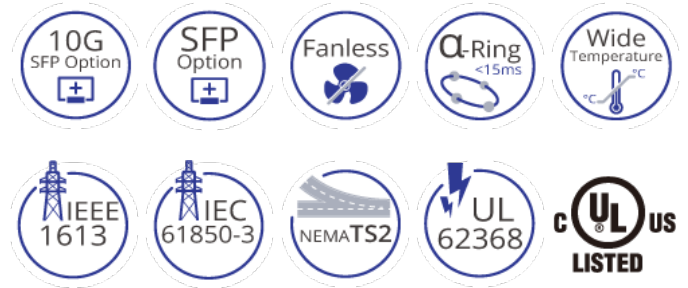


EX77900 系列

IEC 61850-3/IEEE 1613 Lite L3 強固級網管型 24 埠 Gigabit + 4 埠 1G/10G SFP+ 乙太網路交換器



產品介紹

益網科技 EX77900 系列，為一款強固等級設計、Full-gigabit 並結合 Layer3 路由協定功能之交換器。支援靜態路由、路由信息協議 (RIP) V1/V2 和虛擬路由備援協定(VRRP)，擁有高擴充性、高安全性並符合成本效益。

EX77900 系列依需求挑選 28 個 Gigabit 埠，或 24 個網路埠搭配 4 個 10G SFP+ 組合，支援上傳連接至核心網路。1U 機架式安裝，內建益網科技獨家 Alpha-Ring Self-healing 自癒技術，提供網路斷線回覆時間小於 15 毫秒，可完美應用於嚴苛的網路架構環境。

完整的管理功能: Port Security, IGMP Snooping, Port-based VLAN, GARP 協定, Link Aggregation 及 ACL, 網路瀏覽介面, Telnet, SSH, SNMP, RMON, TFTP, 和 RS-232 管理介面。強固等級設計，可於 -40 到 75°C 之寬溫環境下穩定運作，並符合 IEC 61850 & IEEE 1613 認證規範，可抗高電磁波環境之干擾。

EtherWAN — "When Connectivity is Crucial."

產品亮點

+ 強固等級設計

寬溫操作 (耐受環境溫度從 -40 到 75°C)
無風扇設計
抗高衝擊和抗電磁波干擾

+ 10 GbE 網路介面

提供 4 埠 10G SFP+ 介面，可上傳連接核心網路交換器

+ 簡配第 3 層路由功能

支援靜態路由、RIP v1/v2 和 OSPF
最多可支援路由 (硬體) 數量 : 64 entries
支援虛擬路由備援協定 (VRRP)

產品特色

+ Interface

CLI, Telnet and Web Browser
SNMP v1/v2c/v3

+ Management

Firmware and configuration upgrade and backup via TFTP
Supports DHCP Server/Client
RMON (Remote Monitoring)
Port mirroring: TX/RX and both
NTP (Network Time Protocol) time 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
ACL

+ 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
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) and Alpha-Chain

VLANs

IEEE 802.1Q Tag VLANs (128 groups, 4096 VID)
GVRP (GARP VLAN Registration Protocol)
GMRP (GARP Multicast Registration Protocol)

Link Aggregation

Static Trunk (4 groups, support MAC base)
IEEE 802.3ad Link Aggregation Control Protocol

IGMP Snooping

IGMP Snooping v1/v2/v3

+ Layer 3 Features

Routing Protocols

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

Routing Redundancy

VRRP

產品規格

+ 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

Forward and Filtering Rate

14,880pps for 10Mbps
148,810pps for 100Mbps
1,488,100pps for 1000Mbps
14,880,952pps for 10Gbps

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

+ Power

Input

Power input can be configured as:

- ±48VDC (Terminal Block)
- 88-300VDC or 100-240VAC (Terminal Block)
- 100-240VAC (AC Inlet)
- ±48VDC Redundant (Terminal Block)
- 88-300VDC or 100-240VAC Redundant (Terminal Block)
- 100-240VAC Redundant (AC Inlet)

Power Consumption

31.08W

+ Mechanical

Casing

Metal Case
IP30

Dimensions

430 x 375 x 44.2mm (W x D x H)
(16.9" x 14.7" x 1.74")

Weight
5.27kg

Installation
Rack mounting

+ Interface

Ethernet Port

10/100/1000BASE-TX: 16 or 24 ports
100/1000BASE-SX/LX/BX/SFP: 8 ports
10G SFP+: 4 ports

Console Port

One DB9 RS-232 port

USB Port

One USB Port (Type A connector)

Alarm Contact

One relay output with current 0.6A/30VDC

LED Indicators

Per Unit: Power 1, Power 2, Alarm
Per Port: Link/Activity (Green)

+ Environment

Operating Temperature

-40 to 75°C (-40 to 167°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 62368

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 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

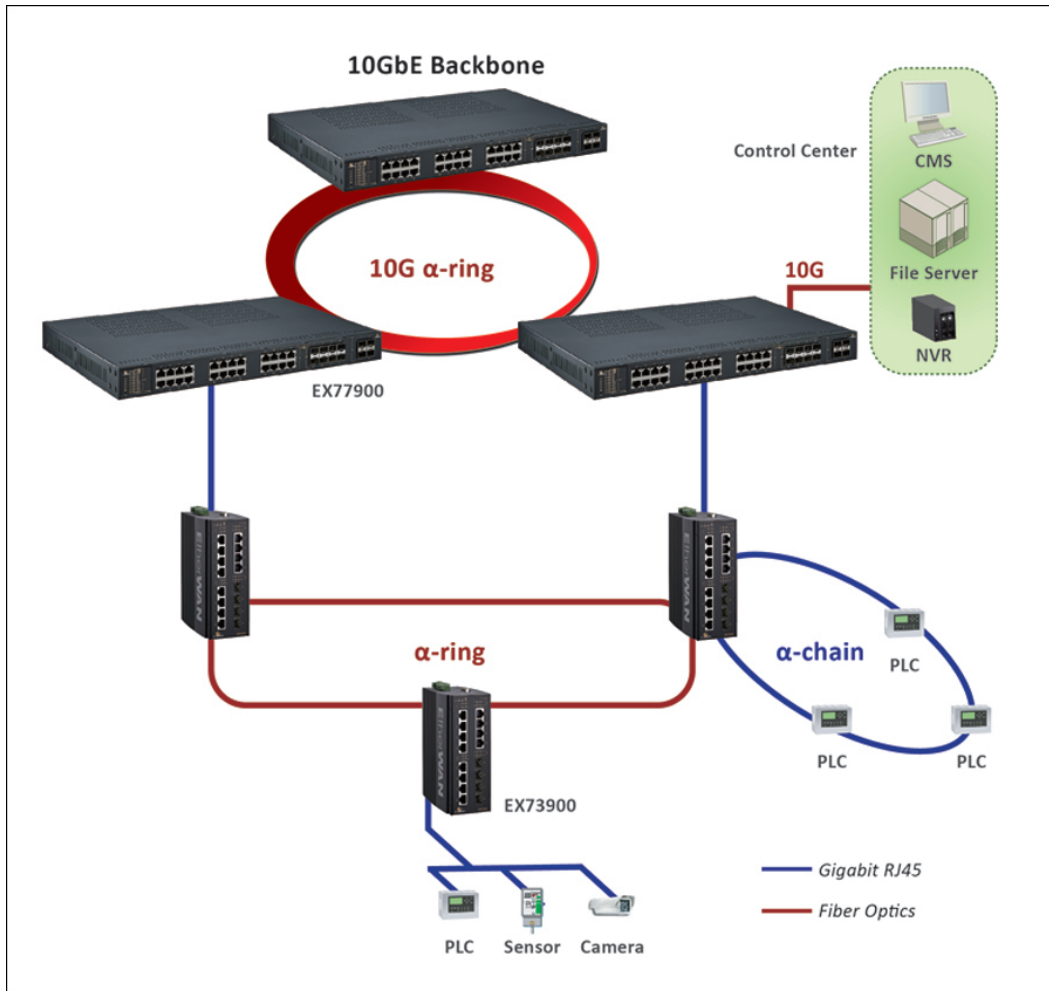
- IEC 60068-2-6 Fc (Vibration Resistance)
- IEC 60068-2-27 Ea (Shock)
- FED STD 101C Method 5007.1 (Free fall w/package)

Industrial Compliance

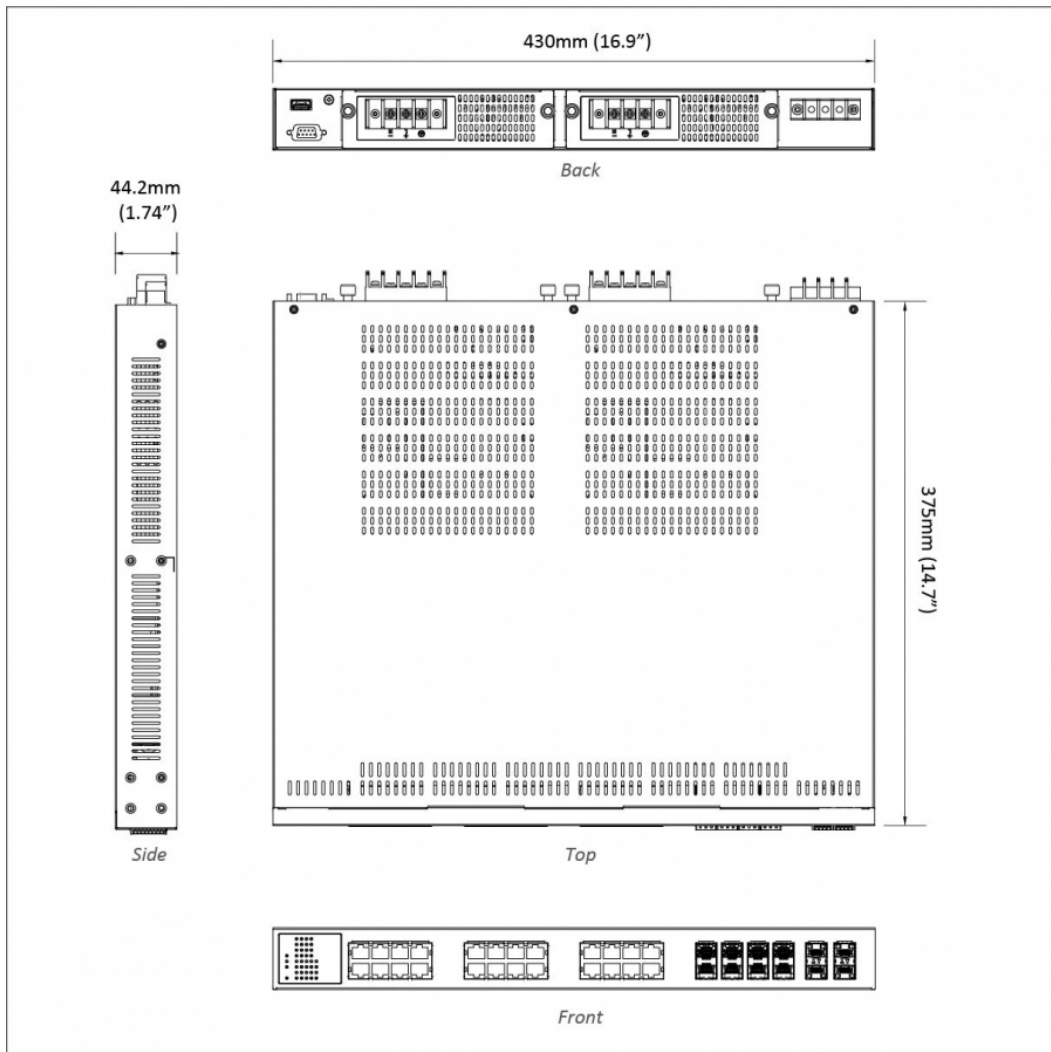
- IEC 61850-3/IEEE 1613

- EN 50121-4
- NEMA TS2

產品應用圖



產品尺寸圖



訂購型號

型號

EX77964-8VZ	16-port 10/100/1000BASE-TX +8-port 100/1000BASE SFP Combo +4-port 1G/10G SFP+ Hardened Managed Ethernet Switch
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Power Input Interface (Z)

T	±48VDC (Terminal Block)
W	88-300VDC or 100-240VAC (Terminal Block)
C	100-240VAC (AC Inlet)
TR	±48VDC Redundant (Terminal Block)
WR	88-300VDC or 100-240VAC Redundant (Terminal Block)
CR	100-240VAC Redundant (AC Inlet)

Optional Accessory

EB-232	Configuration Backup and Restoration Tool for EtherWAN switch with firmware 2.01.1 or above
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