EX89000 系列

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



產品介紹

本產品自2020年5月26日起停產。 請點選 此處 尋找替代產品。

EX89000系列為機架式模組化設計的網管型乙太網路交換器，使用者可視需求透過24埠10/100BASE乙太網路連接埠及4個Gigabit埠(可彈性搭配固定式光纖或SFP光纖插槽)，組合出不同合適的傳輸解決方案。

EX89000系列具備完整管理功能，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，透過益網獨家技術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，於15毫秒內便可快速恢復連線通訊。

EX89000系列專為嚴峻戶外環境設計打造，採工業等級設計且符合IEC 61850 & IEEE 1613標準，可在高EMI環境及-40 到 75°C 寬溫環境下穩定運作，是您在各類專案規劃中傳輸首選。

EtherWAN — "When Connectivity is Crucial."

產品亮點

多元彈性介面組合

» 支援模組式24個10/100base-TX/FX/BX/SFP加4埠Gigabit TX/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

通過IEC 61850-3 & IEEE 1613標準

» 符合電廠認證標準

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)
» Port mirroring: TX/RX and both
» NTP (Network Time Protocol) time synchronization

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

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 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)
  • Supports EtherWAN's Alpha-Ring topology for less than 15ms fault recovery time
» 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

» Packet Buffer Size: 3M bits

» MAC Address Table: 8192

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

- 3M 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

- 8192 MAC addresses

電源

輸入電壓

- (T): ±48VDC (36–75VDC) Internal Universal PSU
- (W): 88–370VDC and 90–264VAC Internal Universal PSU
- (C): 90–264VAC, 50–60Hz Internal Universal PSU
- (TR): ±48VDC Redundant (Terminal Block)
- (WR): 88–370VDC and 90-264VAC Redundant (Terminal Block)
- (CR): 90–264VAC Redundant (AC Inlet)

電力功耗

• 42.7W Max.

機構

機殼

• 金屬材質
• IP30

尺寸

• Single Power:
442 x343 x 44.2mm (W x D x H)
(17.4" x 13.5" x 1.74")
• Redundant Power:
442 x 404 x 44.2mm (W x D x H)
(17.4" x 15.9" x 1.74")

重量

• Single Power: 4.5Kg (9.9lbs.)
• Redundant Power: 4.6 kg (10.1 lbs.)

安裝方式

• Rack mounting

介面

乙太網路埠

• 10/100BASE-TX: 24, 16, 8 or 0 port
• 100BASE-FX: 0 to 18 ports
• Gigabit: 0, 2 or 4 ports

Console Port

• Port: One DB9 RS-232 port

Alarm Contact

• One relay output with current 1A@24VDC

LED 指示燈號

• Per Unit: Power
• Per Port: Link/Activity (Green)
• Per SFP slot: Selected/Unselected (Green)

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)

通過認證

ISO

• Manufactured in an ISO 9001 facility

EMI

FCC Part 15B Class A
EN 61000-6-4
EN 55022
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)
• IEC 61000-4-10 (Oscillatory wave magnetic field test)
• IEC 61000-4-16 (Power frequency immunity test)

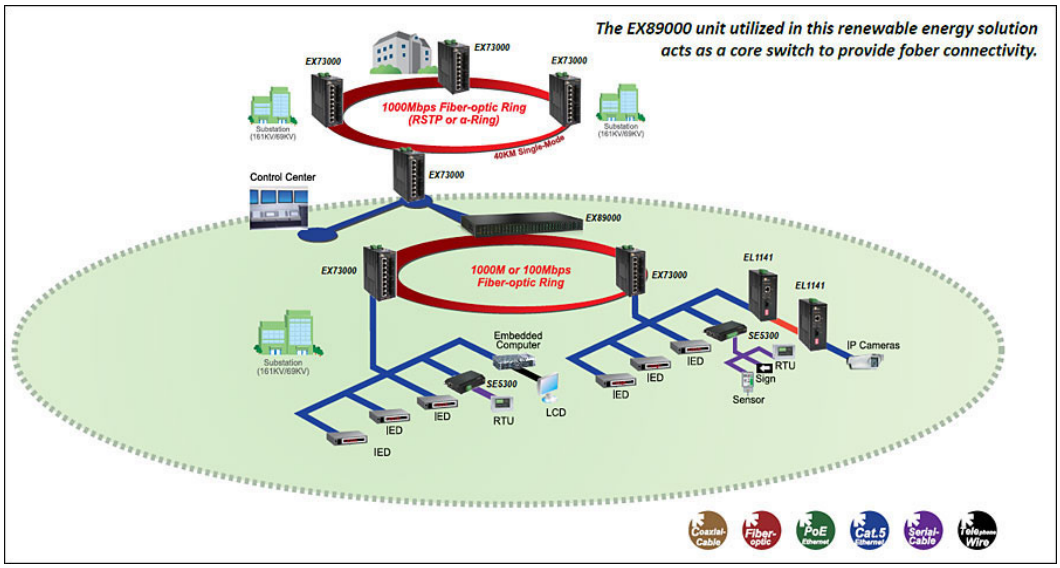
Environmental Test Compliance

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

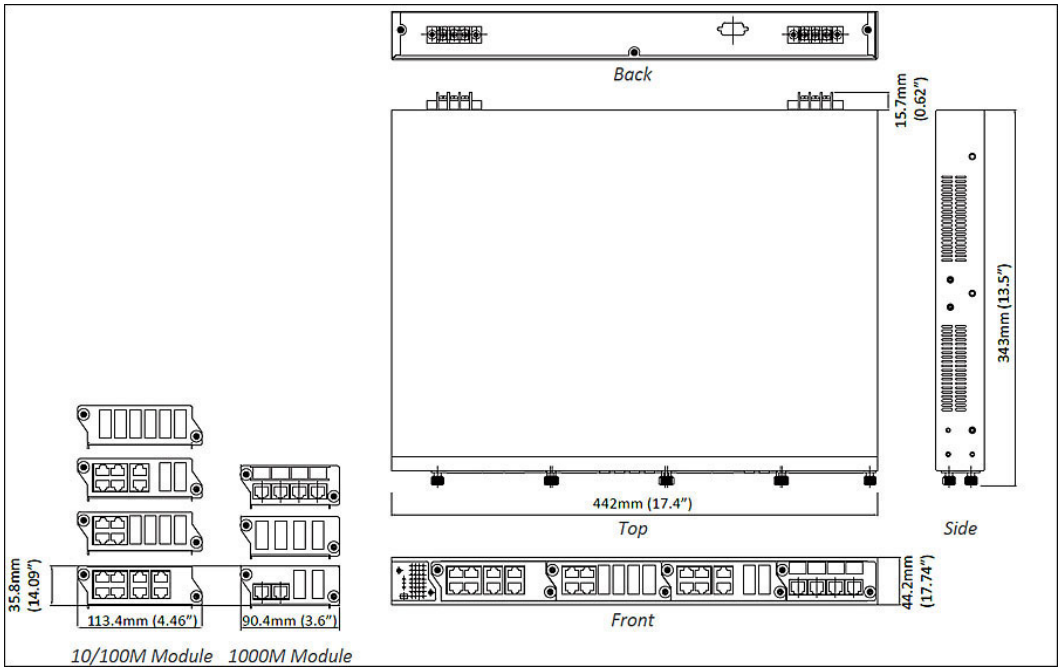
Industrial Compliance

IEEE 61850-3/IEEE 1613
EN 50121-4

產品應用圖


The EX89000 unit utilized in this renewable energy solution acts as a core switch to provide fober connectivity.
EX73000
EX73000
EX73000
1000Mbps Fiber-optic Ring (RSTP or α-Ring)
40KM Single-Mode
Substation (161KV/69KV)
Substation (161KV/69KV)
Control Center
EX73000
EX89000
EX73000
1000M or 100Mbps Fiber-optic Ring
EX73000
EL1141
EL1141
Substation (161KV/69KV)
Embedded Computer
SE5300
IP Cameras
IED
IED
RTU
Sign
Sensor
SE5300
IED
IED
RTU
LCD
IED
IED
Coaxial Cable
Fiber-optic
PoE Ethernet
Cat.5 Ethernet
Serial-Cable
Gigabit Wire

產品尺寸圖


Back
15.7mm (0.62")
343mm (13.5")
442mm (17.4")
Top
Side
35.8mm (14.09")
113.4mm (4.46")
90.4mm (3.6")
44.2mm (17.74")
Front
10/100M Module
1000M Module

訂購型號

型號

EX89000-00Z	Rack mount chassis with integrated power supply for four M89000 modules

* Rack mounting kit included.

Modules for EX89000 Series

Model	Description	Slot 1	Slot 2	Slot 3	Slot 4
M89800-000	8-Port 10/100BASE TX	YES	YES	YES	
M89620-W00	6-Port 10/100BASE TX + 2-Port 100BASE FX	YES	YES	YES	
M89420-W00	4-Port 10/100BASE TX + 2-Port 100BASE FX	YES	YES	YES	
M89060-W00	6-Port 10/100BASE FX	YES	YES	YES	
M89240-W00	2-Port 10/100BASE TX + 4-Port 100BASE FX	YES	YES	YES	
M89440-W00	4-Port 10/100BASE TX + 4-Port 100BASE FX	YES	YES	YES	
M89004-0XY	4-Port Gigabit				YES

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
B	Single Mode (SC) - 40Km
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
R	Single Mode (SC) WDM-TX:1310nm/RX:1550nm - 40Km
S	Single Mode (SC) WDM-TX:1550nm/RX:1310nm - 40Km

* More 100FX Fiber options also available upon request.

Number of Fixed Gigabit Fibers (X)

0	None
4	Four Gigabit fibrt ports

* More Gigabit options also available upon request.

Gigabit Port Options (Y)

1	10/100/1000BASE-TX
3	1000BASE-SX (SC) - 550m
4	1000BASE-SX (SC) - 2Km
5	1000BASE-SX (ST) - 550m
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 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 - 370VDC and 90 - 264VAC (Terminal Block)

C	90 - 264VAC (AC Inlet)
TR	± 48VDC Redundant (Terminal Block)
WR	88 - 370VDC and 90 - 264VAC Redundant (Terminal Block)
CR	90 - 264VAC Redundant (AC Inlet)

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