

EX27000 系列

IEC 61850-3/IEEE 1613 網管型 8 - 24 埠 10/100BASE + 4 埠 Gigabit 乙太網路交換器 (SFP選擇組合)



產品介紹

EX27000系列為1U機架式安裝設計，具備24個10/100BASE乙太網路連接埠及四個Gigabit光纖埠(可彈性搭配固定式光纖或SFP Combo光纖插槽)，符合EN 50121-4和IEC 61850-3標準，可應用於變電所自動化系統和軌旁應用。

支援益網獨家技術Alpha-Ring環狀網路備援機制，可在網路發生斷線時迅速啟動備援機制，小於15毫秒內便可快速恢復連線通訊。具備完整管理功能，包含port security、IGMP snooping、VLANs、GARP協定、LACP和GOOSE；使用者可透過網頁瀏覽telnet、SNMP、RMON、TFTP和RS-232 console管理介面，使複雜的專案規劃事半功倍。

EtherWAN — "When Connectivity is Crucial."

產品亮點

+ 符合變電站和軌旁管理應用設計

符合IEC 61850-3、IEEE 1613和EN 50121-4證認標準

+ 備援電力輸入

支援AC&DC雙備援電源輸入

+ 多元彈性介面組合

支援24個10/100base-TX/FX/BX/SFP加4埠Gigabit光纖埠-SX/LX/BX/SFP

+ 工業等級設計

無風扇和堅固的金屬外殼設計，操作溫度(-10到60°C)，可有效避免高溫及高濕度環境導致材質老化

產品特色

+ 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

NTP (Network Time Protocol) time synchronization

IEEE 802.1ab LLDP (Link Layer Discovery Protocol)

IPv4/IPv6

+ Security

MAC Address by port security

Enable/Disable port

Storm control (Broadcast and multicast types)

IEEE 802.1x LAN access control

Remote authentication through RADIUS and TACAS+

SSHv1/v2 for CLI and Telnet security

SSL for web security

ACL

Multi-level user account/password against unauthorized configuration

+ Quality of Service (QoS)

Priority Queues: 8 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 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) and Alpha-Chain

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 (8 groups, support MAC base)

IEEE 802.3ad Link Aggregation Control Protocol

IGMP Snooping

IGMP Snooping v1/v2/v3

+ Performance

Switching Capability: 12.8Gbps

Jumbo Frame: 9K bytes

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

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

+ Interface

Ethernet Port

10/100BASE-TX: 0, 8, 16 or 24 ports
100BASE-FX: 0, 8, 16 or 24 ports
Gigabit: 4 ports

Console Port

Port: One DB9 RS-232 port

Alarm Contact

One relay output with current 0.6A/30VDC

LED Indicators

Per Unit: Power, Alarm
Per Port: Link/Activity (Green)
Per SFP Port: Selected (Green)

+ Environment

Operating Temperature

-10 to 60°C (14 to 140°F)
Tested @ -20 to 70°C (-4 to 158°F)

Storage Temperature

-40 to 85°C (-40 to 185°F)

Ambient Relative Humidity

5% to 95% (non-condensing)

+ Power

Input

(T): ± 48 VDC Internal Universal PSU

(W): 88-300VDC or 100-240VAC Internal Universal PSU

(C): 100-240VAC, 50-60Hz Internal Universal PSU

Power Consumption

For models with all copper ports: EX27604 Series:
21.9W@230VAC

For models with all fiber ports: EX27064 Series:
40.6W@230VAC

+ Mechanical

Casing

Metal Case

IP30

Dimensions

Redundant Power:

442 x 375 x 44mm (W x D x H)
(17.4" x 14.7" x 1.73")

Single Power:

- 442 x 284 x 44.2mm (W x D x H)
- (17.4" x 11.1" x 1.74")

Weight

5Kg (11lbs)

Installation

Rack mounting

+ Regulatory Approvals

ISO

Manufactured in an ISO 9001 facility

Safety

UL 62368

EMI

FCC Part 15B Class A

EN 61000-6-4

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)
- IEC 61000-4-10 (Oscillatory wave magnetic field test)
- IEC 61000-4-16 (Power frequency immunity test)

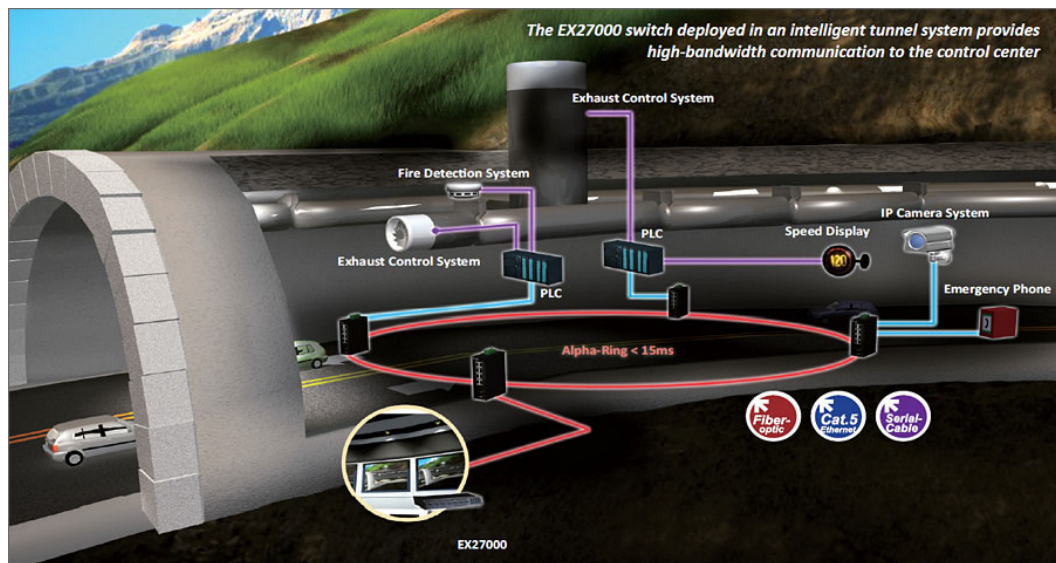
Environmental Test Compliance

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

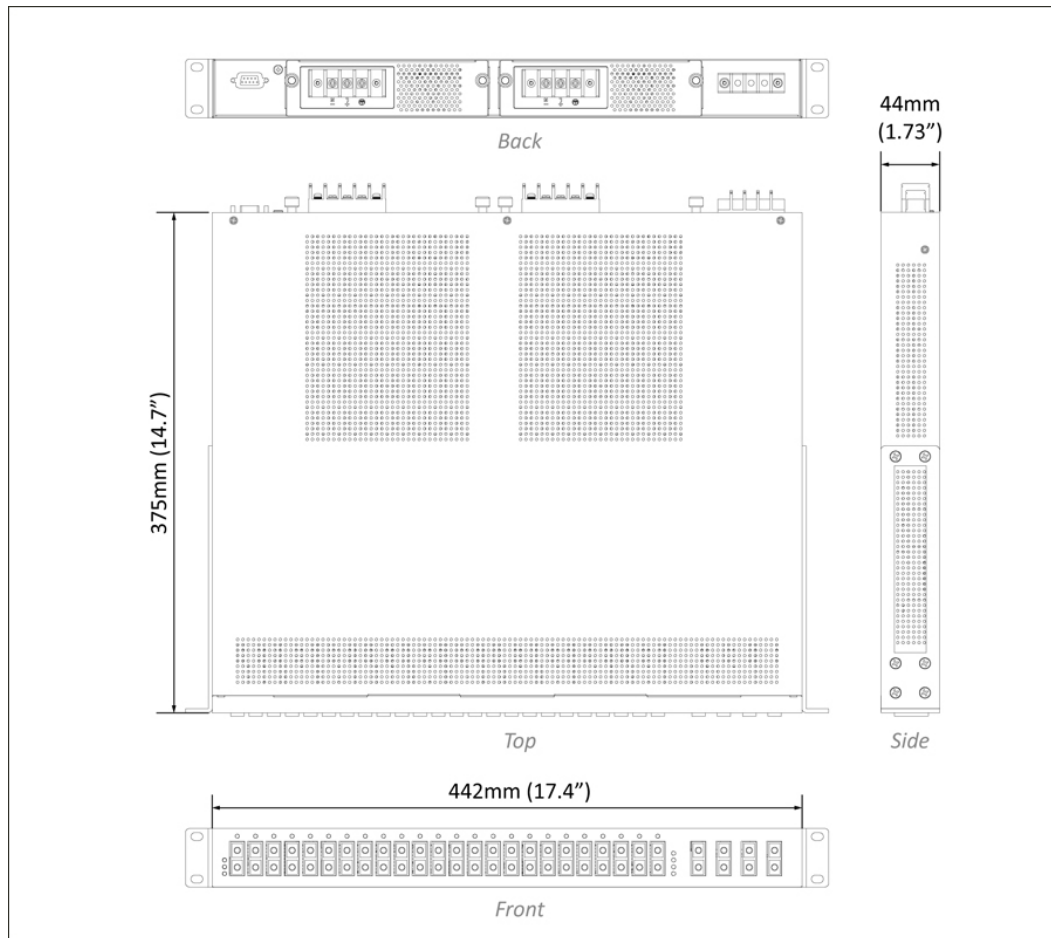
Industrial Compliance

IEC 61850-3/IEEE 1613
EN 50121-4

產品應用圖



產品尺寸圖



訂購型號

+ 型號

				
	EX27604-0XYZ	EX27424-WXYZ	EX27244-WXYZ	EX27064-WXYZ
10/100BASE-TX	24	16	8	-
100BASE-FX	-	8	16	24
100BASE-SFP	-	-	-	-
Gigabit Uplink	4	4	4	4
	Quote	Quote	Quote	Quote

* Rack mounting kit included.

+ 100FX Fiber Options (W)

1	Multi Mode (SC) - 2Km
2	Multi Mode (ST) - 2Km
6	Multi Mode (SC) WDM-TX: 1310nm/RX: 1550nm-2Km
7	Multi Mode (SC) WDM-TX: 1550nm/RX: 1310nm-2Km
8	Multi Mode (SC) WDM-TX: 1310nm/RX: 1550nm-5Km
9	Multi Mode (SC) WDM-TX: 1550nm/RX: 1310nm-5Km
A	Single Mode (SC) - 20Km
P	Single Mode (SC) WDM-TX: 1310nm/RX: 1550nm-20Km
Q	Single Mode (SC) WDM-TX: 1550nm/RX: 1310nm-20Km
V	SFP

+ Number of Fixed Gigabit Fibers (X)

0	None
4	Four Gigabit Fiber Ports



Gigabit Port Options (Y)

3	1000BASE-SX (SC) - 550m
4	1000BASE-SX (SC) - 2Km
A	1000BASE-LX (SC) - 10Km
B	1000BASE-LX (SC) - 20Km
R	1000BASE-BX (SC) WDM-TX: 1310nm/RX: 1550nm-20Km
S	1000BASE-BX (SC) WDM-TX: 1550nm/RX: 1310nm-20Km
V	4-port 100/1000BASE SFP Combo with 10/100/1000BASE-TX

* More Gigabit options also available upon request.

+ 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)



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