EX78900X Series

Hardened Managed 12-Port Gigabit PoE and 4-Port 10G SFP+ Ethernet Switch
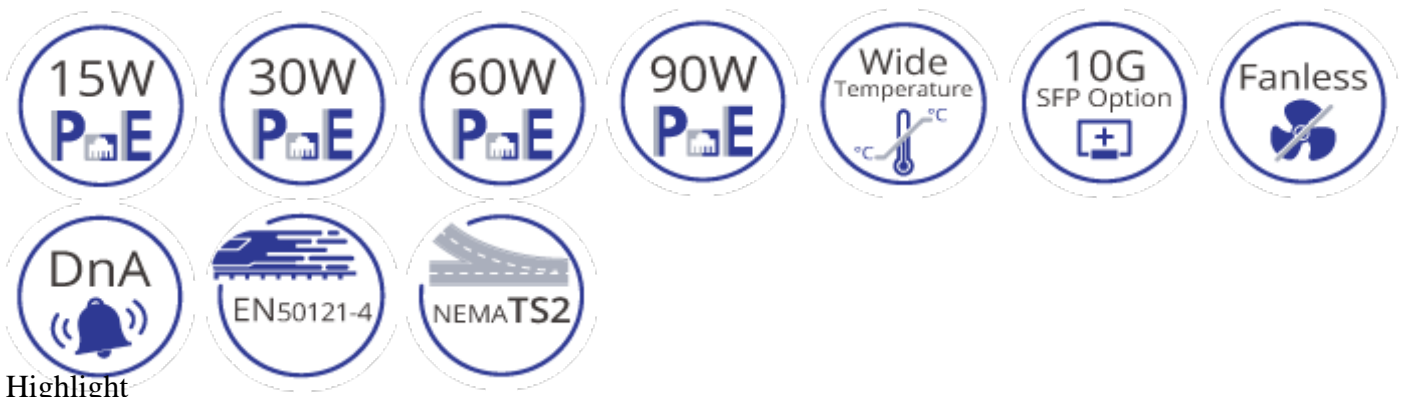
Highlight

High Bandwidth and Versatility

- 12 10/100/1000BASE-T(X) ports for high bandwidth connections
- Up to 4 Dual-rate 1/10G SFP+ uplink ports for fiber connections
- Full capacity switching running at full duplex

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

Lite Layer 3 Functionality

- Static routing, RIP v1/v2, and OSPF
- Redundancy with VRRP
- Reduces amount of broadcast traffic

PoE Features

- IEEE 802.3bt with up to 90W per port; 360W total power budget
- PoE watchdog monitors status of connected PoE devices

Management/Security Features

- Port control, SFTP
- 802.1x port-based network access control and remote authentication through RADIUS and TACACS+
- Configure and monitor with eVue™ and eLite™

Support

- Complimentary technical support
- Free firmware upgrades and notifications
- Limited lifetime warranty

Overview

EtherWAN's EX78900X series is a hardened DIN-rail mounted managed PoE Ethernet switch platform. Equipped with up to 12 gigabit PoE ports along with 90W power and IEEE 802.3.bt protocol support and 4 dual-rate 10 gigabit SFP+ ports, the EX78900X series provides flexibility, speed, and reliability for networks in urban infrastructure, transportation, security, and other areas where connectivity is crucial.

EtherWAN — "When Connectivity is Crucial."
Features

Interface

- CLI, Telnet, Web GUI, SSH

Management

- SFTP (Secured FTP) support
- Configuration backup
- DHCP Server/Client
- RMON (Remote Monitoring)
- Port Mirroring
- NTP (Network Time Protocol) synchronization
- PoE Watchdog
- LLDP (Link Layer Discovery Protocol)
- IPv4/IPv6
- SNMP v1/v2c/v3
- Modbus TCP

Security

- MAC Address filtering
- Enable/Disable port
- Storm Control and Detection
- System logging
- IEEE 802.1x LAN Access control
- Remote authentication through RADIUS and TACACS+
- Complex password support
- Multi-user login and privileged access management
- SSH for CLI and Telnet security
- TLS and HTTPS for web security
- ACL (Access Control List, up to 4096 entries)

Layer 3 Features

- **IP Packet Routing**
- Maximum number of routes in hardware: 64 entries
- Static Routing
- RIP v1/v2
- OSPF v2

- **Routing Redundancy**
- VRRP

Software Properties and Performance

- **Switching Fabric**
- 104Gbps

- **Forwarding Rate**
- 75.29Mpps

- **Max VLANs**
- 256 (4096 VID)

Quality of Service (QoS)

- Priority Queues: 8 queues per port
- Traffic classification based on IEEE 802.1p CoS (Cost of Service), DSCP (Differentiated Services Code Point), WRR (Weighted Round Robin), and strict mode
- Rate Limiting (Ingress/Egress)

Specifications

Interface

- **Ethernet**
  - 12 x 10/100/1000BASE-T(X)
  - 4 x 1/10G SFP+

- **Console**
  - 1 x RJ45

- **Config Backup**
  - 1 x USB (Type A Connector)

- **Digital Input**
  - 2 x Digital Input
  - Wet Contact: 0-3V for State 0; 13-30V for State 1; max input current: 8mA
  - Dry Contact: Logic Level 1-Close to GND; Logic Level 0-Open

- **Alarm Contact**
  - 2 x Relay output, current capacity; 0.5A/48VDC

- **LED Indicators**
  - Per Unit: Power 1, Power 2
  - Per Port: Link/Activity (Green)
  - Per PoE Port: PoE Status (Orange)

Physical

- **Casing Material**
  - Aluminum

- **IP Rating**
  - IP30

- **Dimensions**
  - 72 x 140 x 170mm (W x D x H)
    2.8" x 5.5" x 6.7"

- **Weight**
  - 1.5kg (3.3lbs)

- **Installation Type**
  - DIN-rail mounting

Environmental

- **Operating Temp.**
  - -40 to 75°C (-40 to 167°F)

- **Storage Temp.**
  - -45 to 85°C (-49 to 185°F)

- **Relative Humidity**
  - 5% to 95% (non-condensing)

- **MTBF**
  - 1,496,987 hours

Technology

- **Standards**
  - IEEE 802.3 10BASE-T
  - IEEE 802.3u 100BASE-TX/100BASE-FX
  - IEEE 802.3ab 1000BASE-T
  - IEEE 802.3ad link aggregation control
  - IEEE 802.3z 1000BASE-SX/1000BASE-LX
  - IEEE 802.3x full duplex and flow control
  - IEEE 802.1D STP
  - IEEE 802.1p QoS
  - IEEE 802.1Q Tag VLANs
  - IEEE 802.1s MSTP
  - IEEE 802.1w RSTP
  - IEEE 802.1x PNAC
  - IEEE 802.1ab LLDP
  - IEEE 802.3az EEE
  - IEEE 802.3af/at/bt Power over Ethernet
  - IEEE 1588v2 PTP

- **Forward/Filtering Rate**
  - 14,880pps for 10Mbps
  - 148,810pps for 100Mbps
  - 1,488,100pps for 1000Mbps
  - 14,881,000pps for 10Gbps

- **Processing Type**
  - Store-and-forward
  - Auto-negotiation
  - Half-duplex back-pressure and full-duplex flow control
  - Auto MDI/MDIX

- **System Memory**
  - 2Gb DDR3 SDRAM

- **Flash Storage**
  - 1Gb

Regulatory

- **ISO**
  - Manufactured in ISO-9001 facility

- **EMI**
  - FCC Part 15B Class A
  - VCCI Class A
  - 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)
  - PoE Ports: line to earth 6kV Surge

Power

- **Input**
- 46-57VDC Redundant (Terminal block)**
  ** 46-57VDC for IEEE 802.3af type 1, ?15.4W PD devices.
     52-57VDC for IEEE 802.3at/bt type 2/3, 30W, 60W PD devices.
     54-57VDC for IEEE 802.3bt, type 4, 90W PD devices

- **Power Consumption**
- 20W Max (without PoE)

- **PoE Power Output**
- Ports 1-12: Up to 90W/port; Power Budget: 360W

- **Protection**
- Reverse Polarity Protection

Warranty

- **Length**
- Limited Lifetime

- **Details**
- www.etherwan.com/support/warranty-policy

What's Included

- **Device**
- Ethernet switch

- **Cables**
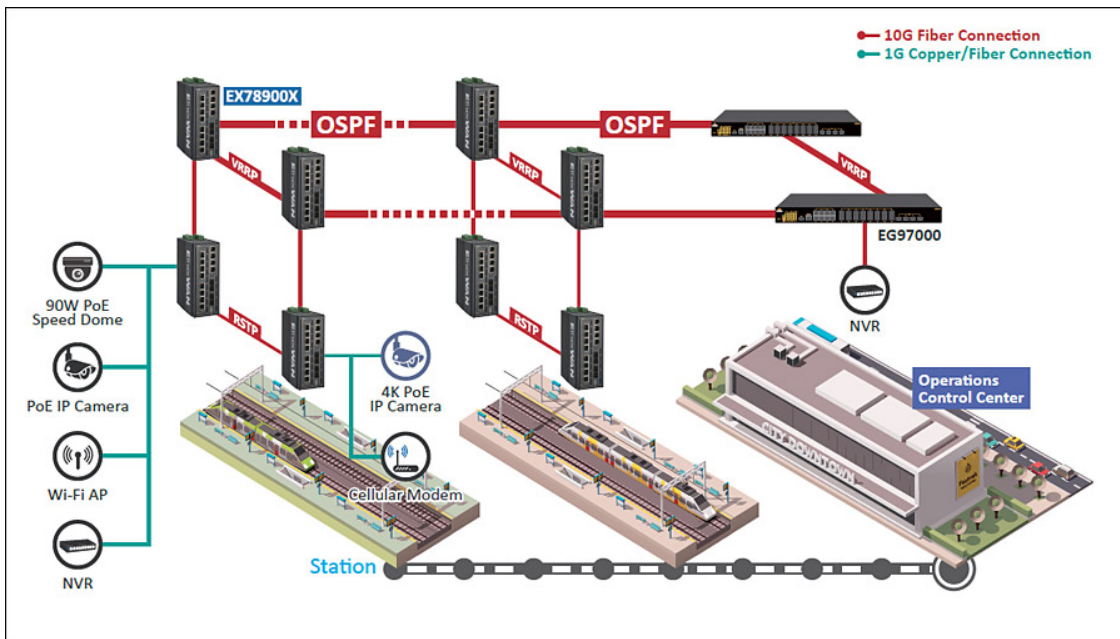- 1 Console cable

- **Installation**
- Mounting brackets, screws
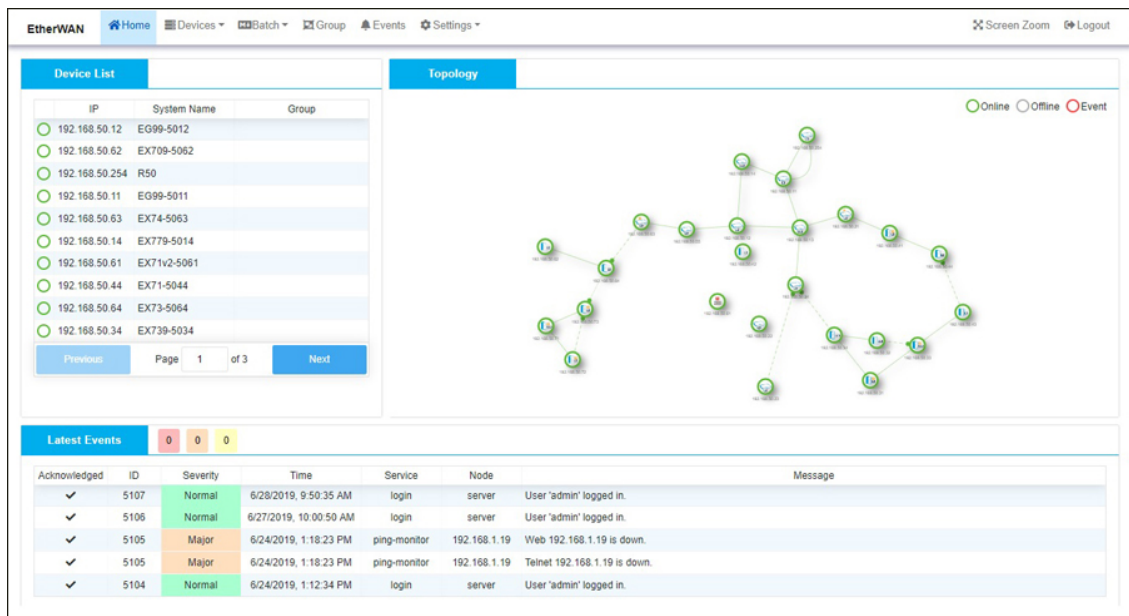
- **Documentation**
- Quick install guide

Dimensions

Top: 147.3mm (5.8"), 140mm (5.51")
Front: 72mm (2.8")
Side
Back: 184.8mm (7.28"), 170mm (6.69")
Bottom

Application

- 10G Fiber Connection
- 1G Copper/Fiber Connection

EX78900X — OSPF — OSPF — EG97000
VRRP, RSTP

90W PoE Speed Dome
PoE IP Camera
Wi-Fi AP
NVR
4K PoE IP Camera
Cellular Modem
Station
NVR
Operations Control Center
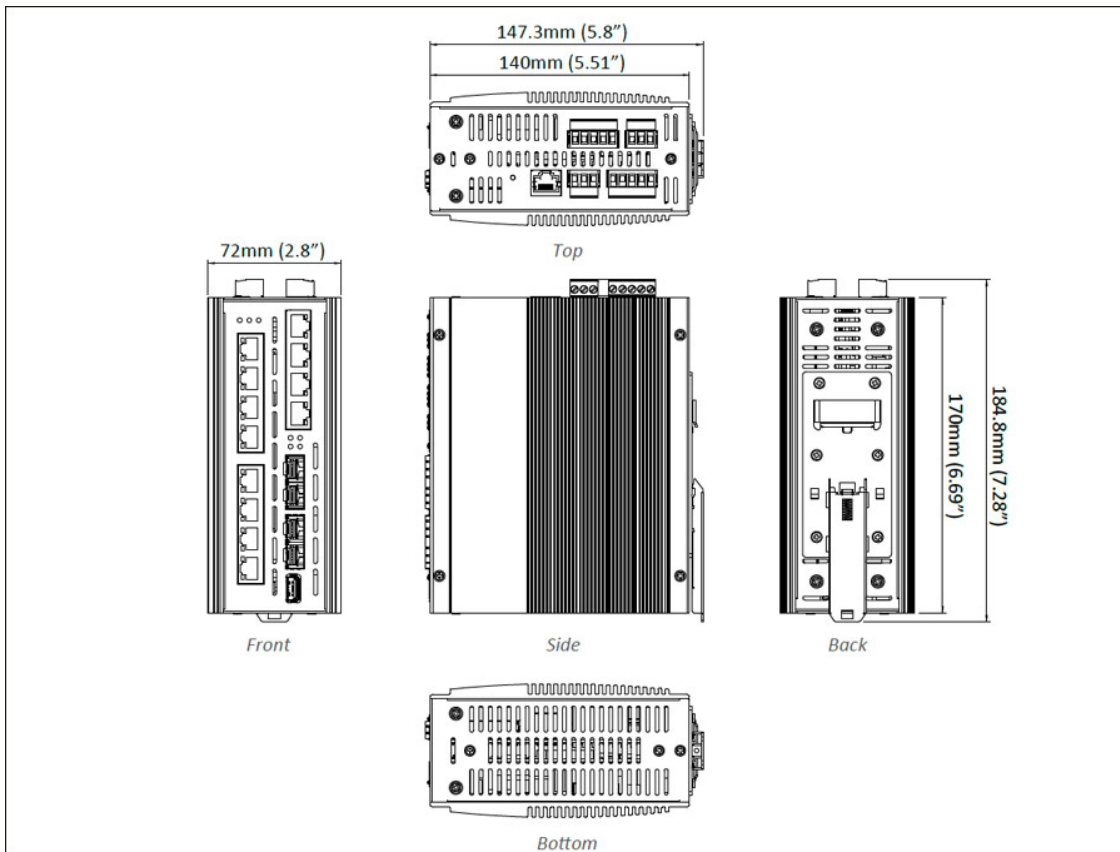
Software

Network Management

eVue™ Network Configuration and Monitoring Tool

Network Discovery

eLite™ Network Discovery and IP Configuration Tool

Ordering Info

Model

EX78934X-0VB

12-port 10/100/1000BASE-T(X) PoE + 4-port 1/10G SFP+

Accessories

Hardened Gigabit & 10 Gigabit SFP Modules

www.etherwan.com/products/sfp-fiber-transceiver

DIN-Rail Power Supplies

www.etherwan.com/products/din-rail-power-supply (*)

*Recommended Power Supply

NDR-480-48 480W 48VDC DIN-Rail Power Supply

EtherWAN is constantly developing and improving products. Specifications are subject to change without notice and without incurring any obligation.