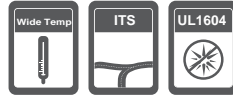


EX96000 Series

Managed Hardened 8-port 10/100BASE with 1 Gigabit port Ethernet Switch



Overview



The EX96000 managed Ethernet switch is designed to operate in harsh environments. The EX96000 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). Whether on the

factory floor or the street curb, the EX96000 provides flawless communications when you need it most. The EX96000 is a managed switch with the flexibility of eight 10/100 Ethernet ports that may be configured in various combinations of copper and fiber optic interfaces. To increase its flexibility a 9th port may be added with Gigabit connection, configured with copper or fiber optics.

Features

- ▶ Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- ▶ UL 1604 Class 1, Division 2 Classified for use in hazardous locations (applicable to versions with terminal block power option)
- ▶ Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- ▶ IEEE802.1w RSTP and IEEE802.1D STP compatible
- ▶ IP Multicast Filtering through IGMP Snooping
- ▶ Supports port-based VLAN and IEEE802.1Q VLAN Tagging and GVRP
- ▶ IEEE802.1p QoS classification based on: Port-based priority; VLAN priority field in VLAN tagged frame; DS/TOS field in IP packet; UDP/TCP logical ports
- ▶ Eight port-based trunking groups with up to 8 ports per group
- ▶ Bandwidth Rate Control
- ▶ RS-232 console, Telnet, SNMP V1 & V2c, RMON, Web Browser, and TFTP Management
- ▶ Packet Filtering and Port Security: Destination MAC; Static MAC address not subject to aging; Secure mode freezes MAC address learning
- ▶ Port mirroring
- ▶ 1000Mbps-Full-duplex, 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- ▶ Full wire-speed forwarding rate
- ▶ Alarms for power failure by relay output
- ▶ Redundant power inputs with Terminal Block or DC Jack
- ▶ -40°C to 75°C (-40°F to 167°F) operating temperature range

Ordering Information

EX96008-00-I-P	8-port 10/100BASE-TX Hardened Managed Ethernet Switch
EX96018-XY-I-P	8-port 10/100BASE-TX + 1-port 100BASE-FX Hardened Managed Ethernet Switch
EX96026-XY-I-P	6-port 10/100BASE-TX + 2-port 100BASE-FX Hardened Managed Ethernet Switch
EX96044-XY-I-P	4-port 10/100BASE-TX + 4-port 100BASE-FX Hardened Managed Ethernet Switch
EX96208-00-I-P	8-port 10/100BASE-TX + 1-port 10/100/1000BASE-TX Hardened Managed Ethernet Switch
EX96308-00-I-P	8-port 10/100BASE-TX + 1-port 1000BASE-SX (SC) Hardened Managed Ethernet Switch
EX96408-00-I-P	8-port 10/100BASE-TX + 1-port 1000BASE-LX (SC) -10Km Hardened Managed Ethernet Switch
EX96508-00-I-P	8-port 10/100BASE-TX + 1-port 1000BASE-LX (SC) -20Km Hardened Managed Ethernet Switch
EX96A08-00-I-P	8-port 10/100BASE-TX + 1-port 1000BASE-BX (SC) WDM -TX:1310nm/RX:1550nm -20Km Hardened Managed Ethernet Switch
EX96B08-00-I-P	8-port 10/100BASE-TX + 1-port 1000BASE-BX (SC) WDM -TX:1550nm/RX:1310nm -20Km Hardened Managed Ethernet Switch
EX96C08-00-I-P	8-port 10/100BASE-TX + 1-port 1000BASE-BX (SC) WDM -TX:1310nm/RX:1550nm -40Km Hardened Managed Ethernet Switch
EX96D08-00-I-P	8-port 10/100BASE-TX + 1-port 1000BASE-BX (SC) WDM -TX:1550nm/RX:1310nm -40Km Hardened Managed Ethernet Switch

100FX Fiber Options:

- (XY) = 1A : Multi Mode (SC)
1B : 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
*More 100FX Fiber options also available upon request.

- 2A : Single Mode (SC) -20Km
2B : Single Mode (SC) -40Km
2D : Single Mode (ST) -20Km
2E : Single Mode (SC) WDM -TX:1310nm/RX:1550nm -20Km
2F : Single Mode (SC) WDM -TX:1310nm/RX:1550nm -40Km
2G : Single Mode (SC) WDM -TX:1550nm/RX:1310nm -20Km
2H : Single Mode (SC) WDM -TX:1550nm/RX:1310nm -40Km

Installation Type :

- (I) = 1 : DIN Rail (mounting kit is included)
Optional Panel mount kit part number:
KP-AA96-480

Optional Rack mount kit, part number:
KR-BK43-400



Power Connector Options :

- (P) = A : Terminal Block* / B : DC Jack**
*Options A - The Terminal Block type external power supply are not included. Please order the following part numbers, as required: DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-X X=1,2,3,4,5
**Options B - The external power adapter and power cord are not included. Please order the following part numbers, as required: 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)

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, IEEE802.1Q, IEEE802.1p, IEEE802.1w

Protocols:

- IGMP, GVRP, SNMP V1/V2c, RMON, TFTP

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:

- 4096 MAC addresses

Latency:

- Less than 9.6 μ s

Power

Input:

- Input Voltage: 12 to 32VDC (Terminal Block); 12VDC (DC Jack)

Power Consumption:

- 18.48W Max. 1.54A@12VDC, 0.77A@24VDC

Overload Current Protection:

- Present

Reverse Polarity Protection:

- Present

Mechanical

Casing:

- Metal case
- IP30

Dimensions:

- 50mm (W) x 125mm (D) x 135mm (H)
(1.97" (W) x 4.92" (D) x 5.31" (H))

Weight:

- 0.8Kg (1.76lbs.)

Installation:

- DIN-Rail (Top hat type 35mm), Panel, Rack Mounting

Interface

Ethernet Port:

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

Console Port:

- Port: One DB9 RS-232 port

LED Indicators:

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

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:

- Hazardous locations: UL1604 Class1, Div.2
- UL60950-1, EN60950-1, IEC60950-1

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: + / - 2KV; Criteria B
Air: + / - 4KV; Criteria B
 - EN61000-4-3 (Radiated RFI Standards)
10V/m, 80 to 1000MHz; 80% AM Criteria A
 - EN61000-4-4 (Burst Standards)
Signal Ports: + / 1KV; Criteria B
D.C. Power Ports: + / - 2KV; 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

