

# EX71000 Series

Hardened Managed 8-port 10/100BASE and 2-port Gigabit Ethernet Switch with SFP options



## Overview

EtherWAN's EX71000 Series is a hardened DIN-rail mounted managed Ethernet switch platform. Equipped with up to 8 10/100BASE-TX and 2 fiber ports, the EX71000 Series provides flexibility, speed, and reliability to support networks for urban infrastructure, transportation, security, and other areas where connectivity is crucial.

EtherWAN — "When Connectivity is Crucial."

## Highlights

### + Hardened-Grade for Non-Ventilated & Harsh Environments

Wide operating temperature range -40 to 75°C (-40 to 167°F)

Fanless operation

High impact, thermal shock, and electrical noise resistance

### + Compliance

EN 50121-4 certified for railway applications

NEMA TS2 rated

UL certified for safety

### + Management/Security Features

Port control

802.1x port-based network access control and remote authentication through RADIUS

Configure and monitor with eVue™ and eLite™

### + Support

Complimentary Technical Support

Free Firmware Upgrades

Limited Lifetime Warranty

## Features

### + Interface

CLI, Telnet, Web GUI  
SNMP v1/v2c/v3

### + Management

Firmware upgrade  
Configuration backup via TFTP  
DHCP Server/Client  
RMON (Remote Monitoring): group 1, 2, 3, 9  
Port Mirroring: TX/RX and both  
NTP (Network Time Protocol) 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+  
SSH for CLI and Telnet security  
SSL for web security  
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 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 Protocols

IEEE 802.1D STP  
IEEE 802.1w RSTP  
IEEE 802.1s MSTP  
EtherWAN's Alpha-Ring network fault recovery (<15ms)

#### VLANs

Port-based VLANs  
IEEE 802.1Q Tag VLANs (128 groups, 4096 VID)  
GVRP  
GMRP

#### Link Aggregation

Static Trunk (2 groups, support MAC base)  
IEEE 802.3ad LACP

#### IGMP Snooping v1/v2/v3

# Specifications

## + Interface

### Ethernet

4, 6 or 8 x 10/100BASE-T(X)  
0 or 4 x 100BASE-FX  
0, 1 or 2 x Gigabit

### Console

1 x DB9 RS-232

### Alarm Contact

1 x Relay output, current capacity 0.6A/30VDC

### LED Indicators

Per Unit: Power 1, Power 2, Alarm  
Per Port: Link/Activity, Speed

## + 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 PNAC

### Forward/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

## + Environmental

### Operating Temp.

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

### Storage Temp.

-45 to 85°C (-49 to 185°F)

### Relative Humidity

5% to 95% (non-condensing)

## + Regulatory

### ISO

Manufactured in ISO-9001 facility

### EMI

FCC Part 15B Class A  
EN 55032  
EN 61000-6-4  
EN 61000-3-2  
EN 61000-3-3

### EMS

EN 61000-6-2  
EN 61000-4-2 (ESD)  
EN 61000-4-3 (Radiated RFI)  
EN 61000-4-4 (Burst)  
EN 61000-4-5 (Surge)  
EN 61000-4-6 (Induced RFI)  
EN 61000-4-8 (Magnetic Field)

### Safety

UL 61010  
ISA 12.12.01

### Vibration

IEC 60068-2-6 Fc

### Shock

IEC 60068-2-27 Ea

### Free Fall

FED STD 101C Method 5007.1

### Industrial Compliance

NEMA TS2  
EN 50121-4

## + Power

### Input

12-48VDC Redundant (Terminal block)

### Power Consumption

7.5W Max. 0.31A@24VDC

### Protection

Reverse Polarity Protection

## + Physical

### Casing Material

Aluminum

### IP Rating

IP30

### Dimensions

60 x 125 x 145mm (W x D x H)  
2.36" x 4.92" x 5.7"

### Weight

1.05kg

### Installation Type

DIN-rail mounting

## + Warranty

### Length

Limited Lifetime

### Details

[www.etherwan.com/support/warranty-policy](http://www.etherwan.com/support/warranty-policy)

## + What's Included

### Device

Ethernet Switch

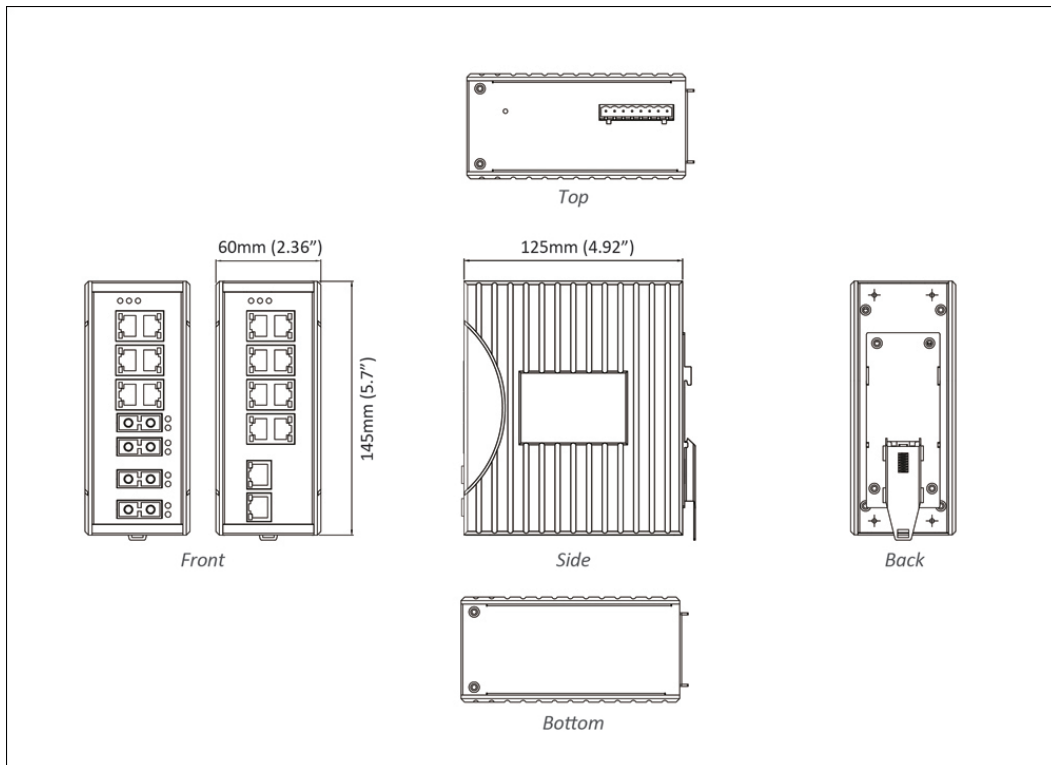
### Cables

1 Console Cable

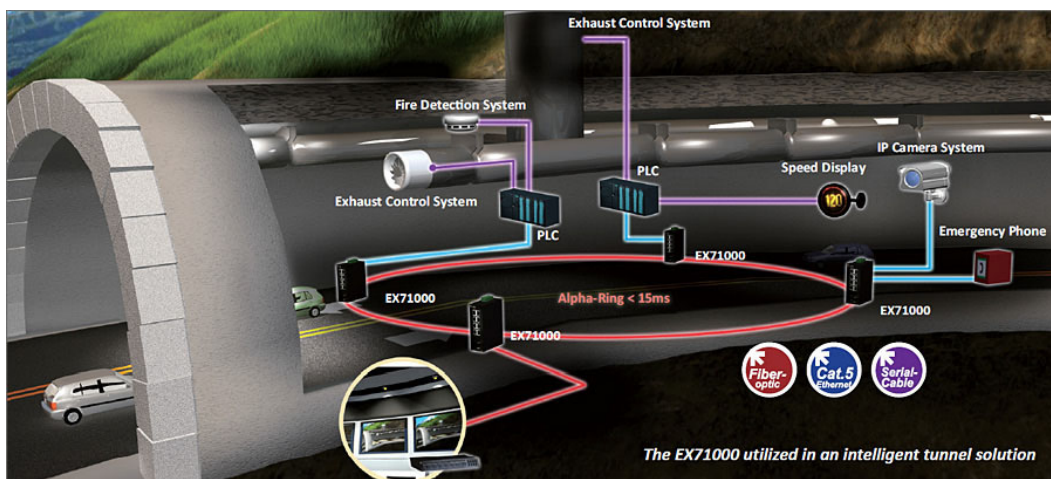
### Documentation

Quick Install Guide

## Dimensions



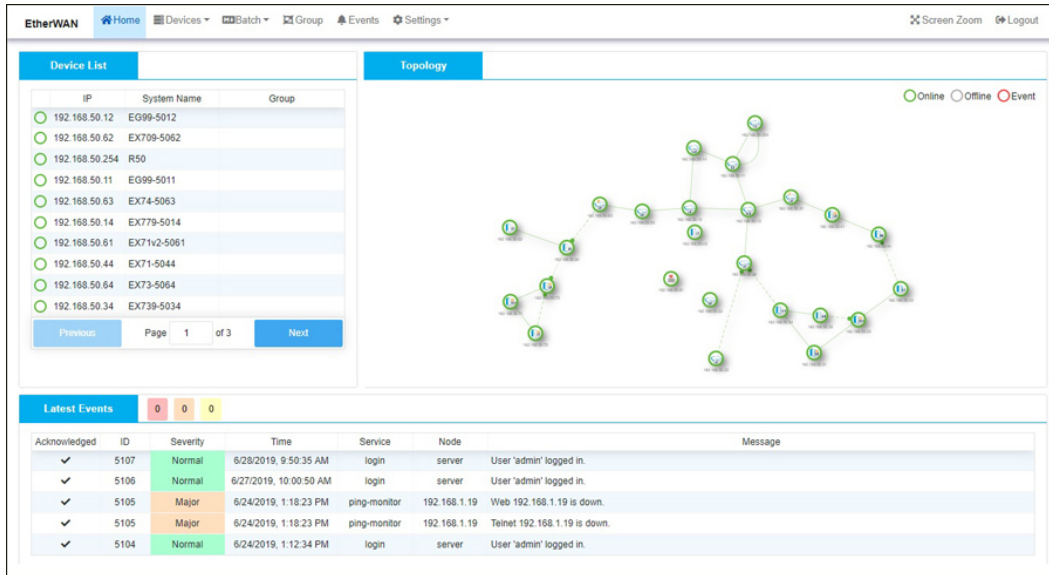
## Application



# Software

Network Management [eVue™ Network Configuration and Monitoring Tool](#)

Network Discovery [eLite™ Network Discovery and IP Configuration Tool](#)



**Device List**

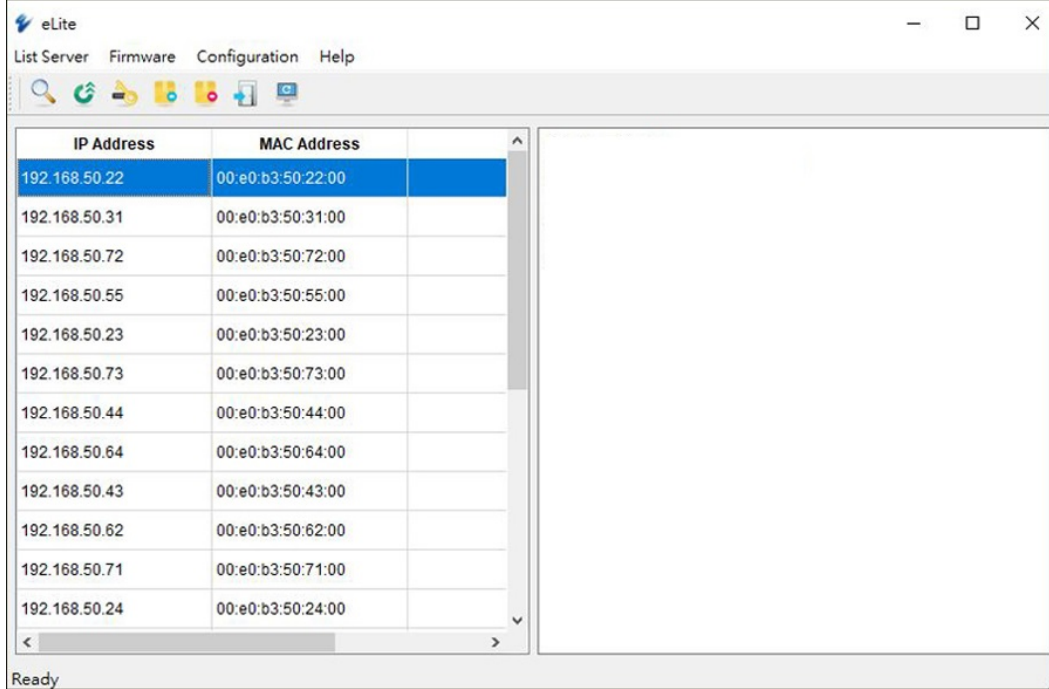
| IP             | System Name | Group |
|----------------|-------------|-------|
| 192.168.50.12  | EG99-5012   |       |
| 192.168.50.62  | EX709-5062  |       |
| 192.168.50.254 | R50         |       |
| 192.168.50.11  | EG99-5011   |       |
| 192.168.50.63  | EX74-5063   |       |
| 192.168.50.14  | EX779-5014  |       |
| 192.168.50.61  | EX71v2-5061 |       |
| 192.168.50.44  | EX71-5044   |       |
| 192.168.50.64  | EX73-5064   |       |
| 192.168.50.34  | EX739-5034  |       |

**Topology**

Legend: ● Online ○ Offline ○ Event

**Latest Events**

| Acknowledged | ID   | Severity | Time                   | Service      | Node         | Message                      |
|--------------|------|----------|------------------------|--------------|--------------|------------------------------|
| ✓            | 5107 | Normal   | 6/29/2019, 9:50:35 AM  | login        | server       | User 'admin' logged in.      |
| ✓            | 5106 | Normal   | 6/27/2019, 10:00:50 AM | login        | server       | User 'admin' logged in.      |
| ✓            | 5105 | Major    | 6/24/2019, 1:18:23 PM  | ping-monitor | 192.168.1.19 | Web 192.168.1.19 is down.    |
| ✓            | 5105 | Major    | 6/24/2019, 1:18:23 PM  | ping-monitor | 192.168.1.19 | Teinet 192.168.1.19 is down. |
| ✓            | 5104 | Normal   | 6/24/2019, 1:12:34 PM  | login        | server       | User 'admin' logged in.      |



**eLite**

List Server Firmware Configuration Help

| IP Address    | MAC Address       |
|---------------|-------------------|
| 192.168.50.22 | 00:e0:b3:50:22:00 |
| 192.168.50.31 | 00:e0:b3:50:31:00 |
| 192.168.50.72 | 00:e0:b3:50:72:00 |
| 192.168.50.55 | 00:e0:b3:50:55:00 |
| 192.168.50.23 | 00:e0:b3:50:23:00 |
| 192.168.50.73 | 00:e0:b3:50:73:00 |
| 192.168.50.44 | 00:e0:b3:50:44:00 |
| 192.168.50.64 | 00:e0:b3:50:64:00 |
| 192.168.50.43 | 00:e0:b3:50:43:00 |
| 192.168.50.62 | 00:e0:b3:50:62:00 |
| 192.168.50.71 | 00:e0:b3:50:71:00 |
| 192.168.50.24 | 00:e0:b3:50:24:00 |

Ready

## Ordering Info

### + Model

|                    |  |
|--------------------|--|
| <b>EX71802-0YB</b> | 8-port 10/100BASE-TX + 2-port Gigabit                    |
| <b>EX71620-X0B</b> | 6-port 10/100BASE-TX + 2-port 100BASE-FX                 |
| <b>EX71622-XYB</b> | 6-port 10/100BASE-TX + 2-port 100BASE-FX +2-port Gigabit |
| <b>EX71440-X0B</b> | 4-port 10/100BASE-TX + 4-port 100BASE-FX                 |

\* DIN-Rail mounting kit included.

### + 100FX Fiber Options (X)

|          |                         |
|----------|-------------------------|
| <b>1</b> | Multi Mode (SC) - 2Km   |
| <b>2</b> | Multi Mode (ST) - 2Km   |
| <b>A</b> | Single Mode (SC) - 20Km |
| <b>B</b> | Single Mode (SC) - 40Km |
| <b>V</b> | 100BASE SFP (DDM)       |

\* More 100FX Fiber options also available upon request.

### + Gigabit Port Options (Y)

|          |   |
|----------|---|
| <b>1</b> | 10/100/1000BASE-TX                              |
| <b>3</b> | 1000BASE-SX (SC) - 550m                         |
| <b>4</b> | 1000BASE-SX (SC) - 2Km                          |
| <b>5</b> | 1000BASE-SX (ST) - 550m                         |
| <b>A</b> | 1000BASE-LX (SC) - 10Km                         |
| <b>B</b> | 1000BASE-LX (SC) - 20Km                         |
| <b>R</b> | 1000BASE-BX (SC) WDM-TX: 1310nm/RX: 1550nm-20Km |
| <b>S</b> | 1000BASE-BX (SC) WDM-TX: 1550nm/RX: 1310nm-20Km |
| <b>V</b> | 100/1000BASE SFP (DDM)                          |

\* More Gigabit options also available upon request.

### + Accessories

|                                  |  |
|----------------------------------|--|
| <b>Hardened SFP Modules</b>      | <a href="http://www.etherwan.com/products/sfp-fiber-transceiver">www.etherwan.com/products/sfp-fiber-transceiver</a>         |
| <b>DIN-Rail Power Supplies</b>   | <a href="http://www.etherwan.com/products/din-rail-power-supply">www.etherwan.com/products/din-rail-power-supply</a><br>(* ) |
| <b>*Recommended Power Supply</b> | HDR-30-24 30W 24VDC DIN-Rail Power Supply  |
| <b>EB-232</b>                    | Configuration Backup and Restoration Tool  |



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