°F)
Relative Humidity:	85% maximum, non-condensing
Physical Dimensions:	25 mm x 75 mm x 175 mm deep (1" x 3" x 7" deep)
Weight:	Approximately 272 g (9.6 oz)
Emissions Compliance:	Designed to meet: FCC - PART 15, SUBPART B, 1999, CLASS A; EN 55024 1998;
	EN 55022:1998; EN 61000-3-2; EN 61000-3-3

Ordering Info

Part Number	Description	Device Interface	DIAG/MGMT Interface	Remote Interface	Network Interface
EM316LX1	Linux-based secure console server module	RS-232 with RJ-45 connector	RS-232 with RJ-45 connector	V.90 modem with RJ-11 connector	10/100Base-T with RJ-45 connector
EM316LX2	Linux-based secure console server module	RS-232 with RJ-45 connector (x2)	RS-232 with RJ-45 connector	N/A	10/100Base-T with RJ-45 connector

MRV has more than 50 offices throughout the world. Addresses, phone numbers, and fax numbers are listed at **www.mrv.com.**
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