XFP-to-XFP 10-Gigabit Repeaters

Overview

The FiberDriver® XFP-to-XFP media modules from MRV Communications combine ultra high-speed protocol support with the flexibility of XFP transceivers. They support SONET OC-192, SONET OC-192 over FEC, 10 Gigabit Ethernet, 10 Gbps Fiber Channel, and G.709. The 2XFP modules enable an extremely wide range of optical infrastructure solutions including media conversion, signal repeating, lambda conversion, and Wave Division Multiplexing (WDM).

2XFPs are an economical alternative for enterprise applications. They are also ideal for large telecommunications carriers moving very large amounts of data to distances over 100 kilometers.

Features

- XFP-to-XFP repeater and converter
- Multiple data rate support (9.95 to 11.32 Gbps)
- Flexibility and scalability
  - Add or change optics and adjust data rates as needed
  - Single item inventory
- Link Integrity Notification (LIN)
- XFP features
  - Digital Diagnostics
  - Analog hardware monitoring
- Hot-swap support (module and interfaces)
- Fiber Driver chassis compatibility
- Fiber Driver network management
  - Full graphical management with MegaVision Pro®
  - SNMP management
  - Command line interface (CLI)

Benefits

- Extend fiber optic links to hundreds of kilometers
- Reduce capital and operating expenses

Typical Application: *Multi-mode to Single-mode Conversion*

Switch/Router

MM

SM 80 km

MM

EM316-2XFP with Management Module in a 2-slot chassis

Switch/Router
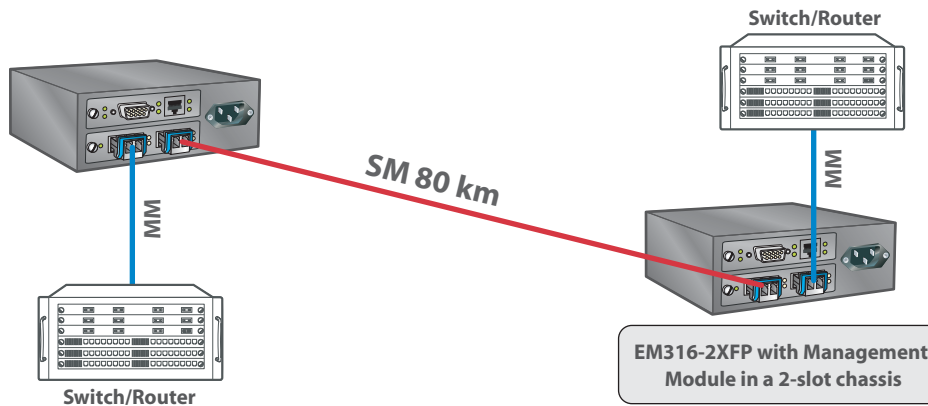
2XFPs are compact, hot-swappable, one-slot modules with two XFP interface ports. Installation and setup is simple plug-n-play. Insert the module into any powered Fiber Driver chassis, insert the XFP transceivers required for the protocol and distance of the application, and then connect to the network.

Changing the connection type only requires changing the hot-swappable XFP transceivers. Because the transceivers are portable, inventory may be shared with other applications to maximize the return on investment. Together, the 2XFP modules and XFP transceivers greatly reduce the need for on-hand parts inventory.

2XFP modules fully support the XFP MSA standard including Digital Diagnostics. Through a Fiber Driver network management module, they support SNMP and MegaVision Pro®, the MRV Communications comprehensive network management system. The management module monitors XFP status, provides real-time access to wavelength and FEC control, determines hardware configuration, and provides vendor specific information.

Contact your nearest authorized MRV representative for additional information on the full line of MRV Communications products, pricing, and availability.

Physical Specifications	
Operating Temperature Range*	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 70°C (-40°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 213 g (7.5 oz)
Regulatory Compliance	FCC Part 15 (Class A); IC (Class A); EMC Directive: Emission (Class A) and Immunity; RoHS Directive;
	China RoHS; WEEE Directive

*Operating Range listed is for the module only. Operating Range of pluggable interface(s) used may differ.

	Model Number	Description	Data Rate	Connectors	Compatible XFPs
Ordering Info*	**EM316-2XFP**	10 Gig Transponder, based on dual XFP pluggable optics	Data rate independent, protocol transparent from 9.95 to 11.32 Gbps	XFP (x2)	See table A
	EM316-2XFP-ET	10 Gig Transponder, based on dual XFP pluggable optics with 10 Gig Ethernet LAN PHY External Reference Clock	Data rate independent, protocol transparent from 9.95 to 11.32 Gbps	XFP (x2)	See table A and table B

*Wavelength, budget, and range are all dependant upon installed XFPs.

	Model Number	Description
Table A	**XFP-DWIR204-XX**	OC192/STM-64, 10GE or 10G FC, SM DWDM (XX + ITU C-Band Channels 17-61 for 100 GHZ), 40 km, with Digital Diagnostics.
	XFP-DWLR08-XX	OC192/STM-64, 10GE or 10G FC, SM DWDM (XX + ITU C-Band Channels 17-61 for 100 GHZ), 80 km, with Digital Diagnostics.
	XFP-10GD-SX	XFP 10-GbE, or 10GFC, MM, 850nm, 300M with Digital Diagnostics.
	XFP-10GD-MMX	XFP 10-GbE, or 10GFC, Extended MM, 1310nm, 500m with Digital Diagnostics.
	XFP-10GD-LR	XFP OC192/STM-64, 10GE or 10G FC, SM, 1310nm, 10km, with Digital Diagnostics.
	XFP-10GD-IR2	OC192/STM-64, 10GE or 10G FC, SM, 1550nm, 40km, with Digital Diagnostics.
	XFP-10GD-LR2	OC192/STM-64, 10GE or 10G FC, SM, 1550nm, 80km, with Digital Diagnostics.
	XFP-CX4	10GBase-CX4 Copper Transceiver, compliant per IEEE 802.3ak. Reaches 15 meters.

	Model Number	Description
Table B	**XFP-DWIR04P-XX**	OC192/STM-64, 10GE or 10G FC, SM DWDM (XX + ITU C-Band Channels 17-61 for 100 GHZ), 40 km, with Digital Diagnostics. *External protocol-specific reference clock required.*
	XFP-DWLR08P-XX	OC192/STM-64, 10GE or 10G FC, SM DWDM (XX + ITU C-Band Channels 17-61 for 100 GHZ), 80 km, with Digital Diagnostics. *External protocol-specific reference clock required.*
	XFP-DWLR12P-XX	OC192/STM-64, 10GE or 10G FC, SM DWDM (XX + ITU C-Band Channels 17-61 for 100 GHZ), 120 km, with Digital Diagnostics. *External protocol-specific reference clock required.*
	XFP-10GD-IR04P	OC192/STM-64, 10GE or 10G FC, SM, 1550nm, 40km, with Digital Diagnostics. *External protocol-specific reference clock required.*
	XFP-10GD-LR08P	OC192/STM-64, 10GE or 10G FC, SM, 1550nm, 80km, with Digital Diagnostics. *External protocol-specific reference clock required.*
	XFP-10GD-LR12P	OC192/STM-64, 10GE or 10G FC, SM, 1550nm, 120km, with Digital Diagnostics. *External protocol-specific reference clock required.*

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