FX82051 Unmanaged Ethernet Switch

FIVE 10BASE-T/100BASE-TX PORTS AND ONE 100BASE-FX FIBER PORT

Product Features

- Unmanaged Ethernet Switch for the Transport of Bidirectional Ethernet Data:
    - Five 10BASE-T/100BASE-TX Ports
    - One 100BASE-FX Port That Accepts 2 Fibers
- Compatibility with Third-Party 100BASE-FX Ethernet Equipment (Multimode ST and SC Models Only)
- Designed for Point-to-Point Applications
- User-Selectable Networking Functions for Each 10BASE-T/100BASE-TX Port:
    - Autonegotiation Between 10 Mbps and 100 Mbps Data Rates and Between Full-Duplex and Half-Duplex Modes
    - 10 Mbps or 100 Mbps Selectable
    - Full-Duplex or Half-Duplex Mode Selectable
    - Enabling/Disabling of Flow Control
- Auto MDI/MDI-X (Medium Dependent Interface/Medium Dependent Interface Crossover) Operation
- Compliant with IEEE 802.3, 802.3u, and 802.3x Standards
- Multimode Fiber Support for Distances up to 6 km
- Single-Mode Fiber Support for Distances up to 46 km
- Laser Diode for Transmission of Optical Signals
- Environmentally Hardened

- Designed to Meet NEMA TS 2 and Caltrans Traffic Signal Control Equipment Environmental Standards
- No Performance Adjustments Required
- 12 VDC or 24 VAC Power Supply
- Stand-Alone and Rack-Mountable Modular Design
- LED Indicators for Monitoring of Optic Signal/Laser Status, 100BASE-FX Port Status Including Far End Fault Indication (FEFI), 10BASE-T/100BASE-TX Port Status, and Operating Power

The **FX82051** unmanaged Ethernet switch provides five 10BASE-T/100BASE-TX ports and one 100BASE-FX fiber port for the transport of bidirectional Ethernet data. Two fibers are required to transport bidirectional data over the fiber port. Available in multimode and single-mode versions, the **FX82051** switch is designed for point-to-point applications.

The fiber port on the **FX82051** switch is forced to full-duplex 100 Mbps operation. Networking functions for each of the five 10BASE-T/100BASE-TX ports (RJ-45 twisted-pair copper ports) are user-selectable by means of a rotary switch. Autonegotiation allows a 10BASE-T/100BASE-TX port to automatically negotiate between 10 Mbps and 100 Mbps data rates and between full-duplex and half-duplex modes. If autonegotiation is not desired, a port can be forced to specific modes of operation: 10 Mbps or 100 Mbps data rate, half-duplex or full-duplex mode, and the enabling/disabling of flow control. The auto MDI/MDI-X feature allows each RJ-45 port to connect to either a straight-through or crossover RJ-45 cable.

Modular in design, the **FX82051** unit can be rack mounted or can be used as a stand-alone module. Rack mounting is accomplished using the RK5000 Series rack mount chassis. As a stand-alone module, the unit can be placed on a desktop or can be mounted to a wall.

FIVE 10/100 Mbps CONNECTIONS

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TWO FIBERS

International Standards Organization Registered Firm; ISO 9001 Quality System

MODELS

Model Number	Fiber Optic Connector Type	Number of Fibers	Wavelength (Transmit/ Receive)	Optical Power Budget	Maximum Transmission Distance	Supplied Accessories
Multimode (62.5/125 µm)						Regulated switching power supply with multiple plug adapters (North American, Australian, United Kingdom, and European); 100-240 VAC, 50-60 Hz input, 12 VDC output
FX82051MSTR-2	ST	2	1310/1310 nm	26 dB*	6 km (3.7 mi)†	
FX82051MSCR-2	SC	2	1310/1310 nm	26 dB*	6 km (3.7 mi)†	**Note:** In extreme temperature conditions, it is recommended that an industrial-rated outdoor power supply be used.
Single-Mode (9/125 µm)						
FX82051SSTR-2	ST	2	1310/1310 nm	28 dB	46 km (28.6 mi)‡	Wall clip for attachment of single module to wall
FX82051SSCR-2	SC	2	1310/1310 nm	28 dB	46 km (28.6 mi)‡	

*When using 50/125 µm multimode fiber, subtract 3 dB from the optical power budget.
† Maximum transmission distance is limited by fiber bandwidth.
‡ Maximum transmission distance is based on attenuation of 0.5 dB/km plus a 5 dB buffer for connector and splice losses.

Notes:
- Single-mode FC connectors are available upon request. Contact the factory for additional information.
- For conformal coated models, replace the first letter *F* in the model number with the letter *C*. The conformal coated version of FX82051MSTR-2, for example, is CX82051MSTR-2.
- For models with higher optical power budgets, contact the factory.

PERFORMANCE

Switch Type	Unmanaged Layer 2
Switch Method	Store and forward
Switch Fabric	Non-head-of-line blocking
Data Rate	10/100 Mbps
Compliance	IEEE 802.3, 802.3u, 802.3x
Interface	Auto MDI/MDI-X
Operating Mode	Half-duplex or full-duplex
Address Table Size	1,024 MAC address entries with automatic learning and aging
Quality of Service	IEEE 802.1p priority, tag-based, 4 queues per port, weighted fair queuing scheduling
Maximum Frame Size	Untagged Ethernet frames up to 1,518 bytes Tagged Ethernet frames up to 1,522 bytes

GENERAL

Operating Temperature	-40° to 167°F (-40° to 75°C)
Input Power Requirements	12 VDC or 24 VAC, 0.50 A
LED Indicators	Power
	100BASE-FX Port Status (link/activity, FEFI)
	Optic Fault (optic signal/laser status)
	10BASE-T/100BASE-TX Port Status (link/activity and speed, duplex/collision and speed)
Dimensions	8.75" D x 2.28" W x 4.81" H (22.23 x 5.79 x 12.22 cm)
Unit Weight	2.4 lb (1.09 kg), approximate
Shipping Weight	4.0 lb (1.81 kg)

MECHANICAL

Connectors

Rack Power/Alarm	1, 4-pin connector
Stand-Alone Power	1, 2-pin connector, screw terminal
Electrical	5, RJ-45, 10BASE-T/100BASE-TX
Fiber Optic	1, dual-fiber ST or SC

CERTIFICATIONS

- CE, Class A
- UL Listed
- UL Listed to Canadian safety standards
- FCC, Class A
- C-Tick
- Complies with FDA requirements for Class 1 laser products
- Designed to meet NEMA TS 2 and Caltrans traffic signal control equipment standards for ambient operating temperature, mechanical shock and vibration, humidity with condensation, high-line/low-line voltage conditions, and transient voltage protection (certification pending)

  Note: Conformal coating is required for operation in environments with relative humidity above 95% (condensing).

OPTIONAL ACCESSORIES

WM5002-3U	Wall mount base kit for double-width module
WM5002-3UEXP	Wall mount expansion kit for double-width module
RK5000-3U	19-inch rack mount chassis for 14 slots, no power (3 RUs)
RK5000PS-3U	19-inch rack mount chassis for 12 slots with power (3 RUs)
EPS5000-120	External rack power supply, 1 RU, dual 120 W power outputs
RK5001B-3U	Blank filler panel, single width
RK5002B-3U	Blank filler panel, double width
RK5002-1UEXP	Adapter kit that allows a 3 RU double-width fiber module to be used in RK5100PS-5U rack mount chassis