



EM316FC400



Overview

The Fiber Driver® EM316FC400 module extends the power of the Optical Multi-Service Platform to high capacity Storage Array Networks using up to 4 Gbps Fibre Channel traffic. The EM316FC400 covers all three Fibre Channel formats as defined by FCIA, including 1, 2, and 4 Gbps, for transport of native Fibre Channel and FICON traffic.

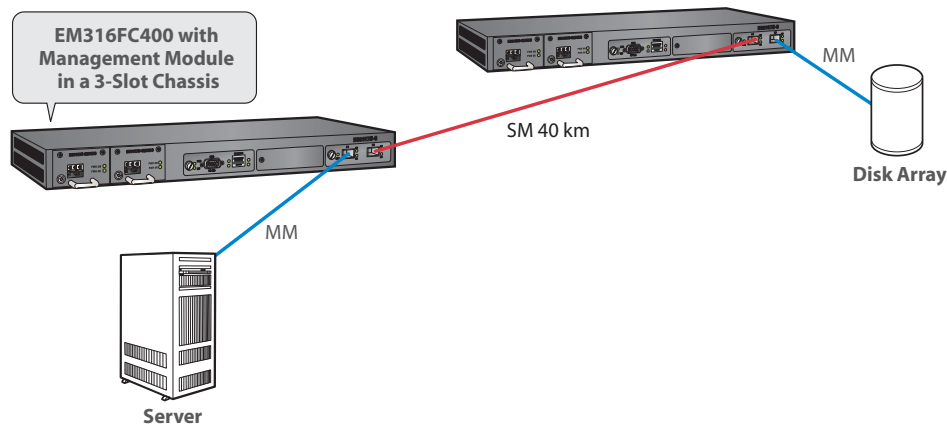
The EM316FC400 is a compact one-slot module with two SFP interface ports. Installation and setup is simple plug-n-play, and the module is hot-swappable in any powered Fiber Driver chassis. Simply insert the SFP transceivers required for the wavelength and distance of the application, and then connect to the network.

EM316FC400 connection types change by hot-swapping SFP transceivers. The portable transceivers may be reused with other modular Fiber Driver equipment. Sharing backup devices reduces inventory needs and maximizes the return on investment (ROI).

Features

- Multiple application modular design
 - Media converter (MM to SM)
 - CWDM /DWDM transponder
 - Repeater
- Two SFP ports
 - Multi-mode
 - Single-mode (short or long haul)
 - CWDM & DWDM
- 1, 2, and 4 Gbps Fibre Channel and FICON support
- Transmission distances limited only by SFPs
- Easy installation
 - Hot-swapping and plug-n-play support
 - Flexible and scalable network design
 - Fiber Driver chassis integration
- EM316LNxNM-OT network management
 - SNMP support
 - MegaVision Pro® support (through SNMP)
 - Command line interface (CLI) administration
- Powerful management support
 - Automatic rate detection and clock recovery circuitry
 - Link Integrity Notification (LIN) support
 - Module loopback
 - Optical Performance Monitoring - Digital Diagnostics (SFF-8472)

Typical Application: SAN Extension over Fiber





MRV offers a wide range of SFPs compatible with the EM316FC400. The transceiver ranges include multi-mode and single-mode, either short-haul or long-haul. There are also SFPs for Coarse or Dense Wave Division Multiplexing.

The choice of SFPs defines the module functionality, allowing it to operate in several modes.

- Media converter for extended range (multi-mode to single-mode)
- xWDM transponder (MM/SM access to CWDM/DWDM network line)
- Repeater (long haul single-mode gray or xWDM on each interface)

The EM316FC400 is transparent to edge device speed negotiation processes, and it automatically adjusts its clock recovery (CDR) circuits to the appropriate rate of 1, 2, or 4 Gbps.

The module is designed with administration and installation in mind. It requires no provisioning, as a truly an out-of-box plug-and-play solution.

The EM316FC400 also offers advanced module loopback capabilities on each interface, which eases the challenge of validating the installation, debugging the optical link, and finding potential faults on either the client or line interface.

The EM316FC400 offers Link Integrity Notification (LIN), the Fiber Driver® status propagation mechanism that enables link-dependent devices to route network traffic intelligently and transparently in a SAN or other sensitive network.

The module fully supports the SFP MSA standard including full optical performance monitoring (OPM) based on Digital Diagnostics according to SFF-8472. The advanced OPM detects optical link degradation that may be caused by bad connectors or splices, old fiber, or other issues. Discovering link weakness before imminent failure can save significant operational expenses.

The EM316FC400 supports SNMP and command line interface (CLI) through the EM316LNxNM-OT Fiber Driver® Network Management module. Although manageable through any SNMP network management system, MegaVision Pro® adds a unique graphical user interface (GUI) for all MRV Fiber Driver devices including the EM316FC400. Administrators have a powerful alternative to the CLI through windows that mirror the actual Fiber Driver modules being managed. Information available for the EM316FC400 includes SFP status, real-time wavelength access, hardware configuration, and other vendor-specific information.

Visit the MRV website at <http://www.mrv.com> or contact an MRV representative for additional information, pricing, and availability for the EM316FC400 and the full line of MRV Communications products.

Physical Specifications

Operating Temperature Range	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
Approximate Physical Dimensions	25 mm x 75 mm x 175 mm deep (1" x 3" x 7" deep)
Approximate Weight	120g (4.2oz)
Regulatory Compliance	FCC Part 15 (Class A); IC (Class A); EMC Directive: Emission (Class A) and Immunity; RoHS Directive; China RoHS; WEEE Directive

**Ordering Information**

Model	Function	Protocol	Connectors Port/Link	Wavelength (nm) Port / Link	Budget (dB) Port / Link	Range Port / Link
EM316FC400	Dual SFP 1/2/4Gbps Fibre Channel Converter/ Transponder	1/2/4 Gbps Fiber Channel	SFP (x2)	N/A or SFP / SFP Dependent	N/A or SFP / SFP Dependent	N/A or SFP / SFP Dependent

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