

EX71000 Series

Managed Hardened 8-port 10/100BASE and 2 Gigabit ports Ethernet Switch with SFP options



Overview



Designed for rugged environments, the EX71000 series switch comes with eight 10/100BASE-TX FX/BX/SFP plus two 10/100/1000BASE-TX and/or 1000BASE-SX/LX/BX/SFP ports in a

package. The EX71000 functions at temperatures ranging from -40°C to 75°C (-40°F to 167°F) and is tested for functional operation @ -40°C to 85°C (-40°F to 185°F). Fully managed via SNMP, Web Browser, Telnet or Console port. The EX71000 is designed to integrate 10/100 Mbps networks into Gigabit backbones. The EX71000 series supports advanced features such as 802.1Q VLAN, MAC-based Trunking, IP-Multicast IGMP Snooping, Rapid Spanning Tree for Redundancy, QoS for priority queuing, and port mirroring. Users may choose among SNMP/RMON, Web browser, or Telnet for remote monitoring and configuration. It also supports rate control, which allows users to set the maximum bandwidth on each port individually.

Features

- ▶ Complies with EN50121-4 Environmental requirement for Railway applications
- ▶ Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- ▶ Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- ▶ EtherWAN proprietary "α-ring" support for network redundancy; recovery time < 15ms
- ▶ IEEE802.1w RSTP, IEEE802.1S MSTP and IEEE802.1D STP compatible
- ▶ IP Multicast Filtering through IGMP Snooping V1, V2 & V3
- ▶ Supports port-based VLAN and IEEE802.1Q VLAN Tagging and GVRP
- ▶ IEEE802.1p QoS with four priority queues
- ▶ MAC-based trunking with automatic link fail-over
- ▶ RS-232 console, Telnet, SSL/SSH, SNMP V1, V2c & V3, RMON, Web Browser, and TFTP Management
- ▶ Supports Command Line Interface in RS-232 Console
- ▶ Supports IEEE802.1x Security
- ▶ Bandwidth Rate Control
- ▶ Per-port programmable MAC address locking
- ▶ Up to 24 Static Secure MAC addresses per port
- ▶ Port mirroring
- ▶ 1000Mbps-Full-duplex, 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- ▶ Full wire-speed forwarding rate
- ▶ Redundant power inputs with Terminal Block and DC Jack
- ▶ -40°C to 75°C (-40°F to 167°F) operating temperature range
- ▶ Hardened aluminum case
- ▶ Supports NTP

Ordering Information

EX71800-00Z	8-port 10/100BASE-TX Hardened Managed Ethernet switch
EX71801-0YZ	8-port 10/100BASE-TX + 1-port Gigabit Hardened Managed Ethernet switch
EX71802-0YZ	8-port 10/100BASE-TX + 2-port Gigabit Hardened Managed Ethernet switch
EX71620-XOZ	6-port 10/100BASE-TX + 2-port 100BASE-FX Hardened Managed Ethernet switch
EX71621-XYZ	6-port 10/100BASE-TX + 2-port 100BASE-FX + 1-port Gigabit Hardened Managed Ethernet Switch
EX71622-XYZ	6-port 10/100BASE-TX + 2-port 100BASE-FX + 2-port Gigabit Hardened Managed Ethernet Switch
EX71420-XOZ	4-port 10/100BASE-TX + 2-port 100BASE-FX Hardened Managed Ethernet Switch
EX71422-XYZ	4-port 10/100BASE-TX + 2-port 100BASE-FX + 2-port Gigabit Hardened Managed Ethernet Switch
EX71440-XOZ	4-port 10/100BASE-TX + 4-port 100BASE-FX Hardened Managed Ethernet Switch

100FX Fiber Options:

- (X) = 1 : Multi Mode (SC)
2 : Multi Mode (ST)
6 : Multi Mode (SC) WDM-TX:1310nm/RX:1550nm-2Km
7 : Multi Mode (SC) WDM-TX:1550nm/RX:1310nm-2Km
8 : Multi Mode (SC) WDM-TX:1310nm/RX:1550nm-5Km
9 : Multi Mode (SC) WDM-TX:1550nm/RX:1310nm-5Km
A : Single Mode (SC) -20Km
*More 100FX Fiber options also available upon request.

- B: Single Mode (SC) -40Km
H: Single Mode (ST) -20Km
P: Single Mode (SC) WDM -TX:1310nm/RX:1550nm -20Km
Q: Single Mode (SC) WDM -TX:1550nm/RX:1310nm -20Km
R: Single Mode (SC) WDM -TX:1310nm/RX:1550nm -40Km
S: Single Mode (SC) WDM -TX:1550nm/RX:1310nm -40Km
V: SFP Mode

Gigabit Options:

- (Y) = 1 : 10/100/1000BASE-TX
3 : 1000BASE-SX (SC)
A : 1000BASE-LX (SC) -10Km
B : 1000BASE-LX (SC) -20Km
*More Gigabit options also available upon request.
- R : 1000BASE-BX (SC) WDM -TX:1310nm/RX:1550nm -20Km
S : 1000BASE-BX (SC) WDM -TX:1550nm/RX:1310nm -20Km
V : 1000BASE-SFP Mode

Power Input Interface: (Z) = B : DC Jack & Terminal Block

Power Supply: (Optional)

- *Options A - Terminal Block power supply(s), part numbers: DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-X X=1,2,3,4,5
**Options B - DC Jack power supplies kit(s), part numbers: 41-136044-X X=1,2,3,4,5
*See page 5-9 to 5-16 for more detailed information about optional accessories (Din-Rail Power supply, Power adapter)

Installation Type: DIN Rail (mounting kit is included), Optional Panel Mount kits are available for ordering.

Specifications

Technology

Standards:

- IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX/100BASE-FX, IEEE802.3ab 1000BASE-T, IEEE802.3z 1000BASE-SX/1000BASE-LX, IEEE802.3x, IEEE802.1p, IEEE802.1Q, IEEE802.1w, IEEE802.1x

Forward and Filtering Rate:

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps
- 1,488,100pps for 1000Mbps

Packet Buffer Memory:

- 2M bits

Processing Type:

- Store-and-Forward
- Half-duplex back-pressure and IEEE802.3x full-duplex flow control

Address Table Size:

- 8192 MAC addresses

Power

Input:

- Input Voltage: 12 to 48VDC (Terminal Block); 12VDC (DC Jack)

Power Consumption:

- 11W Max. 0.92A@12VDC, 0.46A@24VDC

Overload Current Protection:

- Present

Reverse Polarity Protection:

- Present

Mechanical

Casing:

- Aluminum case
- IP 30

Dimensions:

- 60mm (W) x 125mm (D) x 145mm (H)
(2.36" (W) x 4.92" (D) x 5.7" (H))

Weight:

- 1.1Kg (2.42lbs.)

Installation:

- DIN-Rail

Interface

Ethernet Port:

- 10/100BASE-TX: 8, 6 or 4 port
- 100BASE-FX: 0 to 4 ports
- Gigabit: 0, 1 or 2 ports

Console Port:

- Port: One DB9 RS-232 port

LED Indicators:

- Per Unit: Power Status (Power 1, Power 2, Power 3)
- Per Port: 10/100TX, 100FX/ SFP: Link/Activity, Speed
10/100/1000TX, 1000SX/LX/ SFP: Link/Activity, Speed

Alarm Contact:

- one relay output with current 1A@24VDC

Environment

Operating Temperature:

- -40°C to 75°C (-40°F to 167°F)
Tested @ -40°C to 85°C (-40°F to 185°F)

Storage Temperature:

- -40°C to 85°C (-40°F to 185°F)

Ambient Relative Humidity:

- 5% to 95% (non-condensing)

Regulatory Approvals:

ISO:

- Manufactured in an ISO9001 facility

Safety:

- UL508

EMI:

- FCC Part 15, Class A
- EN61000-6-4
 - EN55022
 - EN61000-3-2
 - EN61000-3-3

EMS:

- EN61000-6-2
 - EN61000-4-2 (ESD Standards)
Contact: + / 6KV; Criteria B
Air: + / - 8KV; Criteria B
 - EN61000-4-3 (Radiated RFI Standards)
10V/m, 80 to 1000MHz; 80% AM Criteria A
 - EN61000-4-4 (Burst Standards)
Signal Ports: + / - 4KV; Criteria B
D.C. Power Ports: + / - 4KV; Criteria B
 - EN61000-4-5 (Surge Standards)
Signal Ports: + / - 1KV; Line-to-Line; Criteria B
D.C. Power Ports: + / - 0.5KV; Line-to-earth; Criteria B
 - EN61000-4-6 (Induced RFI Standards)
Signal Ports: 10Vrms @ 0.15~80MHz; 80% AM Criteria A
D.C. Power Ports: 10Vrms @ 0.15~80MHz; 80% AM Criteria A
 - EN61000-4-8 (Magnetic Field Standards)
30A/m @ 50, 60Hz; Criteria A

Environmental Test Compliance:

- IEC60068-2-6 Fc (Vibration Resistance)
5g @ 10~150Hz, Amplitude 0.35mm (Operation/Storage/Transport)
- IEC60068-2-27 Ea (Shock)
25g @ 11ms (Half-Sine Shock Pulse; Operation)
50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport)
- IEC60068-2-32 Ed (Free Fall)
1M (3.281ft.)

Diagrams

