Prisma Optical Media Converters
DS3/E3/STS-1 Converter with Remote Management

Description

The Prisma® DS3/E3/STS-1 Media Converter is designed for telecommunications and services networks, as well as enterprise campus networks utilizing DS3, E3, or STS-1 coaxial circuits in high-speed data networking. The Prisma DS3/E3/STS-1 Media Converter enables users to convert the coax media to single-mode fiber to extend the distance of data transmissions over MAN access networks up to 80 km. The Prisma DS3/E3/STS-1 Media Converter is also used in premises network applications to convert the incoming circuit to multi-mode fiber for distribution into the structured cabling system.

Figure 1. Prisma DS3/E3/STS-1 Converter

Available with remote management via the fiber port, Prisma DS3/E3/STS-1 Media Converter products enable network managers to conduct loopback testing, and monitor and manage units located up to 80 km away. Cisco management technology functions transparently to the frame format, so customers will not experience data overhead or loss of a data channel typically associated with remote management or SNMP polling. Customer traffic will always be full bit rate of 45 Mbps (DS3), 34 Mbps (E3) or 52 Mbps (STS-1).

Troubleshooting is easy with Prisma DS3/E3/STS-1 Media Converter products that include a line integrity test feature, 2 modes of operation for loopback testing (fiber loopback, coax loopback), and the Transmit Data Source diagnostic feature, which sends specific patterns of data (transmit all unframed ones; transmit a pattern of zeros, and ones and transmit a Pseudo Random Bit Sequence (PRBS) to determine problems with the cable. All test modes can be configured remotely via PrismaView SNMP software, or locally by manually setting DIP switches on the units. Additionally, Prisma DS3/E3/STS-1 Media Converters include a mechanism for removing jitter from transmitted data, and a mechanism for testing line integrity. Prisma DS3/E3/STS-1 modular media converters install in any Prisma MediaCenter chassis or in an unmanaged MediaCPE Chassis.* To effectively double fiber capacity, choose a single-strand fiber version of Prisma DS3/E3/STS-1 Media Converter.

*When installed in a Prisma MediaCPE chassis, Prisma T1/E1/J1 modules are only SNMP-manageable and software configurable if connected to a Prisma DS3/E3/STS-1 module installed in a managed Prisma MediaCenter chassis. Some features may not be software configurable on a remote unit.

SNMP-Management

Prisma DS3/E3/STS-1 Media Converter modules are easy to configure and manage with the GUI-based PrismaView SNMP management application software, or with any other SNMP application. PrismaView runs standalone on Windows NT4/2000/XP, or as a plug-in to HP OpenView on Windows or Solaris. For users of Windows 98 and other operating systems, a Java version is also available. Features and functionality are configurable via the software and/or hardware DIP switch settings.

Features

- Switch Selectable Protocol
  - Operates at 45 Mbps (DS3), 34 Mbps (E3), or 52 Mbps (STS-1)
- Management
  - Conduct loopback tests, monitor and manage units via GUI-Based PrismaView
  - Remote unit supports secure, in-band management
  - Full bit rate for customer traffic
- Supports more fiber choices
  - Available for multi-mode or single-mode fiber
  - Single-strand fiber versions
  - Supports very long fiber distances
- Eases Troubleshooting
  - Loopback testing modes, plus SNMP management and LEDs, assist in diagnosing problems on fiber optic networks

Fiber Optics Specifications

Table 1. Fiber Optics Specifications

Description	Value
Supported Protocols	45 Mbps (DS3) 34 Mbps (E3) 52 Mbps (STS-1)
Supported Fiber	50/125 µm or 62.5/125 µm multi-mode 9/125 µm single-mode
Connector Types	BNC and SC
LEDs	BNC: • Loopback • No Link • PBEO Fiber: • Remote Management • No Link • Symbol Error • FiberAlert
Switch Selectable Configurations	• Protocol (DS3/E3/STS-1) • Jitter Attenuation • Remote Management • FiberAlert* • Line Build Out • Loopback* (Fiber and Coax) • Transmit all unframed ones, Alternating ones and zeros, Pseudo Random Bit Sequence* * Also configurable via PrismaView software

Table 2. Specifications

Prisma FiberLinX, DS3/E3/STS-1, BNC/FX-MM1300-SC	Value
Tx Wavelength	1300 nm
Avg. Distance	2 km
Tx optical output range	-20 to -14 dBm
Rx optical input range	-31 to -14 dBm
Prisma FiberLinX, DS3/E3/STS-1, BNC/FX-SM1310/PLUS-SC	**Value**
Tx Wavelength	1310 nm
Avg. Distance	40 km
Tx optical output range	-15 to -8 dBm
Rx optical input range	-31 to +1 dBm
Prisma FiberLinX, DS3/E3/STS-1, BNC/FX-SM1310/LONG-SC	**Value**
Tx Wavelength	1310 nm
Avg. Distance	80 km
Tx optical output range	-5 to 0 dBm
Rx optical input range	-34 to -3 dBm
Prisma FiberLinX, DS3/E3/STS-1, BNC/FX-SM1550/LONG-SC	**Value**
Tx Wavelength	1550 nm
Avg. Distance	80 km
Tx optical output range	-5 to 0 dBm
Rx optical input range	-34 to -3 dBm
Prisma FiberLinX, DS3/E3/STS-1, BNC/SSFX-SM1310-SC	**Value**
Tx Wavelength	1310 nm
Avg. Distance	20 km
Tx optical output range	-14 to -8 dBm
Rx optical input range	-31 to -3 dBm

Prisma FiberLinX, DS3/E3/STS-1, BNC/SSFX-SM1550-SC	Value
Tx Wavelength	1550 nm
Avg. Distance	20 km
Tx optical output range	-14 to -8 dBm
Rx optical input range	-31 to -3 dBm
Prisma FiberLinX, DS3/E3/STS-1, BNC/SSFX-SM1310/PLUS-SC	**Value**
Tx Wavelength	1310 nm
Avg. Distance	40 km
Tx optical output range	-8 to 0 dBm
Rx optical input range	-33 to 0 dBm
Prisma FiberLinX, DS3/E3/STS-1, BNC/SSFX-SM1550/PLUS-SC	**Value**
Tx Wavelength	1550 nm
Avg. Distance	40 km
Tx optical output range	-8 to 0 dBm
Rx optical input range	-33 to 0 dBm

Ordering Information

The approximate average fiber distance for each Prisma DS3/E3/STS-1 product is listed below in the Ordering Information section after the product name. The distance in km is designated by the number in the brackets [XX]. Distances are based on factory testing; actual installation distances may vary. Prisma DS3/E3/STS-1 products must be used in pairs.

Table 3. Ordering Information

Multi-Mode Fiber	Part Number
Prisma FiberLinX, DS3/E3/STS-1, BNC/FX-MM1300-SC [2km]	1002856
Single-Mode Fiber	**Part Number**
Prisma FiberLinX, DS3/E3/STS-1, BNC/FX-SM1310/PLUS-SC [40km]	1002858
Prisma FiberLinX, DS3/E3/STS-1, BNC/FX-SM1310/LONG-SC [80km]	1002859
Prisma FiberLinX, DS3/E3/STS-1, BNC/FX-SM1550/LONG-SC [80km]	1002861
Single-Strand Fiber	**Part Number**
Prisma FiberLinX, DS3/E3/STS-1, BNC/SSFX-SM1310-SC [20km]	1002862
Prisma FiberLinX, DS3/E3/STS-1, BNC/SSFX-SM1550-SC [20km]	1002863
Prisma FiberLinX, DS3/E3/STS-1, BNC/SSFX-SM1310/PLUS-SC [40km]	1002864
Prisma FiberLinX, DS3/E3/STS-1, BNC/SSFX-SM1550/PLUS-SC [40km]	1002871

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

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