

EX87000 系列

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



產品亮點

多元彈性介面組合

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

強固等級設計

- » 寬溫操作(-40 到75°C)
- » 無風扇和堅固的金屬外殼設計，可有效避免高溫及高濕度環境導致材質老化
- » 抗震動及抗電磁波干擾

KEMA認證

» 通過KEMA、IEC 61850-3和IEEE 1613標準測試

產品介紹

EX87000系列為1U機架式安裝設計，提供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光纖插槽)，確保各類應用的組合需求。EX87000系列符合IEC 61850 & IEEE 1613標準，工業等級設計，可耐受高EMI干擾環境並在-40 到 75°C環境下穩定運作，與週邊各種設備相互連接，是絕佳的電力網路管理專用機。

EX87000系列可搭配益網獨家技術α-Ring環狀網路備援機制，在網路發生斷線時迅速啟動備援，於15毫秒內便可快速恢復連線通。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."

產品特色

管理

» 介面

- CLI, Telnet and Web Browser
 - SNMP v1/v2c/v3
 - » 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
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Security

- » MAC address filtering
 - » Enable/Disable port
 - » Storm control (Broadcast and multicast types)
 - » IEEE 802.1x LAN access control
 - » Remote authentication through RADIUS and TACAS+
 - » SSH for CLI and Telnet security
 - » SSL for web security
 - » ACL
 - » Multi-level user account/password against unauthorized configuration
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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)
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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
 - 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
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Performance

- » Switching Capability: 12.8Gbps
 - » Jumbo Frame: 9K bytes
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產品規格

技術

標準

- 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

緩衝記憶體封包

- 12M bits

傳輸型式

- Store-and-Forward
- Auto-Negotiation
- Half-duplex back-pressure and IEEE 802.3x full-duplex flow control
- Auto MDI/MDIX

MAC地址表

- 16K MAC addresses
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電源

輸入電壓

- (T): ± 48 VDC Internal Universal PSU
- (W): 88-300VDC or 100-240VAC Internal Universal PSU

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

電力功耗

- For models with all copper ports: EX87604 Series: 21.9W@230VAC
 - For models with all fiber ports: EX87064 Series: 40.6W@230VAC
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機構

機殼

- 金屬材質
- IP30

尺寸

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

重量

- 5Kg (11lbs.)

安裝方式

- Rack mounting
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介面

乙太網路埠

- 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 指示燈號

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

- Per SFP Slot: Selected (Green)
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環境

工作溫度

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

儲存溫度

- -45 to 85°C (-49 to 185°F)

工作濕度

- 5% to 95% (無凝結)
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通過認證

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)

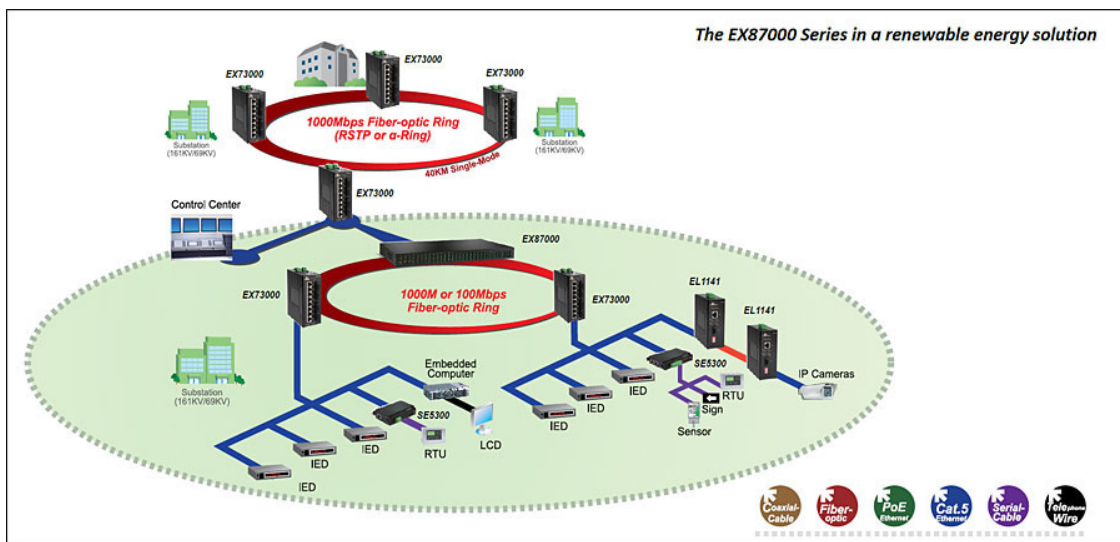
Environmental Test Compliance

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

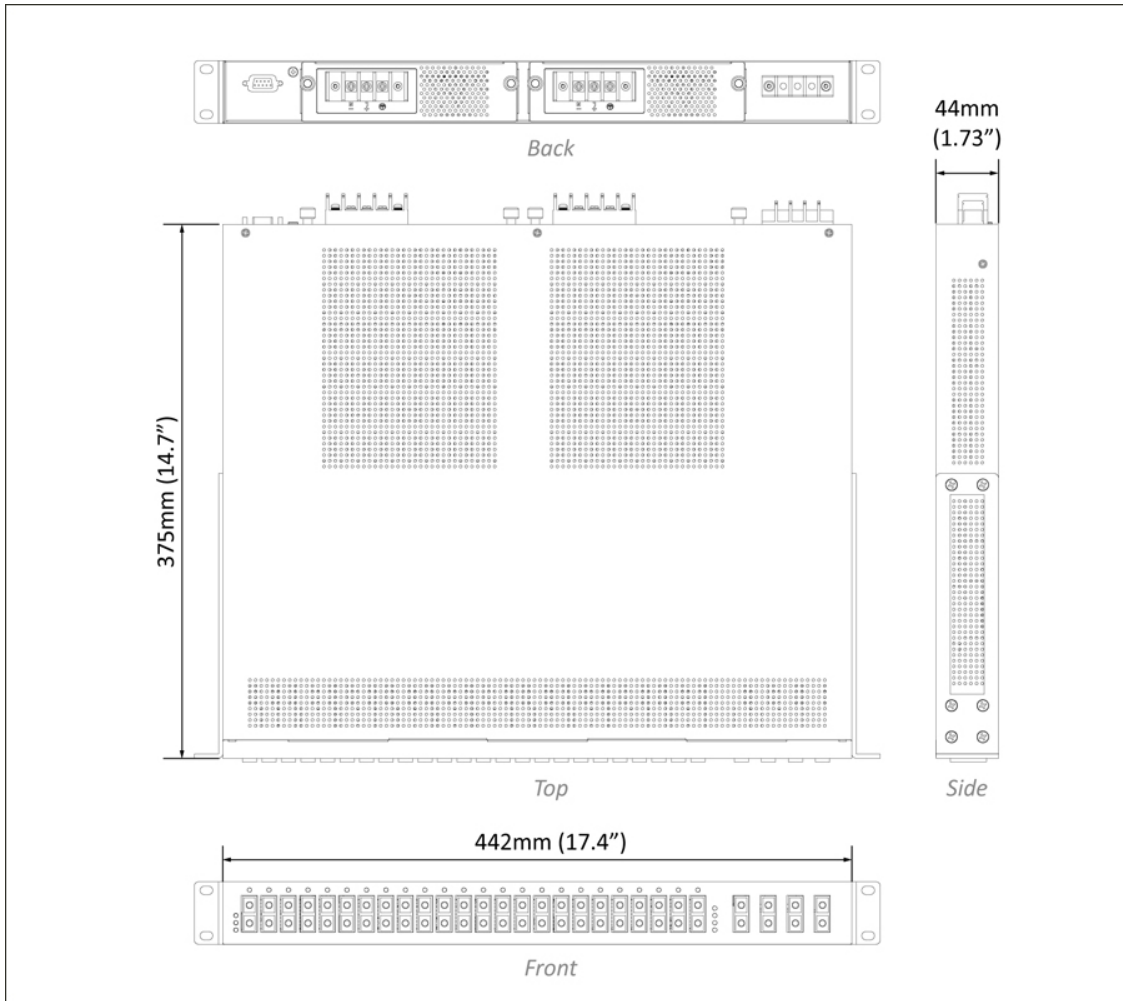
Industrial Compliance

IEC 61850-3/IEEE 1613
 EN 50121-4
 NEMA TS2

產品應用圖



產品尺寸圖



訂購型號

型號

EX87604-0XYZ	24-port 10/100BASE-TX +4-port Gigabit Hardened Managed Ethernet Switch
EX87424-WXYZ	16-port 10/100BASE-TX +8-port 100BASE-FX +4-port Gigabit Hardened Managed Ethernet Switch
EX87244-WXYZ	8-port 10/100BASE-TX +16-port 100BASE-FX +4-port Gigabit Hardened Managed Ethernet Switch
EX87064-W4YZ	24-port 100BASE-FX +4-port Gigabit Hardened Managed Ethernet Switch
EX87064-V0VZ	24-port 100BASE-SFP +4-port Gigabit SFP Combo Hardened Managed Ethernet Switch

* Rack mounting kit included.

100FX Fiber Options (W)

1	Multi Mode (SC) - 2Km
2	Multi Mode (ST) - 2Km
A	Single Mode (SC) - 20Km
H	Single Mode (ST) - 20Km
P	Single Mode (SC) WDM-TX: 1310nm/RX: 1550nm-20Km
Q	Single Mode (SC) WDM-TX: 1550nm/RX: 1310nm-20Km
V	100BASE SFP

* More 100FX Fiber options also available upon request.

Numbers of fixed Gigabit Fiber (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)

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

