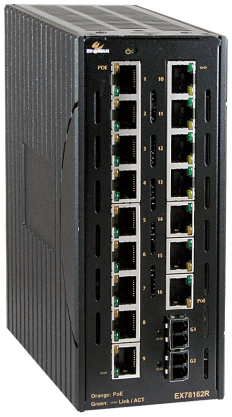
EX78162R Series

Managed Hardened PoE Switch 16 Port with Additional 2 Gigabit SFP Ports



Overview

EtherWAN's EX78162R provides a hardened 18-port switching platform supporting IEEE802.3at Power over Ethernet, high performance switching with robust management features required for mission-critical and harsh environments where sustained connectivity is crucial.

The EX78162R is equipped with 16 10/100BASE-TX PoE ports, in combination with two Gigabit LC Fiber ports. The IEEE802.3at PoE ports provide up to 30W/port with a total power budget of 240W, 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. The EX78162R 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 EX78162R Series is designed to operate at -40°C to 75°C in harsh environments, where high ESD, shock, and vibration may be present.

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

Spotlight

PoE Connectivity

» Port 1 to 16 supports IEEE 802.3af or IEEE 802.3at Power over Ethernet.

Hardened Grade

» Wide operating temperature range From -40°C to 75°C (-40°F to 167°F) for extreme environments.
» Fanless and ruggedized housing.
» High shock and electric noise immunity.

Supports external storage for Configuration backup and restoration

» Simplifying the deployment or switch replacement operation.
» Plug-and-Play system configuration backup and restoration.

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
» SFP transceivers support Digital Diagnostics Monitoring (DDM)
» 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)
» IEEE802.1x 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 IEEE802.1p 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)
- EtherWAN's Alpha-Ring network fault recovery (<15ms)

» 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
» MAC Address Table: 8K

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

- Terminal Block: 47-57VDC

Power Consumption

- Device: Max. 15W (without PoE)
- PoE power budget (depends on power input): 240W Max

PoE Power Output

• Port 1 to 16 support PoE
• IEEE 802.3af: up to 15.4W/port, 47-57VDC.
• IEEE 802.3at: up to 30W/port, 50-57VDC

Protection

• Reverse polarity protection

Mechanical

Casing

• Metal Case
• IP30

Dimensions

• 71.4 x 140 x 170mm (W x D x H)
(2.85" x 5.6" x 6.8")

Weight

• 1.7Kg (3.74lbs.)

Installation

• Wall mounting

Interface

Ethernet Port

• 10/100BASE-TX (PoE): 16 ports
• Gigabit: 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
• Per Port: Link/Activity (Green)
• Per PoE Port: PoE (Orange)

Environment

Operating Temperature

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

Storage Temperature

• -45°C to 85°C (-49°F to 185°F)

Ambient Relative Humidity

• 5% to 95% (non-condensing)

Regulatory Approvals

ISO

• Manufactured in an ISO 9001 facility

EMI

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

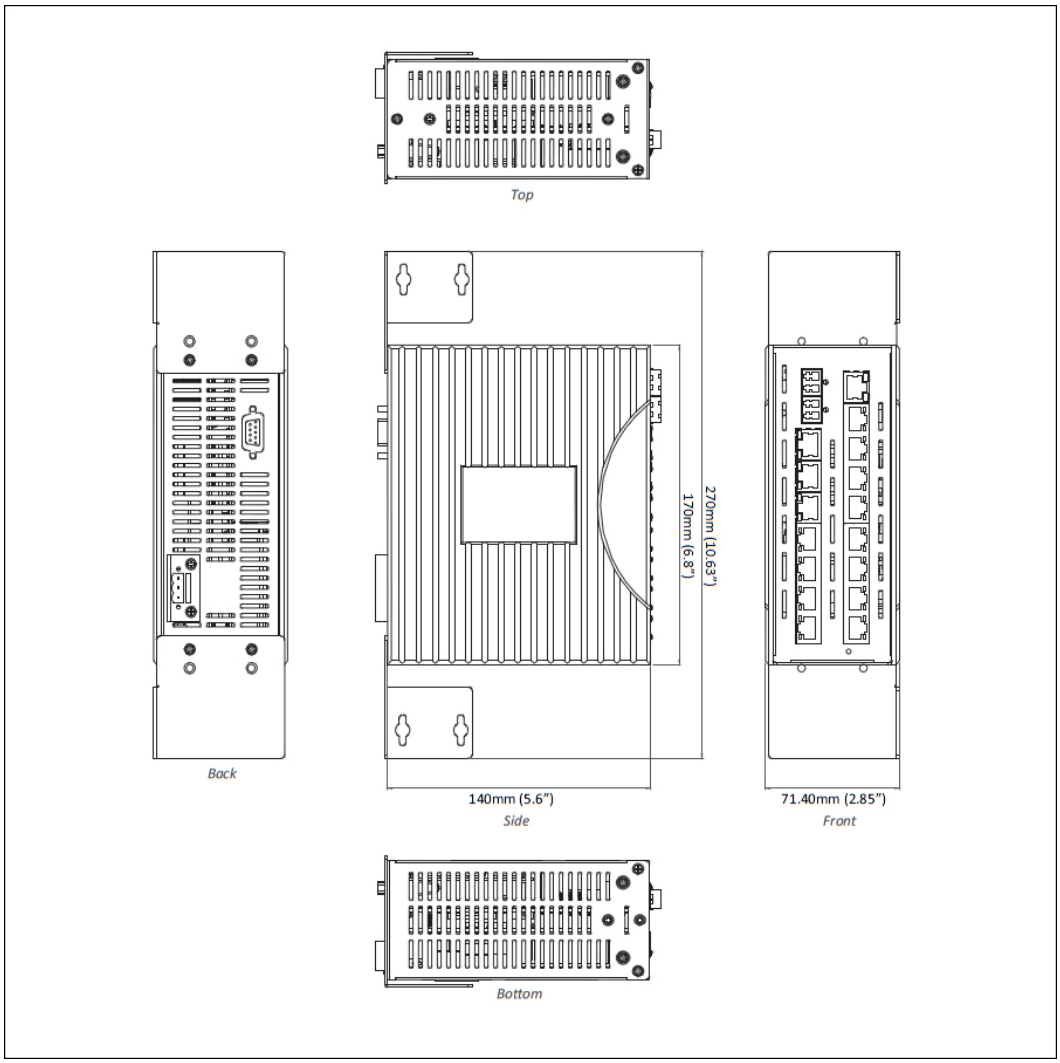
EMS

EN 61000-6-2
• EN 61000-4-2 (ESD Standards)
• EN 61000-4-3 (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)
IEC 60068-2-27 Ea (Shock)
IEC 60068-2-32 Ed (Free fall)

Dimensions



Ordering Info

Model

EX78162R-0MB	16-port 10/100BASE-TX PoE +2-port Gigabit LC 10Km Managed Ethernet Switch

* Wall mounting kit included

Optional Accessories

SDR-480-48	480W/10A DIN-Rail 48VDC Industrial Power Supply



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