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Commercial Services

Prisma® Optical Media Converters
1310 / 1550 nm Gigabit FiberLinX Modules

Description

Prisma® FiberLinX modules are field-proven in Optical Ethernet, FTTx and campus area network applications worldwide.

Service providers who provide customers with Transparent LAN services must be able to remotely manage customer premises' equipment while keeping management and customer data traffic completely separated. Designed to meet the needs of service providers and administrators of enterprise campus networks, Prisma FiberLinX modules provision point-to-point fiber optic connections and provide a management tool to monitor the entire link between two locations.

The Prisma FiberLinX modules connect two remote networks over fiber and allow administrators to observe both end-points and the fiber link between them as a single management entity and not as separate elements. Host management traffic is not visible to the remote or customer network. Access to the customer network is not required, allowing end-to-end data integrity. Prisma FiberLinX modules allow for remote configuration and alert administrators to any potential problems on the long-haul fiber run, provide vital information on link condition, and reports data traffic statistics. In addition, the modules help reduce the total cost of network equipment by functioning as a copper-to-fiber media converter, allowing lower-cost copper switches to be deployed at both ends of the fiber connection. *(continued on page 2)*

Features

- All management traffic remains isolated from the remote LAN
- 802.1Q and 802.1p compatible - Installs in a wide variety of VLAN and non-VLAN environments
- Provides differential priority and bidirectional bandwidth control
- Remotely configure settings
- Manage and monitor fiber traffic between switches or routers and receive vital system health information and notification should problems occur
- Minimizes costs of building and operating networks - Avoid unnecessary service calls; Deploy less expensive copper switches at both ends
- Includes GUI-based PrismaView SNMP management application software
- Includes three Loopback Testing modes
- Includes broadcast storm protection
- SNMP V2c compatible
- Auto MDI-II/MDI-X on data and external management transmit ports
- VLAN-tagging and Q-in-Q (double-tagging) segregates customer traffic

Description, continued

Offering outstanding flexibility, Prisma FiberLinX modules include one 1000 Mbps fiber port, one 10/100/1000 twisted pair data port, and an additional 10/100/1000 twisted pair port for management. Twisted pair ports auto-negotiate or can be manually set for 10, 100, or 1000 Mbps, and half- or full-duplex. The Prisma FiberLinX module VLAN functionality is extremely versatile, allowing installation in virtually any environment. Prisma FiberLinX modules support a full-range of VLAN IDs, and offer a 2-tier queue for differential prioritization. Available as a module for installation in any Prisma MediaCenter™ Chassis or Prisma MediaCPE™ Chassis, Prisma FiberLinX also includes the FiberAlert feature for troubleshooting, as well as bi-directional bandwidth control.

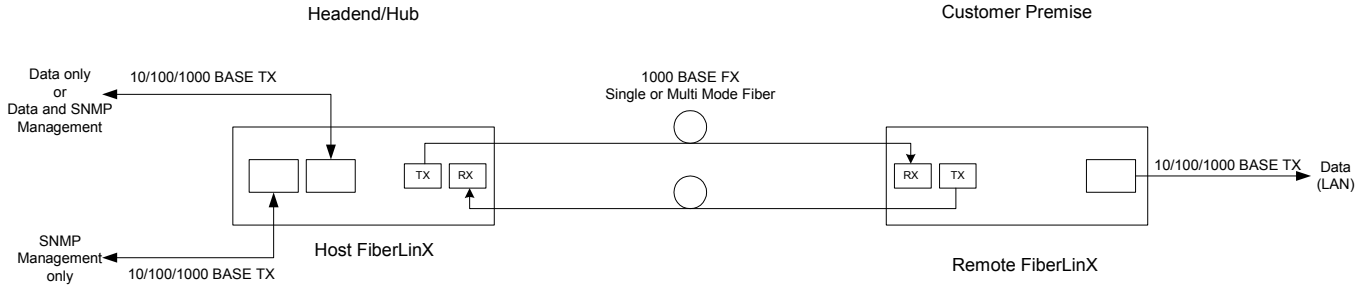
Prisma FiberLinX modules are easy to configure with graphical user interface (GUI)-based PrismaView™ SNMP management application software. The PrismaView application provides operational and system health information, and the ability to control various functions of Prisma FiberLinX modules. SNMP traps alert administrators to potential network failures, reduce administrative overhead, and increase network integrity and uptime. Information reported from Prisma FiberLinX modules via SNMP services includes LAN packets received and transmitted, errors, and port status (see Prisma MIB Specifications). This allows network administrators to keep networks running in peak condition. The PrismaView application is available in several versions and can also function as a snap-in module for Hewlett-Packard OpenView Network Node Manager. Please contact us for assistance in selecting the right version of the PrismaView application for your operating system.

Two models are also available with SFP ports, allowing users to easily accommodate changing fiber requirements; simply install a new SFP module rather than replacing an entire Gigabit FIberLinX module.

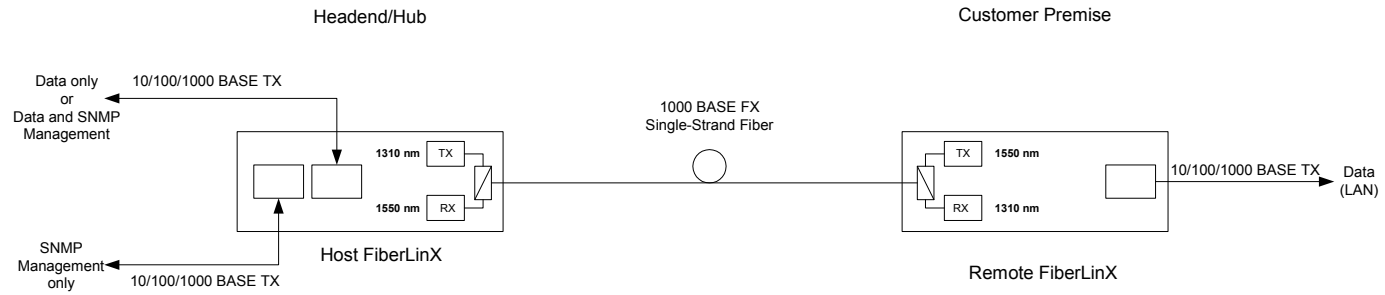
Application

When used in pairs, a Prisma FiberLinX module configured as a Host resides at the headend while another Prisma FiberLinX module configured as a Remote, is installed at the remote customer location, typically on the network edge where the customer network meets the service provider infrastructure. Via SNMP, the Prisma FiberLinX solution monitors the entire link and provides data integrity while remaining isolated and completely transparent to the customer LAN. A Prisma FiberLinX module can be configured as a Standalone for a single-solution (CPE) application.

2-Fiber Block Diagram



Single-Strand Fiber Block Diagram



1310 / 1550 nm Gigabit FiberLinX Modules

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Specifications

Prisma FiberLinx TX/SX-MM850

Optical	
Tx Wavelength	850 nm
Avg. Distance	300 m
Tx optical output range	-10 to -4 dBm
Rx optical input range	0 to -17 dBm

Prisma FiberLinx TX/LX-SM1310

Optical	
Tx Wavelength	1310 nm
Avg. Distance	10 km
Tx optical output range	-9 to-3 dBm
Rx optical input range	-3 to -20 dBm

Prisma FiberLinx TX/LX-SM1310/PLUS

Optical	
Tx Wavelength	1310 nm
Avg. Distance	40 km
Tx optical output range	-3 to +2 dBm
Rx optical input range	-3 to -26 dBm

Prisma FiberLinx TX/LX-SM1550/LONG

Optical	
Tx Wavelength	1550 nm
Avg. Distance	70 km
Tx optical output range	0 to +5 dBm
Rx optical input range	0 to -23 dBm

Prisma FiberLinx TX/SSLX-SM1310 *(single-strand fiber)*

Optical	
Tx / Rx Wavelength	1310 / 1550 nm
Avg. Distance	10 km
Tx optical output range	-5 to -12 dBm
Rx optical input range	0 to -21 dBm

Prisma FiberLinx TX/SSLX-SM1550 *(single-strand fiber)*

Optical	
Tx / Rx Wavelength	1550 / 1310 nm
Avg. Distance	10 km
Tx optical output range	-5 to -12 dBm
Rx optical input range	-3 to -33 dBm

Prisma FiberLinx TX/SSLX-SM1310/PLUS *(single-strand fiber)*

Optical	
Tx / Rx Wavelength	1310 / 1550 nm
Avg. Distance	40 km
Tx optical output range	0 to -3 dBm
Rx optical input range	0 to -21 dBm

Prisma FiberLinx TX/SSLX-SM1550/PLUS *(single-strand fiber)*

Optical	
Tx / Rx Wavelength	1550 / 1310 nm
Avg. Distance	40 km
Tx optical output range	0 to -3 dBm
Rx optical input range	0 to -21 dBm

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Specifications, continued

Electrical	
Twisted Pair Data Port	IEEE 802.3 10Base-T/100Base-TX for data; RJ-45 connector; Half/Full-Duplex operation
Fiber Data Port	IEEE 802.3 100Base-FX for data; SC or ST connectors; Half/Full-Duplex operation
Twisted Pair Management Port	IEEE 802.3 10Base-T/100Base-TX for management; RJ-45 connector; Half/Full-Duplex operation; can also function as serial port
Standards Compliance	IEEE 802.1Q VLAN, 802.1p and 802.3x Flow Control

Software Configuration and/or Monitoring Via:	
Prisma MIB *(see note 1)*	• Link Status of Ports • Port Type • Fiber Type • SNMP Port (Host/Remote) • SNMP Agent IP Address (Host/Remote/Single) • Link Partner • Traps (Cold Start, Warm Start, Link Up, Link Down, Authentication Failure, Remote Unit Lost, Remote Unit Back Online, Far End TX Link On and Far End TX Link Off)
Prisma MIB - continued *(see note 2)*	• User-Definable Name of Product • User-Definable ID/Name of Each Port • Enable/Disable Ports • Enable/Disable FiberAlert* • Set Duplex Mode for Fiber Ports • Set Auto-Negotiation/Speed for Twisted Pair Ports • Specify the management port • Dynamic Bandwidth Control (32 Kbps increments)
MIB-II (RFC 1213) *(see note 1)*	• Packets Transmitted • Packets Received • Octets (bytes) Transmitted • Octets (bytes) Received • Plus All Standard MIB II Objects
Transmission Dot 3 (RFC1643) *(see note 1)*	• Alignment Errors • Single Collision Frames • Multiple Collision Frames • SQE Test Errors • Deferred Transmissions • Late Collisions • Excessive Collisions • Carrier Sense Errors • Frame Too Long • Internal MAC Transmit Errors • Internal MAC Receive Errors

Hardware Configuration *(see note 3)*
• Set port for SNMP management traffic • Set mode of operation

Notes:

1. Parameter can be monitored only via software
2. Parameter can configured and monitored via software
3. Parameter must be set via hardware dipswitch

Ordering Information

The Prisma FiberLinX modules listed below install in any Prisma MediaCenter or Prisma MediaCPE chassis.

Prisma Gigabit FiberLinX Dual Strand Modules	Part Number
Prisma FiberLinX, TX/SX-MM850-SC/UPC [300 m]	4009506
Prisma FiberLinX, TX/LX-SM1310-SC/UPC [10km]	4009507
Prisma FiberLinX, TX/LX-SM1310/PLUS-SC/UPC [40km]	4009508
Prisma FiberLinX, TX/LX-SM1550/LONG-SC/UPC [70km]	4009509
Prisma Gigabit FiberLinX Single Strand Modules	
Prisma FiberLinX, TX/SSLX-SM1310-SC/UPC [10km]	4009510
Prisma FiberLinX, TX/SSLX-SM1550-SC/UPC [10km]	4009511
Prisma FiberLinX, TX/SSLX-SM1310/PLUS-SC/UPC [40km]	4009512
Prisma FiberLinX, TX/SSLX-SM1550/PLUS-SC/UPC [40km]	4009513
Prisma Gigabit FiberLinX SFP Modules	
Prisma FiberLinX, TX/SFP (one SFP/1250 module)	4016384
Prisma FiberLinX, TX/SFP (two SFP/1250 module)	4016385

For Prisma MediaCenter and Prisma MediaCPE Chassis specifications and ordering information, see data sheet #7001716 *"Prisma Optical Media Converters – Prisma MediaCenter Chassis."*

For information on other Prisma FiberLinX products see the following data sheets:

Prisma FiberLinX Modules (CWDM Gigabit)	7006412
Prisma FiberLinX Modules (1310 / 1550 nm)	7001714
Prisma FiberLinX Modules (CWDM)	7001715

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