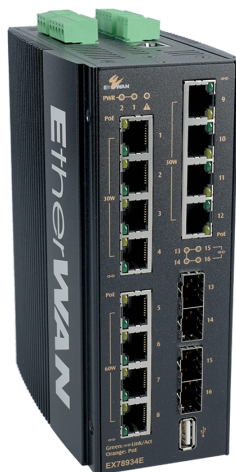


EX78900E シリーズ

広範囲動作温度対応産業用/管理型 8/12ポート 10/100/1000BASE-T(X) +2/4ポート 100/1000BASE SFP PoE ギガビット イーサネットスイッチ



概要

EtherWANのEX78900EシリーズはDINレールに取り付けられた産業用マネージドPoEイーサネットスイッチです。最大12ギガビットPoEポート、60 W電力およびIEEE 802.3.btプロトコルサポート、4つのデュアルレートギガビットSFPポートを備えたEX78900Eシリーズは、都市インフラ、交通、セキュリティなどのネットワークに柔軟性と信頼性を提供します。

IEC 62443-4-2認証 — 重要な産業及びインフラ用途におけるサイバーレジリエンスと運用信頼性を向上させます。

EtherWAN — "When Connectivity is Crucial."

特長

+ High Bandwidth and Versatility

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

+ PoE Features

IEEE 802.3bt with 60W; 240W Power budget
PoE watchdog monitors status of connected PoE devices

+ 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

+ 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™

+ Lite Layer 3 Functionality

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

+ Support

Complimentary technical support
Free firmware upgrades and notifications
Limited lifetime warranty

機能

+ Interface

CLI, Telnet, Web GUI

+ Management

Firmware upgrade
Configuration backup
DHCP Server/Client
RMON (Remote Monitoring)
Port Mirroring
NTP (Network Time Protocol) synchronization
LLDP (Link Layer Discovery Protocol)
IPv4/IPv6
SNMP v1/v2c/v3
Modbus TCP

+ Security

MAC Address filtering
Enable/Disable port
Storm control
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
SSL and HTTPS for web security
ACL (Access Control List, up to 4096 entries)
IPSG (IP Source guard)
DAI (Dynamic ARP Inspection)
DHCP Snooping

+ 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

VLANs

IEEE 802.1Q Tag VLANs
GVRP
GMRP

Link Aggregation

Static Trunk (4 groups)
IEEE 802.3ad LACP

IGMP Snooping v1/v2/v3

+ Layer 3 Features

IP Packet Routing

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

Routing Redundancy

VRRP

+ 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)

+ Software Properties and Performance

Switching Fabric

32Gbps

Forwarding Rate

23.5Mpps

Max VLANs

256 (4096 VID)

Jumbo Frame Size

9KB

MAC Table Size

16K

Packet Buffer Memory

12M bits

仕様

+ Interface

Ethernet

8 or 12 x 10/100/1000BASE-T(X)

2 or 4 x 100/1000BASE 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

1,108,382 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

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

BSMI

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

EN 61000-4-6 (Induced RFI)

EN 61000-4-8 (Magnetic field)

Safety

UL 61010

Cybersecurity

IEC 62443-4-1

IEC 62443-4-2

Traffic

NEMA TS2

Railway

EN 50121-4

Vibration

IEC 60068-2-6

Shock

IEC 60068-2-27

Free Fall

FED STD 101C Method 5007.1

+ 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.

Power Consumption

20W Max (without PoE)

PoE Modes

802.3af/at Mode A: Pins 1/2(-), 3/6(+)

802.3bt (60W): Mode A & B, Pins 1/2(-), 3/6(+), 4/5(+), 7/8(-)

PoE Power Output

Ports 1-4, 9-12: Up to 30W/port

Ports 5-8: Up to 60W/port

Power Budget: 240W

Protection

Reverse Polarity Protection

+ What's Included

Device

Ethernet Switch

Cables

1 Console Cable

Installation

Mounting brackets, screws

Documentation

Quick Install Guide

+ Warranty

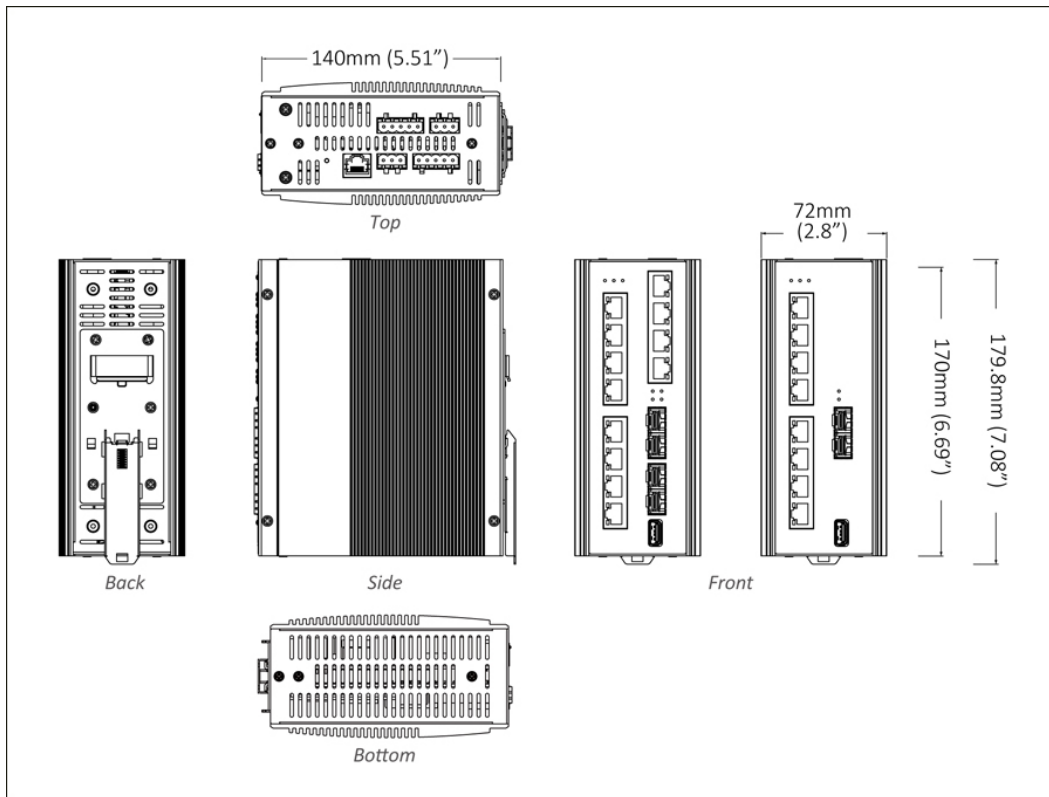
Length

Limited Lifetime

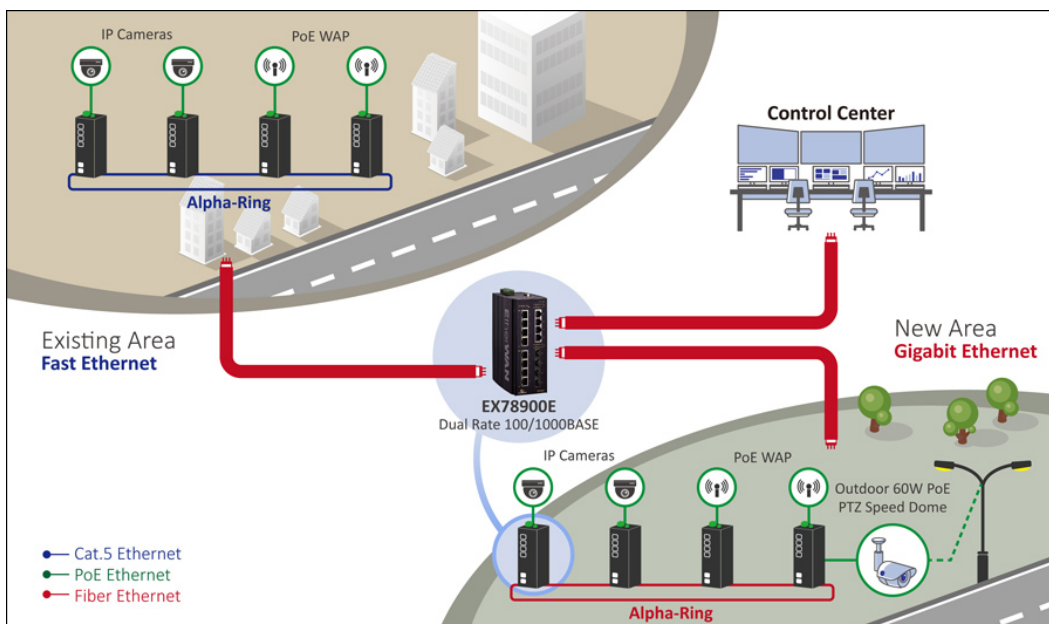
Details

www.etherwan.com/support/warranty-policy

寸法図



応用例



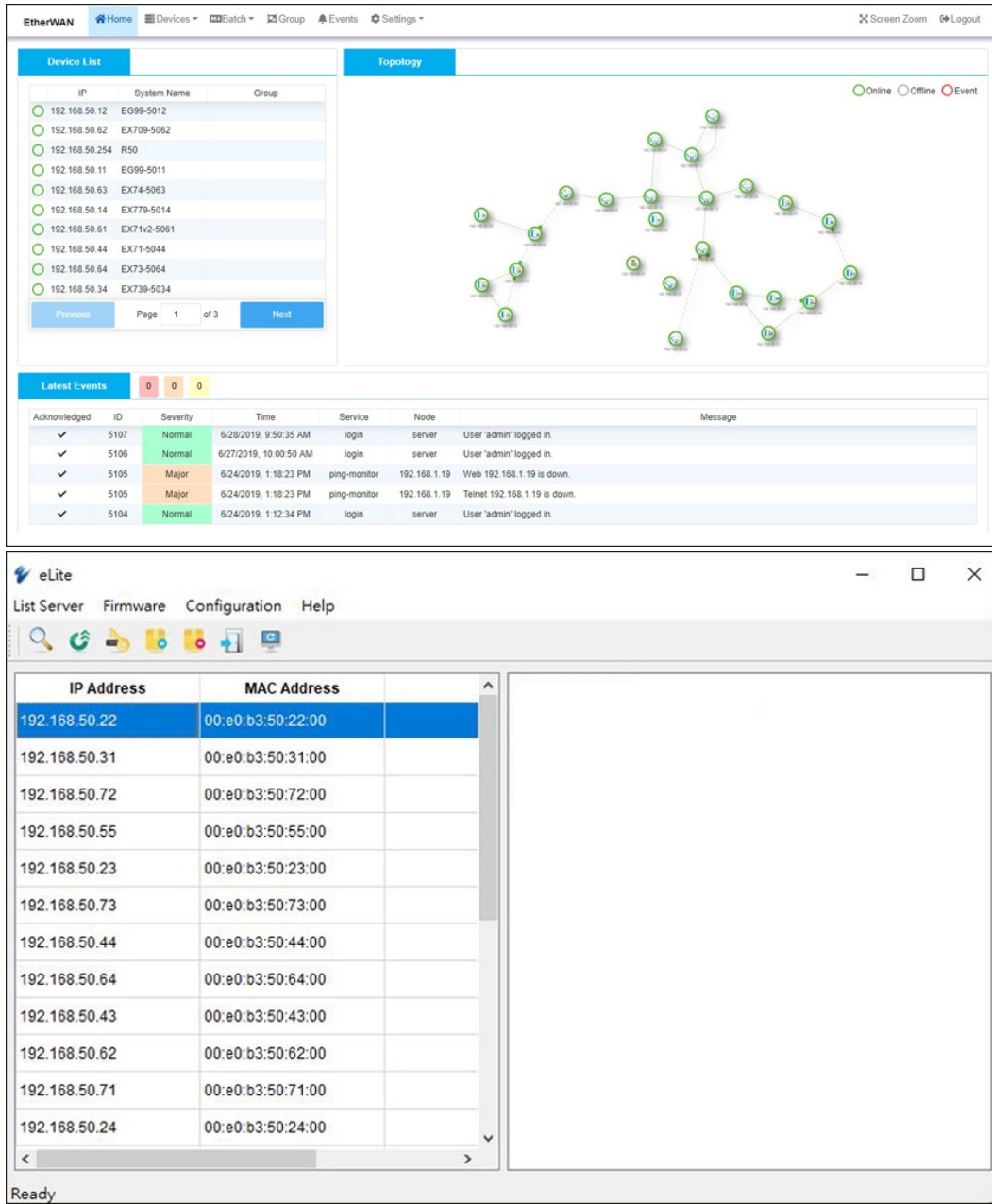
ソフトウェア

Network Management

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

Network Discovery

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



The screenshot displays the EtherWAN eLite Network Discovery and IP Configuration Tool interface. The top navigation bar includes links for Home, Devices, Batch, Group, Events, and Settings. The main interface is divided into two primary sections: Device List and Topology.

Device List: A table showing a list of discovered devices with columns for IP, System Name, and Group. The table is paginated, showing Page 1 of 3.

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: A network diagram showing the discovered devices connected in a mesh-like structure. A legend indicates Online (green circle), Offline (grey circle), and Event (red circle).

Latest Events: A table showing recent system events with columns for Acknowledged, ID, Severity, Time, Service, Node, and Message.

Acknowledged	ID	Severity	Time	Service	Node	Message
✓	5107	Normal	6/28/2019, 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	Telnet 192.168.1.19 is down.
✓	5104	Normal	6/24/2019, 1:12:34 PM	login	server	User 'admin' logged in.

eLite Interface: The bottom section shows the eLite application window with a menu bar (List Server, Firmware, Configuration, Help) and a toolbar. The main area displays a table of IP and MAC addresses.

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

The interface is ready for use, as indicated by the "Ready" status at the bottom.

製品型番

+ Model

			
	EX78934E-0VB	EX78924E-0VB	EX78922E-0VB
10/100/1000BASE TX	12	8	8
100/1000 BASE SFP	4	4	2
supports PoE++	12	8	8
PoE per port	最大60W		
	お問い合わせ	お問い合わせ	お問い合わせ

+ Accessories

Hardened 100BASE SFP Modules	www.etherwan.com/products/sfp-fiber-transceiver
Hardened 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

