

10 Gigabit Ethernet/Gigabit Ethernet Multifunction Media Module

EM316-10G8SW-XY



Overview

Fiber grooming (media conversion and fiber optimization) incorporates a wide variety of data transmission functions traditionally implemented through multiple independent solutions. The Fiber Driver “XY” (multi-dimensional) modules combine fiber grooming and distance extension into multi-function modules. The 10 Gigabit Ethernet/Gigabit Ethernet Multifunction Media Module (10G8SW-XY) is an extremely versatile transponder and converter for the Fiber Driver Optical Multi-Service Platform. The 10G8SW-XY module includes eight SFP ports supporting Gigabit Ethernet and two XFP ports for 10-Gigabit Ethernet. This flexible design with modular optics allows a single module to serve many applications through simple component and software configurations:

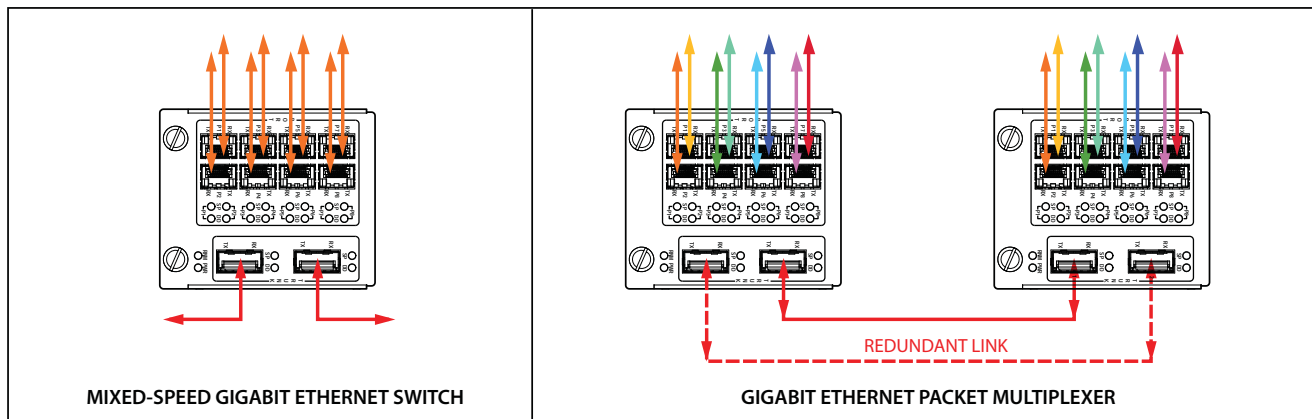
1. Mixed-Speed Gigabit Ethernet Switch – Gigabit/10 Gigabit Ethernet switching with collision domain isolation
2. Gigabit Ethernet Packet Multiplexing – Gigabit Ethernet MUX/DeMUX combines and separates eight 1-Gigabit Ethernet links over redundant 10-Gigabit Ethernet links

Features

- Selectable functions in one module including:
 - Mixed-speed Gigabit Ethernet Switch
 - Gigabit Ethernet Packet Multiplexer
- Dual XFP interfaces supporting LAN PHY or WAN PHY
- Jumbo packet support (9600 bytes)
- Manual configuration for
 - Port loopback
 - Port enable/disable
 - SFP port auto-negotiation
- Mixed-Speed Gigabit Ethernet Switch
 - Speed-matching (GbE to 10-GbE)
 - Manual configuration for flow control
- Gigabit Ethernet Packet Multiplexer Mode
 - Low latency
 - Link Integrity Notification (LIN)
- Loopback testing
- IEEE 802.3u compliance
- 3-slot module fits into the 3-slot (3V) and 16-slot Fiber Driver chassis
- Hot-swap support for maintenance without affecting other modules in the same chassis
- Advanced SNMP management

SFP/XFP Benefits

- SFP support for Gigabit Ethernet optical or copper and for multi-rate optical transceivers
- Optical performance monitoring through SFP Digital Diagnostics (SFF-8472)



Datasheet

The versatile XY (multi-dimensional) converter family simplifies network planning and installations while reducing replacement inventory requirements. This Fiber Driver module can fill the roles of multiple legacy network components, with SFP options multiplying the possible applications still further.

The SFP interfaces allow connection to many media types limited only by pluggable interface options:

- Single or dual fiber 1000Base-X
- Multi-mode (MM) or MM extended (MMX)
- Single-Mode at 1310 nm or 1550 nm (up to 120 km)
- Coarse and Dense Wave Division Multiplexing
- Copper 1000Base-T or 10/100/1000 Base-T (for SGMII host interfaces)

The modular XFP interfaces support 10-Gigabit Ethernet LAN PHY or WAN PHY connections. XFP's available from MRV include solutions for:

- Multi-Mode (MM) or MM extended (MMX)
- Single-Mode at 1310 nm or 1550 nm (up to 120 km)
- Dense Wave Division Multiplexing

Most available pluggable (SFP or XFP) transceivers use MSA-compliant (SFF-8724) Digital Diagnostics to provide advanced optical performance monitoring for proactive network administration and maintenance. The small form-factor is also designed for portability and interoperability, so inventory costs and downtime may be reduced with fewer spare parts shared between many systems.

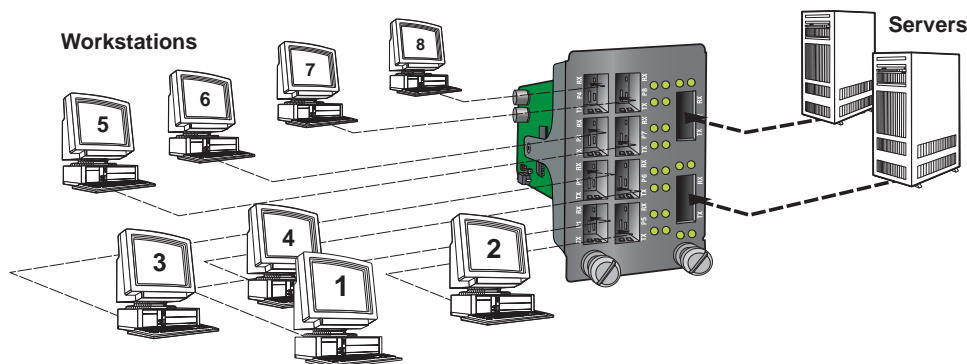
The 10G8SW-XY module supports jumbo packets up to 9600 bytes in compliance with internetworking protocols including MPLS over Ethernet, Q-in-Q (VLAN stacking), MAC-in-MAC, and others.

Applications

With a flexible architecture the 10G8SW-XY offers two operational modes for the applications described below.

Mixed-Speed Gigabit Ethernet Switch

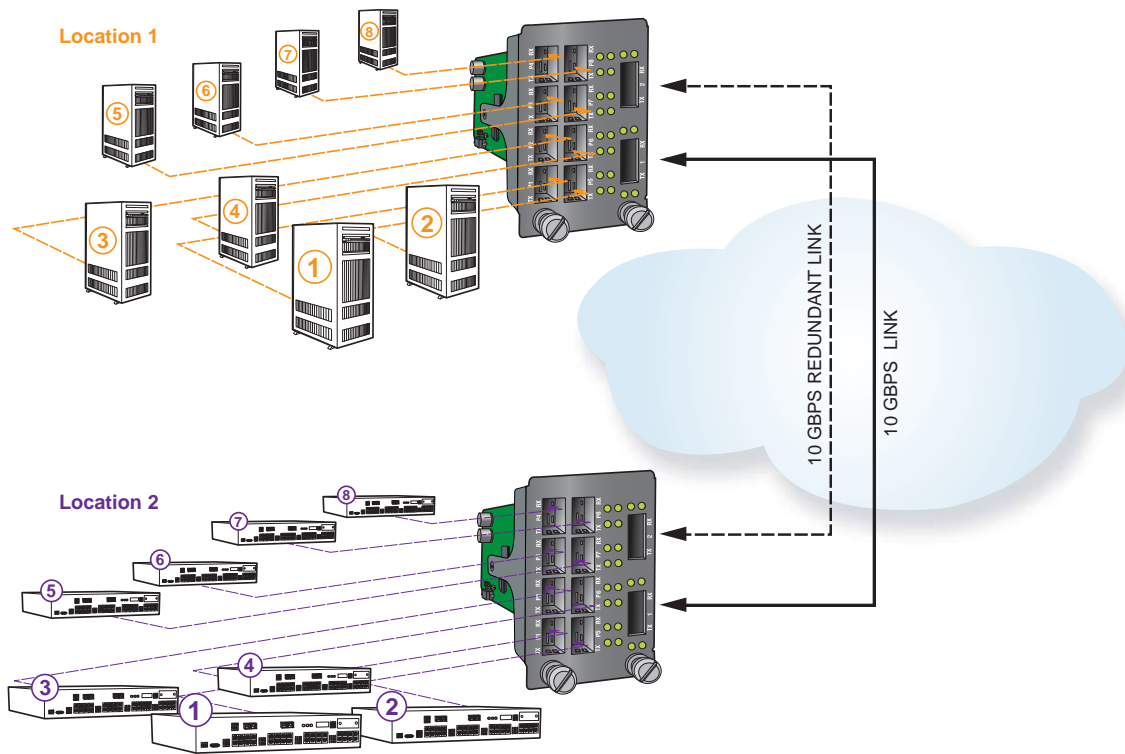
In this mode, the module acts as a mixed-speed Ethernet switch with eight SFP ports for 1000Base-X interfaces and two XFP ports for 10G Ethernet interfaces.



The mixed-speed Ethernet switch adds or drops Gigabit Ethernet traffic to or from a linear 10-Gigabit Ethernet fiber-optic network.

Datasheet
Gigabit Ethernet Packet Multiplexer

In this mode, the module acts as an Ethernet packet multiplexer. It combines eight Gigabit Ethernet links over a redundant 10-Gigabit Ethernet link. By mapping the eight 1-Gigabit Ethernet ports to a 10-Gigabit Ethernet link, the module optimizes the fiber usage and can make some existing fiber available for new services.



The 10G8SW-XY is designed for a bookend solution with a module at each end of the redundant trunk link.

Physical Specifications	
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Relative Humidity	85% maximum, non-condensing
Physical Dimensions	75 mm x 75 mm x 175 mm (3" x 3" x 7")
Weight	Approximately 531 g (18.7 oz)
Power Requirement	20 - 25 Watts
Regulatory Compliance	FCC Part 15, Class A; IC, Class A; EMC Directive: Emission (Class A) and Immunity;
	WEEE Directive: Wheelie Bin Mark; RoHS Directive; China RoHS



Datasheet

Ordering Info	Model	Function	Protocol	Connectors
	EM316-10G8SW-XY	Gigabit/10-Gigabit Ethernet Multi-Function Media Module	1000BASE-X 10-Gigabit Ethernet LAN WAN PHY	SFP (x8) / XFP (x2)

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