



Ethernet/Fast Ethernet Copper to Fiber



Overview

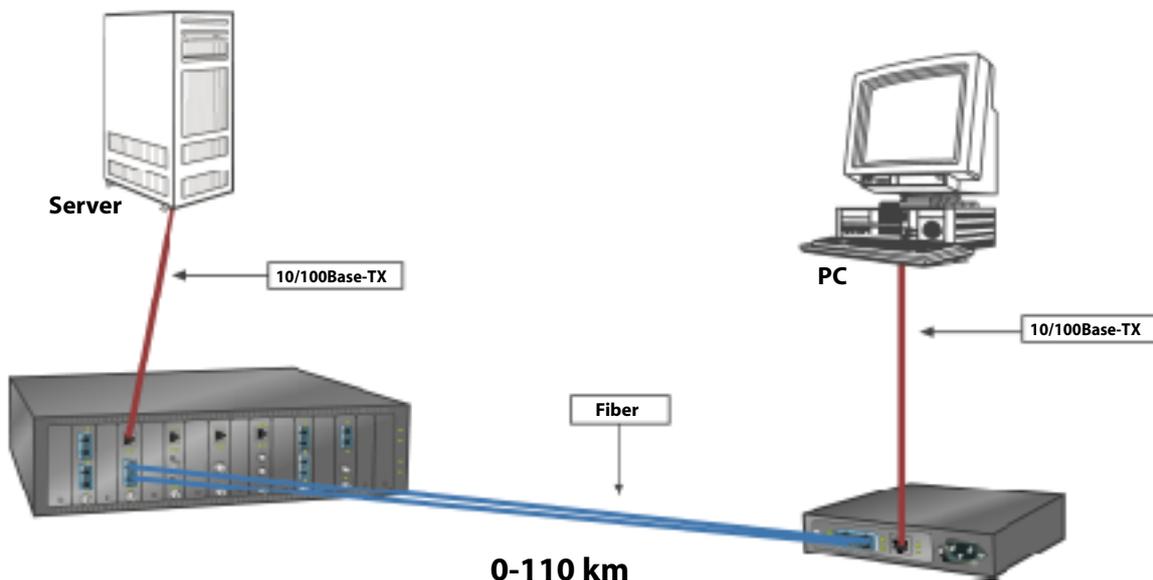
The new Fiber Driver(tm) Ethernet/Fast Ethernet Copper to Fiber (EM316EF) media converter provides the ability to extend the reach of LANs using new or existing fiber plant. It is designed so that any application can benefit from the flexibility of managed OE (Optical Ethernet) services. The device supports conversion between:

10Base-TX and 10Base-FL
100Base-TX and 100Base-FX

The Fiber Driver product family from MRV Communications provides more fiber media conversion solutions with greater distances and better manageability than any product line available today. The EM316EF is offered with Singlemode (SM) and Multimode (MM) optics, including our advanced MMX (Multimode Extender) technology. Links distance of 110 km or more can be reached over SM fiber, and up to 8 km over MM. Single fiber solutions are available with link distance of up to 100 km or more.

Features

- Copper-to-Fiber media conversion: 10Base-TX to 10Base-FL and 100Base-TX to 100Base-FX
- Transmission distances of up to 110+ km on SM, up to 8 km MM
- Supports autonegotiation
- Compatible with any IEEE 802.3 compliant device
- Link Integrity Notification (LIN) - end-to-end link state continuity
- Hot-swappable
- SNMP managed, MegaVision Web Supported



The Ethernet/Fast Ethernet Copper-to-Fiber media converter unit is compatible with any IEEE 802.3 compliant network device. It supports autonegotiation of both speed and duplex, and allows for these parameters to be set manually using the provided on-board jumpers.

The EM316EF is a single slot module and can be deployed in any powered Fiber Driver chassis. It is SNMP manageable through our own MegaVision Web or any SNMP-enabled NMS (Network Management System) when paired with a Fiber Driver Network Management Module (EM316NM).

The management features of the Ethernet/Fast Ethernet module include Link Integrity Notification (LIN), which ensures end-to-end link state continuity. With LIN enabled, the loss of link on any port (copper or fiber) of one module will cause all the ports of each module at the ends of the effected link to be disabled. In this way, switches/routers that are connected to the EM316EF modules and which operate with link state dependant protocols such as Spanning Tree or OSPF will detect and respond to the connection fault appropriately.

For additional information on this or any Fiber Driver product, including pricing and availability, contact your MRV Communications sales representative.

Physical Specifications: 10/100Base-TXCopper to Fiber

Operating Temperature Range:	0°C to 50°C (32°F to 122°F)
Storage Temperature:	-40°C to 95°C (-40°F to 203°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:	120 - 240 g (4.2 - 8.5 oz) depending on configuration
Emission Compliance:	FCC - PART 15, SUBPART B, 1999, CLASS A; CE MARK - EN 50081-1:1992;
	EN 50082:1997; EN 55024:1998; EN 55022:1998; AS/NZS 3548:1995

DUAL FIBER

Ordering Info	Part Number	Function	Protocol Port / Link	Connectors ¹ Port/Link	Wavelength (nm) Port / Link	Budget (dB) ² Port / Link	Range ³ Port / Link
		EM316EF/M	Autonegotiate 10/100Base-TX Ethernet Copper to Multimode, Dual Fiber	Ethernet / Fast Ethernet	RJ-45 / DSC	NA / 1310	NA / NA
	EM316EF/MX	Autonegotiate 10/100Base-TX Ethernet Copper to Extended Multimode, Dual Fiber	Ethernet / Fast Ethernet	RJ-45 / DSC	NA / 1310	NA / NA	1-100 m / 2-8 km
	EM316EF/S	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Dual Fiber	Ethernet / Fast Ethernet	RJ-45 / DSC	NA / 1310	NA / 12	1-100 m / 0-20 km
	EM316EF/S1	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Dual Fiber	Ethernet / Fast Ethernet	RJ-45 / DSC	NA / 1330	NA / 17	1-100 m / 0-35 km
	EM316EF/S2	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Dual Fiber	Ethernet / Fast Ethernet	RJ-45 / DSC	NA / 1310	NA / 24	1-100 m / 25-45 km
	EM316EF/S3	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Dual Fiber	Ethernet / Fast Ethernet	RJ-45 / DSC	NA / 1550	NA / 24	1-100 m / 35-90 km
	EM316EF/S4	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Dual Fiber	Ethernet / Fast Ethernet	RJ-45 / DSC	NA / 1550	NA / 29	1-100m / 40-110 km

¹ Default connectors listed, others optional.

² Higher budgets available.

³ Distances are approximate and assume 9µ SM and 62.5µ MM.

SINGLE FIBER

Ordering Info	Part Number	Function	Protocol Port / Link	Connectors ¹ Port/Link	Wavelength (nm) Port / Link	Budget (dB) ² Port / Link	Range ³ Port / Link
	EM316EFSF/S2	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Single Fiber	Ethernet / Fast Ethernet	RJ-45 / SC-APC	NA / 1310	NA / 18	1-100 m / 0-35 km
	EM316EFSF/S3	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Single Fiber	Ethernet / Fast Ethernet	RJ-45 / SC-APC	NA / 1550	NA / 18	1-100 m / 25-70 km
	EM316EFSF/S4	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Single Fiber	Ethernet / Fast Ethernet	RJ-45 / SC-APC	NA / 1550	NA / 24	1-100 m / 35-100 km
	EM316WEFC/S2	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Single Fiber (Used in pairs with the M316WEFT/S2.)	Ethernet / Fast Ethernet	RJ-45 / SC-APC	NA / 1550	NA / 14	1-100 m / 0-30 km
	EM316WEFT/S2	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Single Fiber (Used in pairs with the M316WEFC/S2.)	Ethernet / Fast Ethernet	RJ-45 / SC-APC	NA / 1310	NA / 14	1-100 m / 0-30 km
	EM316WEFC/S3	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Single Fiber (Used in pairs with the M316WEFT/S3.)	Ethernet / Fast Ethernet	RJ-45 / SC-APC	NA / 1550	NA / 22	1-100 m / 20-45 km
	EM316WEFT/S3	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Single Fiber (Used in pairs with the M316WEFC/S3.)	Ethernet / Fast Ethernet	RJ-45 / SC-APC	NA / 1310	NA / 22	1-100 m / 20-45 km
	EM316WEFC/S4	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Single Fiber (Used in pairs with the M316WEFT/S4.)	Ethernet / Fast Ethernet	RJ-45 / SC-APC	NA / 1550	NA / 28	1-100 m / 40-100 km
	EM316WEFT/S4	Autonegotiate 10/100Base-TX Ethernet Copper to Singlemode, Single Fiber (Used in pairs with the M316WEFC/S4.)	Ethernet / Fast Ethernet	RJ-45 / SC-APC	NA / 1520	NA / 28	1-100 m / 40-100 km

¹ Default connectors listed, others optional.

² Higher budgets available.

³ Distances are approximate and assume 9µ SM and 62.5µ MM.

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