Ethernet Switches

Overview

The Fiber Driver™ family includes three types of switch modules: three-, four-, and six-port Ethernet/Fast Ethernet switches. Switch modules are used to link between 10Mbps and 100Mbps or Half to Full Duplex mode. Switch modules offer a combination of 10/100Base-TX ports and 100Base-FX ports. They separate between Ethernet collision domains and filter local traffic from propagating to the rest of the network.

Switch modules receive power directly from the chassis. They are hot-swappable and SNMP configurable when installed in a managed Fiber Driver chassis with the Fiber Driver management module. They can be configured via Fiber Driver's MegaVision Web™ comprehensive NMS or by any SNMP MIB browser. Switch modules support basic port configuration such as speed and Duplex Mode, but do not support Spanning Tree or VLAN configuration.

All switch modules support aging and can forward extended size frames, including jumbo frames up to 6k and the 802.1Q VLAN packet format of 1536.

Three Port Ethernet/Fast Ethernet Switches

The three-port Ethernet/Fast Ethernet switch modules (EM316-3SW) have two 10/100Base-TX ports and one 100Base-FX fiber port. The UTP ports can be configured for Half or Full Duplex operation and either 10Mbps or 100Mbps. The fiber port is fixed at 100Mbps and can be set to either Half or Full Duplex. This module can be used to convert copper to fiber, 10Mbps to 100Mbps, and Half Duplex to Full Duplex. Offered with various optical interfaces, it can support both Multimode and Singlemode applications to distances ranging up to 100 km on Singlemode fiber. Single Fiber versions allow users to use one fiber strand out of the two available strands, effectively doubling the amount of available fiber.

Features

3 port switches

- Two 10/100Base-TX ports and one 100Base-FX port
- Supports long frames and aging
- Collision domain isolation and local traffic filtering (switch function)
- A bridge between different speeds (10 to 100Mbps)
- SNMP managed
- Hot swappable
- 100Base FX port reaching distances of up to 100 km
- Fits in all Fiber Driver chassis

4 port switches

- Four 10/100Base-TX ports
- Per port configuration of Half to Full duplex and 10/100Mbps
- Supports long frames and aging
- Collision domain isolation and local traffic filtering (switch function)
- A bridge between different speeds (10 to 100Mbps)
- SNMP managed
- Hot swappable
- Fits in all Fiber Driver chassis

6 port switches

- Four 10/100Base-TX ports and two 100Base-FX ports
- Per port configuration of Half to Full duplex and 10/100Mbps
- Supports long frames and aging
- Collision domain isolation and local traffic filtering (switch function)
- A bridge between different speeds (10 to 100Mbps)
- SNMP managed
- Hot swappable
- 100Base-FX ports reaching distances of up to 110 km
- Provides 4 port add/drop between fiber links
- Fits in the 2 and the 16 slot Fiber Driver chassis

Four Port Ethernet/Fast Ethernet Switches

The four-port Ethernet/Fast Ethernet switch module (EM316-4SW) offers four UTP ports that can auto-negotiate between 10Mbps and 100Mbps and between Full and Half Duplex. Management allows users to configure each port to 10 or 100Mbps and to Full or Half Duplex.

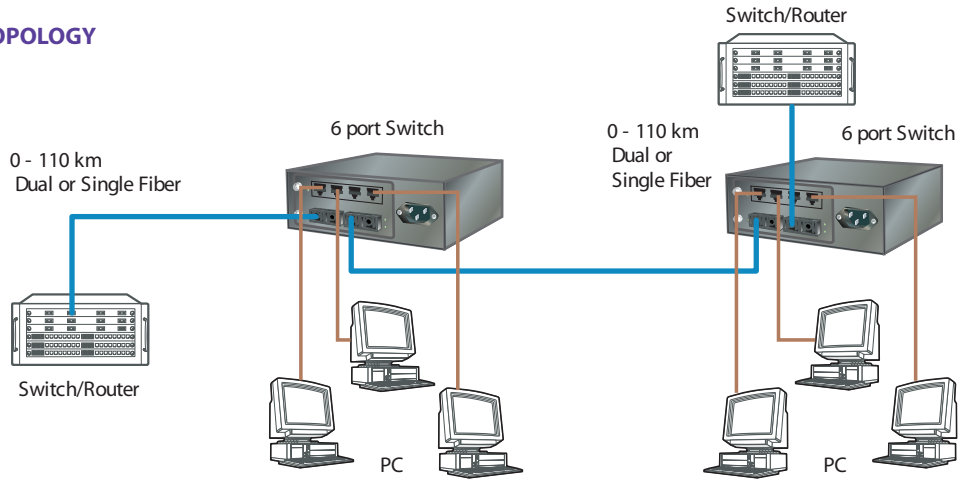
Six Port Ethernet/Fast Ethernet Switches

The six-port Ethernet/Fast Ethernet switch modules (EM316-6SW) include four autosensing 10/100Base-TX ports and two 100Base-FX ports. Offered with different optical interfaces, the fiber ports can support both Multimode and Singlemode applications and distances ranging up to 110 km on Singlemode fibers. These ports are offered in a standard dual fiber version or in a Single Fiber version. Single Fiber versions allow users to use one fiber strand out of the two available strands, effectively doubling the amount of available fiber.

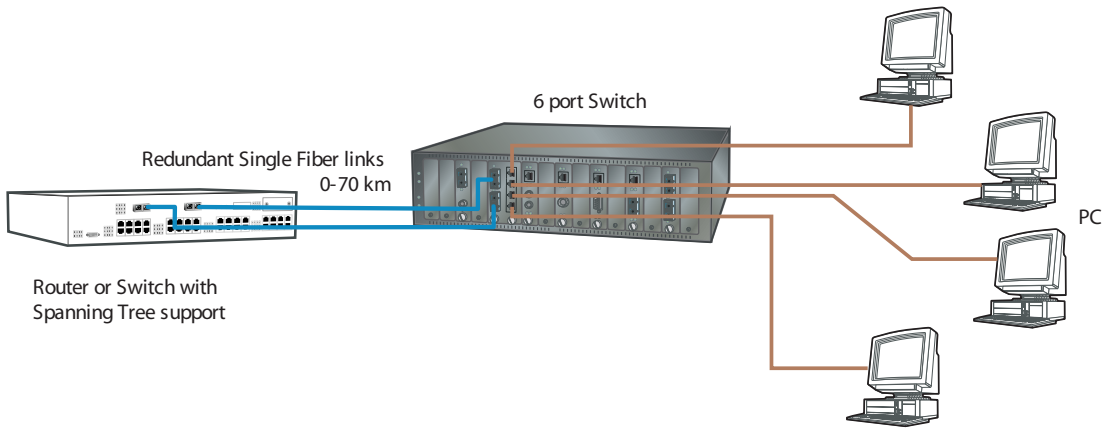
The 10/100Base-TX ports can auto-negotiate between 10 and 100Mbps and between Half and Full Duplex, or can be configured by using management.

For additional information including pricing and availability, contact your MRV Communications sales representative today.

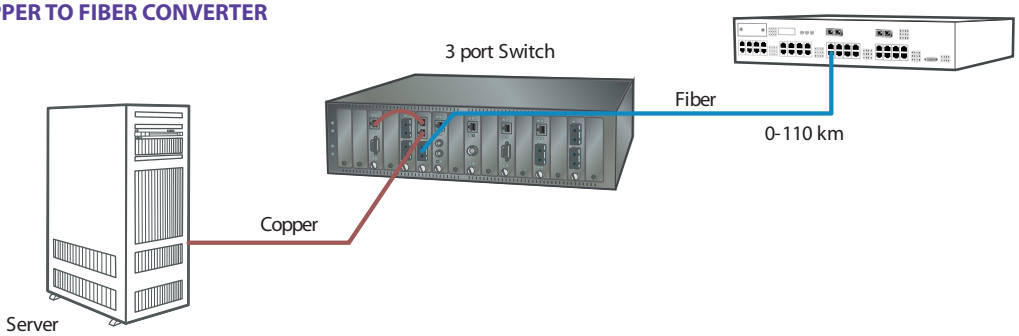
BUS TOPOLOGY



REMOTE STAR



COPPER TO FIBER CONVERTER



Physical Specifications: Ethernet Switches	
Operating Temperature Range:	0°C to 50°C (32°F to 122°F)
Storage Temperature:	-10°C to 60°C (-14°F to 140°F)
Relative Humidity:	85% maximum, non-condensing
Physical Dimensions: 3- and 4-Port Switches	25 mm x 75 mm x 175 mm deep (1" x 3" x 7" deep)
Physical Dimensions: 6-Port Switches	50 mm x 75 mm x 175 mm deep (2" x 3" x 7" deep)
Weight: 3- and 4-Port Switches	Approximately 213 g (7.5 oz)
Weight: 6-Port Switches	Approximately 272 g (9.6 oz)
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

3-PORT ETHERNET / FAST ETHERNET SWITCHES

Ordering Info

Part Number	Function	Protocol	Connectors* Port/Link	Wavelength	Minimum Loss Budget (dB)	Range** Approx. (km)
EM316-3SW/M	2 ports 10/100Base-TX Autosensing and 1 port 100Base-FX. MM fiber output.	Ethernet / Fast Ethernet	2 RJ-45; 1 DSC	1310 nm	N/A	0 - 2
EM316-3SW/MX	2 ports 10/100Base-TX Autosensing and 1 port 100Base-FX. MM fiber output.	Ethernet / Fast Ethernet	2 RJ-45; 1 DSC	1310 nm	N/A	2 - 8
EM316-3SW/S	2 ports 10/100Base-TX Autosensing and 1 port 100Base-FX. SM fiber output.	Ethernet / Fast Ethernet	2 RJ-45; 1 DSC	1310 nm	12	0 - 20
EM316-3SW/S1	2 ports 10/100Base-TX Autosensing and 1 port 100Base-FX. SM fiber output.	Ethernet / Fast Ethernet	2 RJ-45; 1 DSC	1310 nm	17	0 - 35
EM316-3SW/S2	2 ports 10/100Base-TX Autosensing and 1 port 100Base-FX. SM fiber output.	Ethernet / Fast Ethernet	2 RJ-45; 1 DSC	1310 nm	24	25 - 45
EM316-3SW/S3	2 ports 10/100Base-TX Autosensing and 1 port 100Base-FX. SM fiber output.	Ethernet / Fast Ethernet	2 RJ-45; 1 DSC	1550 nm	24	35 - 90
EM316-3SW/S4	2 ports 10/100Base-TX Autosensing and 1 port 100Base-FX. SM fiber output.	Ethernet / Fast Ethernet	2 RJ-45; 1 DSC	1550 nm	29	40-110
EM316-3SWSF/S2	2 ports 10/100Base-TX Autosensing and 1 port 100Base-FX. Single Fiber SM output.	Ethernet / Fast Ethernet	2 RJ-45; 1 SC-APC	1310 nm	18	0 - 35
EM316-3SWSF/S3	2 ports 10/100Base-TX Autosensing and 1 port 100Base-FX. Single Fiber SM output.	Ethernet / Fast Ethernet	2 RJ-45; 1 SC-APC	1550 nm	18	25 - 70
EM316-3SWSF/S4	2 ports 10/100Base-TX Autosensing and 1 port 100Base-FX. Single Fiber SM output.	Ethernet / Fast Ethernet	2 RJ-45; 1 DSC	1550 nm	24	35-100

*Default connectors listed, other connectors are optional
**All specifications, distance claims and operational parameters are based on industry average fiber cable performance; 9µ Singlemode performance of 0.25 dB/km for 1550 nm and 0.5 dB/km for 1310 nm, and 62.5µ Multimode performance of 3 dB/km for 850 nm and 1.5 dB/km for 1300 nm. For non-standard fiber applications or additional information contact MRV Communications

4-PORT ETHERNET / FAST ETHERNET SWITCHES

Ordering Info

Part Number	Function	Protocol	Connectors* Port/Link	Wavelength	Minimum Loss Budget (dB)	Range Approx. (m)
EM316-4SW	4-port 10/100Base-TX Autosensing Switch (UTP)	Ethernet / Fast Ethernet	4 RJ-45	N/A	N/A	1 - 100

6-PORT ETHERNET / FAST ETHERNET SWITCHES

Ordering Info

Part Number	Function	Protocol	Connectors* Port/Link	Wavelength	Minimum Loss Budget (dB)	Range** Approx. (km)
EM316-6SW/M	4 ports 10/100Base-TX Autosensing and 2 ports 100Base-FX. MM fiber output.	Ethernet / Fast Ethernet	4 RJ-45; 2 DSC	1310 nm	N/A	0 - 2
EM316-6SW/MX	4 ports 10/100Base-TX Autosensing and 2 ports 100Base-FX. MM fiber output.	Ethernet / Fast Ethernet	4 RJ-45; 2 DSC	1310 nm	N/A	2 - 8
EM316-6SW/S1	4 ports 10/100Base-TX Autosensing and 2 ports 100Base-FX. SM fiber output.	Ethernet / Fast Ethernet	4 RJ-45; 2 DSC	1310 nm	17	0 - 35
EM316-6SW/S2	4 ports 10/100Base-TX Autosensing and 2 ports 100Base-FX. SM fiber output.	Ethernet / Fast Ethernet	4 RJ-45; 2 DSC	1310 nm	24	25 - 45
EM316-6SW/S3	4 ports 10/100Base-TX Autosensing and 2 ports 100Base-FX. SM fiber output.	Ethernet / Fast Ethernet	4 RJ-45; 2 DSC	1550 nm	24	35 - 90
EM316-6SW/S4	4 ports 10/100Base-TX Autosensing and 2 ports 100Base-FX. Single fiber output.	Ethernet / Fast Ethernet	4 RJ-45; 2 DSC	1550 nm	29	40-110
EM316-6SWSF/S2	4 ports 10/100Base-TX Autosensing and 2 ports 100Base-FX. Single Fiber SM output.	Ethernet / Fast Ethernet	4 RJ-45; 2 SC-APC	1310 nm	18	0 - 35
EM316-6SWSF/S3	4 ports 10/100Base-TX Autosensing and 2 ports 100Base-FX. Single Fiber SM output.	Ethernet / Fast Ethernet	4 RJ-45; 2 SC-APC	1550 nm	18	25 - 70
EM316-6SWSF/S4	4 ports 10/100Base-TX Autosensing and 2 ports 100Base-FX. Single Fiber SM output.	Ethernet / Fast Ethernet	4 RJ-45; 2 SC-APC	1550 nm	24	35-110

*Default connectors listed, other connectors are optional
**All specifications, distance claims and operational parameters are based on industry average fiber cable performance; 9µ Singlemode performance of 0.25 dB/km for 1550 nm and 0.5 dB/km for 1310 nm, and 62.5µ Multimode performance of 3 dB/km for 850 nm and 1.5 dB/km for 1300 nm. For non-standard fiber applications or additional information contact MRV Communications

For additional information including pricing and availability, contact your MRV Communications sales representative.

MRV has more than 50 offices throughout the world. Addresses, phone numbers, and fax numbers are listed at www.mrv.com.
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