EX76000 Series

Hardened Managed 8 to 16-port 10/100BASE PoE with 2-port Gigabit combo Ethernet Switch



Overview

This product is discontinued as of 13th Sep 2018.click here for alternative product.

EtherWAN's EX76000 Series provides a hardened 18-port switching platform supporting IEEE 802.3at Power over Ethernet, high performance switching with robust management features required for mission-critical and harsh environments where sustained connectivity is crucial.

The EX76000 Series is equipped with 16 10/100BASE-TX PoE ports, in combination with two Gigabit SX/LX/BX/WDM combo port options. The IEEE 802.3at PoE ports provide up to 30W per port with a total power budget of 480W, making the switch truly versatile for connecting with PoE Powered Devices (PD) with different bandwidth and power consumption requirements such as; outdoor PTZ dome cameras, wireless access points, and way-side communication devices.

1U rack mountable, the EX76000 Series is equipped with EtherWAN's Alpha-Ring self-healing ring technology providing less than 15ms fault recovery time. Users are able to access management features such as port security, IGMP snooping, port-based VLAN, GARP protocols, link aggregation, via web browser, telnet, SSH, SNMP, RMON, TFTP, and RS-232 console interfaces. With the hardened specifications, the EX76000 Series is designed to operate at -40 to 75°C in harsh environments, where high ESD, shock, and vibration may be present.

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

Spotlight

PoE Connectivity

» Sixteen 10/100BASE IEEE 802.3at Power over Ethernet ports
» Two Gigabit-SX/LX/BX combo ports

Hardened Grade

» Wide operating temperature range from -40 to 75°C (-40 to 167°F) for extreme environments
» Fanless and ruggedized housing
» High shock and electric noise immunity
» Complies with UL 508 safety requirements for industrial control devices

Features

Management

» Interface
  • CLI, Telnet and Web Browser
  • SNMP v1/v2c/v3
» Firmware and configuration upgrade and backup via TFTP
» Supports DHCP Server/Client
» RMON (Remote monitoring): group 1, 2, 3, 9
» Port mirroring: TX/RX and both
» NTP (Network Time Protocol) time synchronization
» IEEE 802.1ab LLDP (Link Layer Discovery Protocol)

Security

» MAC address filtering
» Enable/disable port
» Storm control (broadcast and multicast types)
» IEEE 802.1x LAN access control
» Remote authentication through RADIUS
» SSH for CLI and Telnet security
» SSL for web security
» Multi-level user account/password against unauthorized configuration
» System log (remote/local)

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 mode
» 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)

- Supports EtherWAN's Alpha-Ring topology for less than 15ms fault recovery time

» 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 (2 groups, support MAC base)
- IEEE 802.3ad Link Aggregation Control Protocol

» IGMP Snooping
- IGMP snooping v1/v2/v3

Performance

» Switching Capability: 7.2Gbps
» Packet Buffer Size: 2M bits
» MAC Address Table: 8192

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
- IEEE 802.3af/at Power over Ethernet (PoE)

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
- Auto Negotiation
- Half-duplex back-pressure and IEEE 802.3x full-duplex flow control
- Auto MDI/MDIX

Address Table Size

- 8192 MAC addresses

Power

Input

- Redundant power inputs:
  Terminal Block: 47-57VDC

Power Consumption

- Max. 12W (without PoE)
- PoE Power Budget (depends on power input): 480W Max.

PoE Technology

• Alternative B
Pins 7/8(-), 4/5(+)

PoE Power Output

• Port 1 to 16
• IEEE 802.3af: up to 15.4W/port, 47-55VDC, 350mA Max.
• IEEE 802.3at: up to 30W/port, 52-57VDC, 600mA Max.

Protection

• Reverse polarity protection

Mechanical

Casing

• Metal Case
• IP30

Dimensions

• 442 x 205 x 44mm (W x D x H)
(17.40" x 8.07" x 1.73")

Weight

• 3.5Kg (7.7lbs.)

Installation

• Rack mounting

Interface

Ethernet Port

• 10/100BASE-TX: 8, 12 or 16 ports
• 100BASE-FX: 0, 2 or 4 ports
• Gigabit: 0, 1 or 2 ports

Console Port

• Port: One DB9 RS-232 port

Alarm Contact

• One relay output with current 1A/24VDC

LED Indicators

• Per Unit: Power 1, Power 2
• Per PoE Port: PoE (Amber)

• Per Port: Link/Activity (Green), Speed (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)

Regulatory Approvals

ISO

• Manufactured in an ISO 9001 facility

Safety

UL 508

EMI

FCC Part 15B Class A
EN 55022
EN 61000-3-2
EN 61000-3-3
EN 61000-6-4

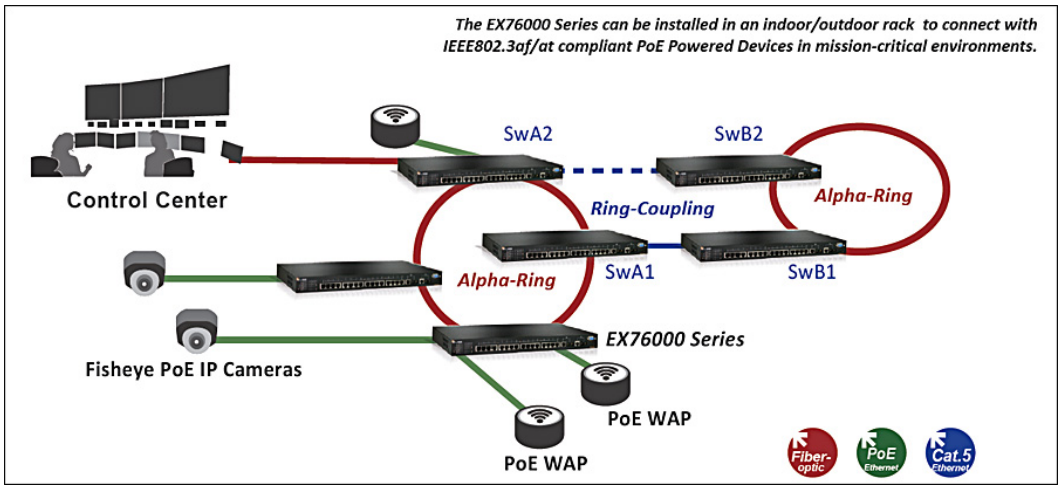
EMS

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)

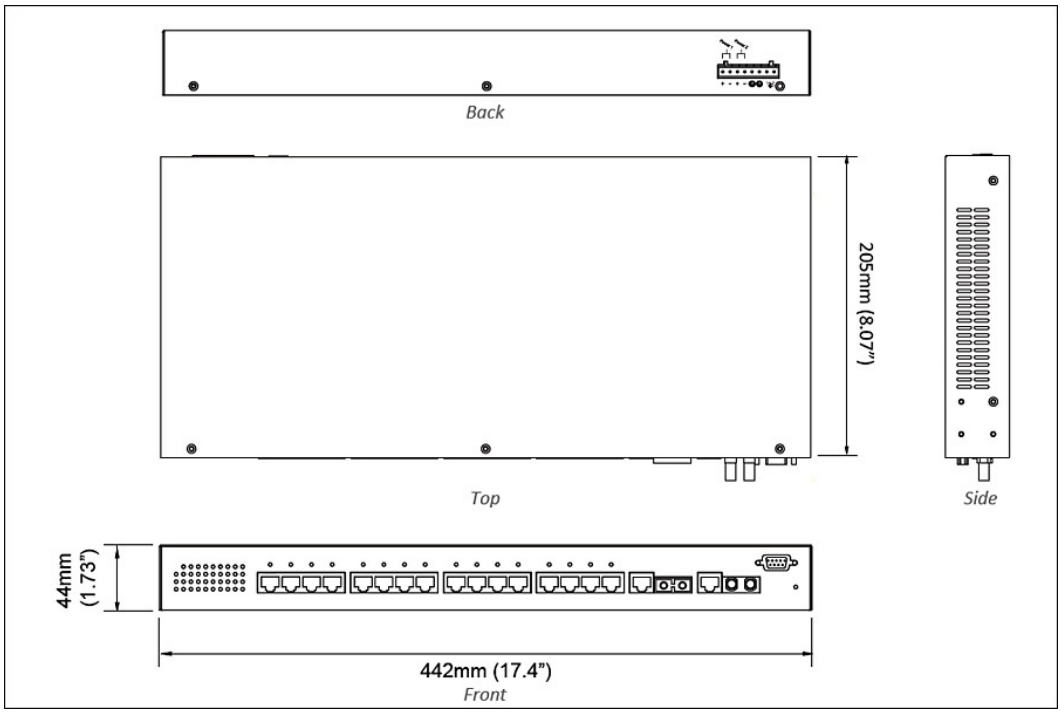
Environmental Test Compliance

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

Application



Dimensions



Ordering Info

Model

EX76400-00TT	16-port 10/100BASE-TX PoE Hardened Managed Ethernet Switch
EX76402-0YTT	16-port 10/100BASE-TX PoE +2-port combo Gigabit Hardened Managed Ethernet Switch

* Rack mounting kit included.

100FX Fiber Options (X)

1	Multi Mode (SC) - 2Km
2	Multi Mode (ST) - 2Km
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
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

* More 100FX Fiber options also available upon request.

Gigabit Port Options (Y)

1	10/100/1000BASE-TX (No Gigabit Fiber port supported)
3	Combo port: 10/100/1000BASE-TX with 1000BASE-SX (SC) - 550m
4	Combo port: 10/100/1000BASE-TX with 1000BASE-SX (SC) - 2Km
5	Combo port: 10/100/1000BASE-TX with 1000BASE-SX (ST) - 550m
A	Combo port: 10/100/1000BASE-TX with 1000BASE-LX (SC) - 10Km
B	Combo port: 10/100/1000BASE-TX with 1000BASE-LX (SC) - 20Km

R	Combo port: 10/100/1000BASE-TX with 1000BASE-BX (SC) WDM-TX: 1310nm/RX: 1550nm-20Km
S	Combo port: 10/100/1000BASE-TX with 1000BASE-BX (SC) WDM-TX: 1550nm/RX: 1310nm-20Km

* More Gigabit options also available upon request.

Optional Accessories

EDR-120-48	120W/2.5A DIN-Rail 48VDC Industrial Power Supply
NDR-240-48	240W/5A DIN-Rail 48VDC Industrial Power Supply
SDR-480-48	480W/10A DIN-Rail 48VDC Industrial Power Supply

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