EX77000 Series

Hardened Managed 24-port 10/100BASE and 4-port Gigabit Ethernet Switch with SFP options



Overview

EtherWAN's EX77000 series provides a hardened-graded fully managed 28-port switching platform combining high performance switching backbone with robust and secure management features required for mission critical and harsh environments where sustained connectivity is crucial.

The EX77000 series equipped with 24 fast Ethernet ports and 4 gigabit uplink ports with fixed fiber or SFP options, allows for fan-less operation in high EMI and vibration environments with a temperature range from -40 to 75°C (-40 to 167°F).

Users are able to access EX77000 management features such as port security, IGMP snooping, VLANs, GARP protocols, and LACP, via web browser, Telnet, SNMP, RMON, TFTP, and RS-232 console interfaces.

EX77000 is also NEMA-TS2 certified for traffic applications, it can be mountable on a 1U rack, and is equipped with EtherWAN's Alpha-Ring self-healing technology, providing less than 15ms fault recovery time making it ideal for applications intolerant to interruption.

EtherWAN — "**When Connectivity is Crucial.**"

Spotlight

Versatile Connectivity

Provides flexibility of 24-port 10/100BASE-TX/FX/BX/SFP
plus 4-port Gigabit-TX/SX/LX/BX/SFP

Secure Remote Access

IEEE 802.1x, ACL (Access Control List), and RADIUS support

Hardened Grade

Wide operating temperature range for extreme environments

Fanless and ruggedized housing

High shock and electric noise immunity

Features

Interface

CLI, Telnet and Web Browser

SNMP v1/v2c/v3

Management

Firmware and configuration upgrade and backup via TFTP

Supports DHCP Server/Client

RMON (Remote Monitoring)

Port mirroring: TX/RX and both

NTP (Network Time Protocol) time synchronization

IEEE 802.1ab LLDP (Link Layer Discovery Protocol)

IPv4/IPv6

Security

MAC address filtering

Enable/Disable port

Storm control (Broadcast and multicast types)

IEEE 802.1x LAN access control

Remote authentication through RADIUS and TACACS+

SSHv1/v2 for CLI and Telnet security

SSL for web security

ACL

System log (Remote/Local)

Multi-level user account/password against unauthorized configuration

Quality of Service (QoS)

Priority Queues: 4 queues per port

Traffic classification based on IEEE 802.1p CoS, DSCP, WRR (Weighted Round Robin) and strict mode

Rate Limiting (Ingress/Egress)

Layer 2 Features

Auto-negotiation for port speed and duplex

Flow Control

IEEE 802.3x full duplex mode

Back-pressure half duplex mode

Redundant Protocol

IEEE 802.1D Spanning Tree Protocol (STP)

IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)

IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)

EtherWAN's Alpha-Ring network fault recovery (<15ms) and Alpha-Chain

VLANs

Port-based VLANs

IEEE 802.1Q Tag VLANs (128 groups, 4096 VID)

GVRP (GARP VLAN Registration Protocol)

GMRP (GARP Multicast Registration Protocol)

Link Aggregation

Static Trunk (8 groups, support MAC base)

IEEE 802.3ad Link Aggregation Control Protocol

IGMP Snooping

IGMP Snooping v1/v2/v3

Performance

Switching Capability: 12.8Gbps

Jumbo Frame: 9K bytes

Specifications

Technology

Standards

IEEE 802.3 10BASE-T

IEEE 802.3u 100BASE-TX/100BASE-FX

IEEE 802.3ab 1000BASE-T

IEEE 802.3z 1000BASE-SX/1000BASE-LX

IEEE 802.3x Full duplex and flow control

IEEE 802.1p QoS

IEEE 802.1Q Tag VLANs

IEEE 802.1w RSTP

IEEE 802.1x Port-based Network Access Control

Forward and Filtering Rate

14,880pps for 10Mbps

148,810pps for 100Mbps

1,488,100pps for 1000Mbps

Packet Buffer Memory

12M bits

Processing Type

Store-and-Forward

Auto Negotiation

Half-duplex back-pressure and IEEE 802.3x full-duplex flow control

Auto MDI/MDIX

Address Table Size

16K MAC addresses

Interface

Ethernet Port

10/100BASE-TX: 0, 8, 16 or 24 ports

100BASE-FX: 0, 8, 16 or 24 ports

Gigabit: 4 ports

Console Port

One DB9 RS-232 port

Alarm Contact

One relay output with current 0.6A/30VDC

LED Indicators

Per Unit: Power, Alarm

Per Port: Link/Activity (Green)

Per SFP Slot: Selected (Green)

Environment

Operating Temperature

-40 to 75°C (-40 to 167°F)

Tested @ -40 to 85°C (-40 to 185°F)

Storage Temperature

-45 to 85°C (-49 to 185°F)

Ambient Relative Humidity

5% to 95% (non-condensing)

Power

Input

Power input can be configured as:

• (T): ±48VDC Internal Universal PSU

• (W): 88-300VDC or 100-240VAC Internal Universal PSU

• (C): 100-240VAC, 50-60Hz Internal Universal PSU

Power Consumption

For models with all copper ports: EX77604 Series: 21.9W@230VAC

For models with all fiber ports: EX77064 Series: 40.6W@230VAC

Mechanical

Casing

Metal Case

IP30

Dimensions

Redundant Power:442 x 375 x 44mm (W x D x H) (17.4" x 14.7" x 1.73")

Single Power:442 x 250 x 44.2mm (W x D x H) (17.4" x 9.8" x 1.74")

Weight

5Kg (11lbs.)

Installation

Rack mounting

Regulatory Approvals

ISO

Manufactured in an ISO 9001 facility

Safety

• UL 62368

EMI

• FCC Part 15B Class A

• EN 61000-6-4

EMS

• EN 61000-6-2

• EN 61000-4-2 (ESD Standards)

• EN 61000-4-3 (Radiated RFI Standards)

• EN 61000-4-4 (Burst Standards)

• EN 61000-4-5 (Surge Standards)

• EN 61000-4-6 (Induced RFI Standards)

• EN 61000-4-8 (Magnetic Field Standards)

Environmental Test Compliance

• IEC 60068-2-6 Fc (Vibration Resistance)

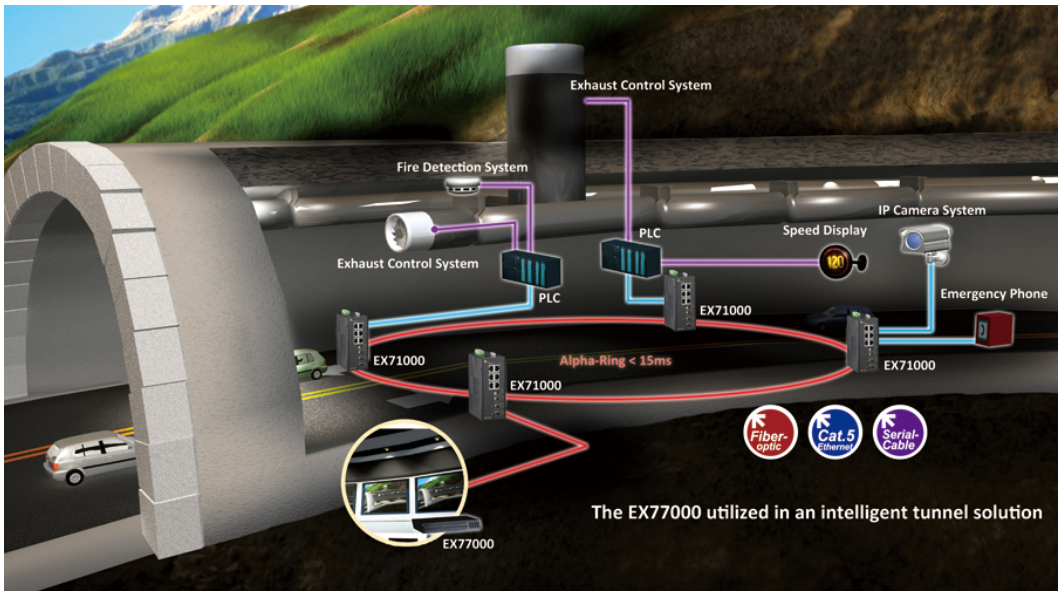
• IEC 60068-2-27 Ea (Shock)

• FED STD 101C Method 5007.1 (Free fall w/package)

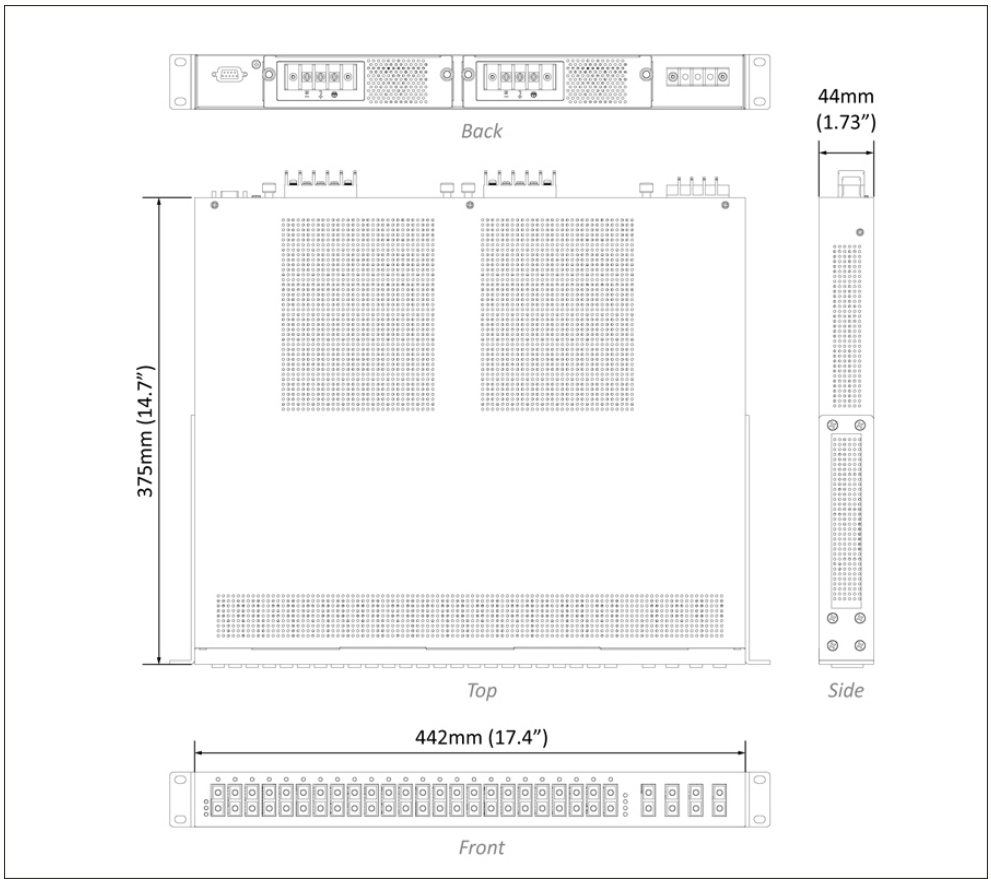
Industrial Compliance

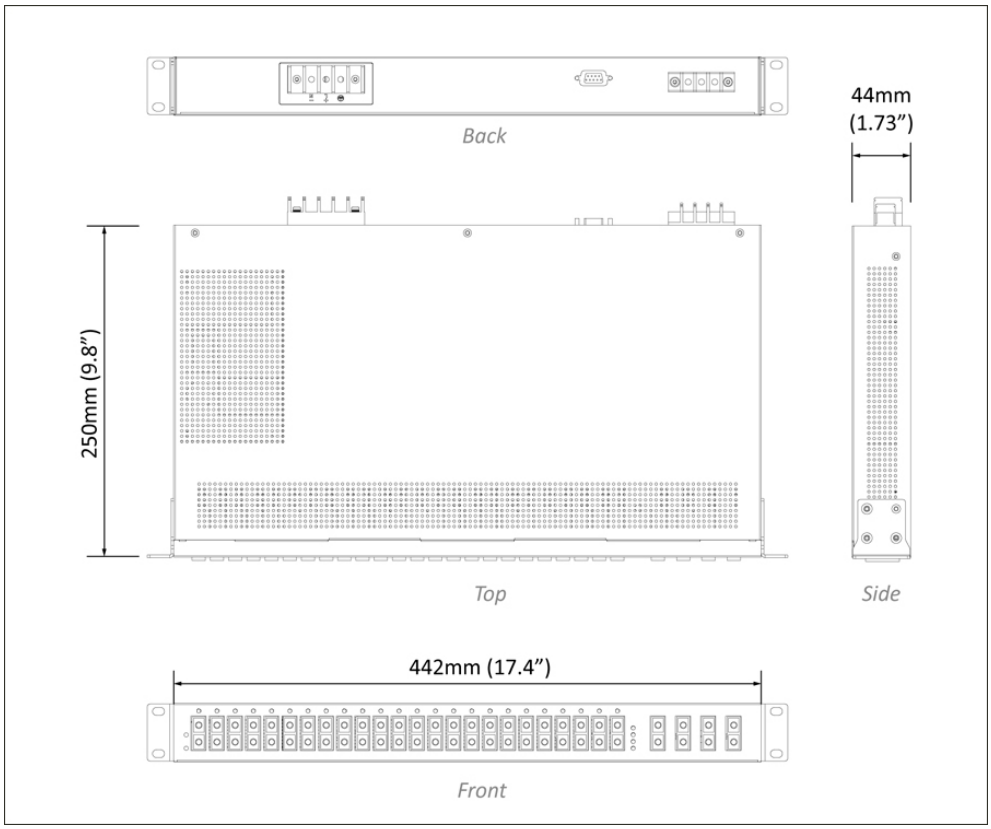
• NEMA TS2

Application



Dimensions


Back
44mm
(1.73")
375mm (14.7")
Top
Side
442mm (17.4")
Front


Back
44mm
(1.73")
250mm (9.8")
Top
Side
442mm (17.4")
Front

Ordering Info

Model

EX77604-00VC	24-port 10/100BASE-TX +4-port 100/1000BASE SFP Managed Ethernet Switch
EX77244-V0VC	8-port 10/100BASE-TX +16-port 100BASE-SFP +4-port 100/1000BASE SFP Managed Ethernet Switch
EX77064-V0VC	24-port 100BASE-SFP +4-port 100/1000BASE SFP Managed Ethernet Switch

Accessories

SFP Modules

Hardened SFP Modules	www.etherwan.com/products/sfp-fiber-transceiver

Power Supplies

EPOW-54-240	Power Supply, Hardened (-40°C - +75°C) External 100-277 VAC Input; NEMA-TS2 rated; 240W, 54VDC, 0-11.1A with Open Wire (US Plug) - No Deration at High Temps
EPOW-54-400	Hardened Power Supply, 100-277 VAC Input; NEMA-TS2 Rated; 54VDC, 400W/7.4A, with Open Wire (US Plug) - No Deration at High Temps
EPOW-54-600	Power Supply, Hardened (-40°C - +75°C) External 100-277 VAC Input; NEMA-TS2 rated; 600W, 54VDC, 0-11.1A with Open Wire (US Plug) - No Deration at High Temps
EPHX-48-240	240W/5A DIN-Rail 48VDC (42-56VDC Adjustable) Industrial Power Supply - No Deration at High Temps
EPHX-48-480	480W/10A DIN-Rail 48VDC (36-55VDC Adjustable) Industrial Power Supply - No Deration at High Temps

* Rack mounting kit included.

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