

EX93000 Series

8-port 10/100Base Fast Ethernet Hardened Unmanaged Ethernet Switches

DIREKTRONIK

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Overview

The EX93000 series Ethernet switches are designed to operate in the harsh environments at the edge of the network. The EX93000 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 corner, the EX93000 will provide flawless communications when you need it most. The EX93000 is a switch with the flexibility of eight Ethernet ports that may be configured in various combinations of copper and fiber optic interfaces. Flexibility is the main feature of the EX93000, it may be DIN rail, shelf or wall mounted, and comes with power options to match the applications that require a tough, environmentally hardened, Ethernet switch.

Features

- ▶ Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- ▶ Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- ▶ 2048 MAC addresses
- ▶ 768K bits buffer memory
- ▶ 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
- ▶ Hardened aluminum case
- ▶ Supports DIN-Rail, Panel or Rack Mounting installation

Ordering Information

EX93008-00-I-P	8-port 10/100Base-TX Hardened Unmanaged Ethernet Switch
EX93018-XY-I-P	8-port 10/100Base-TX + 1-port 100Base-FX Hardened Unmanaged Ethernet Switch
EX93026-XY-I-P	6-port 10/100Base-TX + 2-port 100Base-FX Hardened Unmanaged Ethernet Switch
EX93044-XY-I-P	4-port 10/100Base-TX + 4-port 100Base-FX Hardened Unmanaged Ethernet Switch

100FX Fiber Options:

(XY) = 1A : Multi Mode (SC)

1B : Multi Mode (ST)

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

*More 100FX Fiber options also available upon request.

Installation Type:

(I) = 1 : DIN Rail (mounting kit is included)

Optional Panel mount kit, ordered separately,
part number: **KP-AA96-480**



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



Power Connector Options :

(P) = A : Terminal Block* / B : DC Jack**

*Option 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**

Option 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 4-5 to 4-9 for more detailed information about optional accessories (Din-Rail Power supply, Power adapter)

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Specifications

Technology

Standards:

- IEEE802.3 10Base-T, IEEE802.3u 100Base-TX/100Base-FX, IEEE802.3x

Forward and Filtering Rate:

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Packet Buffer Memory:

- 768K bits

Processing Type:

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

Address Table Size:

- 2048 MAC addresses

Latency:

- Less than 7.1µs

Power

Input:

- Input Voltage: 12 to 30VDC (Terminal Block); 12VDC (DC Jack)

Power Consumption:

- 13.2W Max. 1.1A@12VDC, 0.55A@24VDC

Power Supply References:

- Terminal Block: 12 to 24VDC, 1.5A
- DC Jack: 12VDC, 3A

Reverse Polarity Protection:

- Present

Mechanical

Casing:

- Aluminum case
- IP20

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, Panel, Rack Mounting

Interface

Ethernet Port:

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

LED Indicators:

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

- UL60950-1, EN60950-1, IEC60950-1

EMI:

- FCC Part 15, Class A

- EN61000-6-3

- EN55022

- EN61000-3-2

- EN61000-3-3

EMS:

- EN61000-6-2

- EN61000-4-2 (ESD Standards)

Contact: + / - 4KV; 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

A.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

A.C. Power Ports: + / - 2KV; 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

A.C. Power Ports: 10Vrms @ 0.15~80MHz; 80% AM Criteria A

- EN61000-4-8 (Magnetic Field Standards)

30A/m @ 50, 60Hz; Criteria A

- EN61000-4-11 (Voltage Dip Standards)

A.C. Power Ports: 30% Reduction for 0.5 period; Criteria B

Environmental Test Compliance:

- IEC60068-2-6 Fc (Vibration Resistance)

5g @ 10~150KHz, 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.)

NEMA TS1/2 Environmental requirements for Traffic control equipment

Diagrams

