EX29000 系列

IEC 61850-3/IEEE 1613模組式網管型 4-24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。

EX29000系列為1U機架式、模組化設計，具備28個10/100BASE乙太網路連接埠或模組式介面，可搭配傳輸速率10/100Mbit及最高可達四個Gigabit埠(可彈性搭配固定式光纖或SFP光纖插槽)。產品符合IEC 61850-3 & IEEE 1613標準，能有效抗電磁波干擾。

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。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，於小於15毫秒內便可快速恢復連線通訊。

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

通過IEC 61850-3 & IEEE 1613標準

» 符合電廠認證標準
» 抗震動及抗電磁波干擾
» 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
» 寬溫操作(-10到60°C)

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
» SFP transceivers support Digital Diagnostics Monitoring (DDM)
» NTP (Network Time Protocol) time synchronization

Security

» MAC Address by port security
» Enable/disable port
» Storm control (broadcast and multicast types)
» IEEE802.1x LAN access control
» Remote authentication through RADIUS

Quality of Service (QoS)

» Priority Queues: 4 queues per port
» Traffic classification based on IEEE802.1p 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
  • IEEE802.3x full duplex mode
  • Back-Pressure half duplex mode
» Redundant Protocol
  • IEEE802.1D Spanning Tree Protocol (STP)
  • IEEE802.1w Rapid Spanning Tree Protocol (RSTP)
  • IEEE802.1s Multiple Spanning Tree Protocol (MSTP)
  • EtherWAN's Alpha-Ring network fault recovery (<15ms) and Alpha-Chain
» VLANs
  • Port-based VLANs
  • IEEE802.1Q 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)
- IEEE802.3ad Link Aggregation Control Protocol

» IGMP Snooping
- IGMP snooping v1/v2/v3

Performance

» Switching Capability: 12.8Gbps
» Packet Buffer Size: 3Mbits
» MAC Address Table: 8K

產品規格

Technology

Standards

• IEEE802.3 10BASE-T
• IEEE802.3u 100BASE-TX/100BASE-FX
• IEEE802.3ab 1000BASE-T
• IEEE802.3z 1000BASE-SX/1000BASE-LX
• IEEE802.3x Full duplex and flow control
• IEEE802.1p QoS
• IEEE802.1Q Tag VLANs
• IEEE802.1w RSTP
• IEEE802.1x 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

• 3M bits

Processing Type

• Store-and-Forward
• Half-duplex back-pressure and IEEE802.3x full-duplex flow control

Address Table Size

• 8192 MAC addresses

Power

Input

(T) : + / - 48VDC (36 - 75VDC) Internal Universal PSU
(W) : 88 - 370VDC and 90 - 264VAC Internal Universal PSU
(C) : 90 - 264VAC, 50 - 60Hz Internal Universal PSU

Power Consumption

42.7W Max.

Mechanical

Casing

Metal Case
IP30

Dimensions

Single Power:
442mm (W) x343mm (D) x 44.2mm (H)
17.4" (W) x 13.5" (D) x 1.74" (H)
Redundant Power:
442mm (W) x404mm (D) x 44.2mm (H)
(17.4" (W) x 15.9"(D) x 1.74" (H))

Weight

Single Power: 4.4Kg (9.68lbs.)
Redundant Power: 4.6 kg (10.1 lbs.)

Installation

Rack mounting

Interface

Ethernet Port

- 10/100BASE-TX: 24, 16, 8 or 0 port
- 100BASE-FX: 0, 4, 8, 12, 16, 20 or 24 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 Indicators

- Per Unit: Power
- Per Port: Link/Act (Green)
- Per SFP Slot: Selected/Unselected (Green)

Environment

Operating Temperature

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

Storage Temperature

• -40°C to 85°C (-40°F to 185°F)

Ambient Relative Humidity

• 5% to 95% (non-condensing)

Regulatory Approvals

ISO

• Manufactured in an ISO 9001 facility

EMI

FCC Part 15B, Class A
EN61000-6-4
EN55022
EN61000-3-2
EN61000-3-3

EMS

EN61000-6-2
• EN61000-4-2 (ESD Standards)
• EN61000-4-3 (RFI Standards)
• EN61000-4-4 (Burst Standards)
• EN61000-4-5 (Surge Standards)
• EN61000-4-6 (Induced RFI Standards)
• EN61000-4-8 (Magnetic Field Standards)
• IEC61000-4-10 (Oscillatory wave magnetic field test)
• IEC61000-4-16 (Power frequency immunity test)

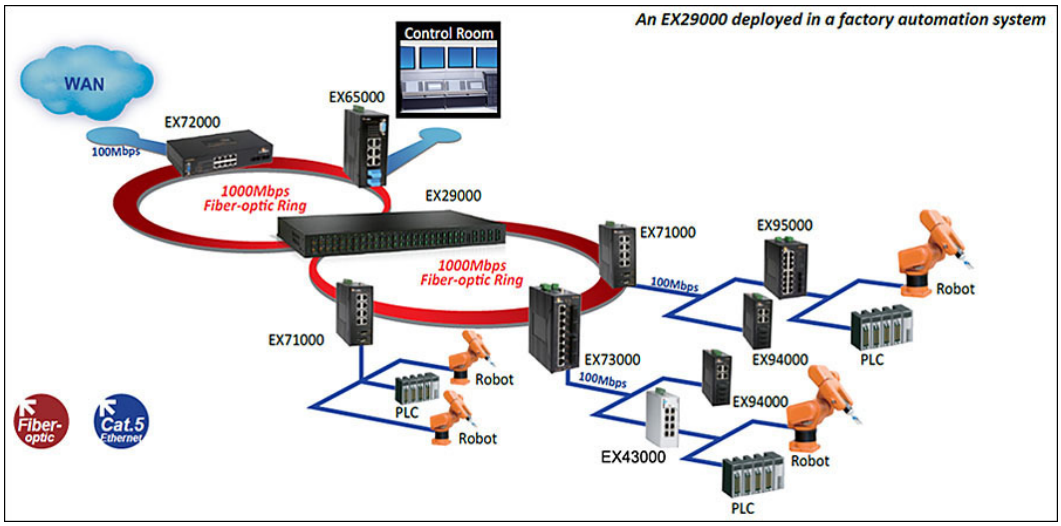
Environmental Test Compliance

IEC60068-2-6 Fc (Vibration Resistance)

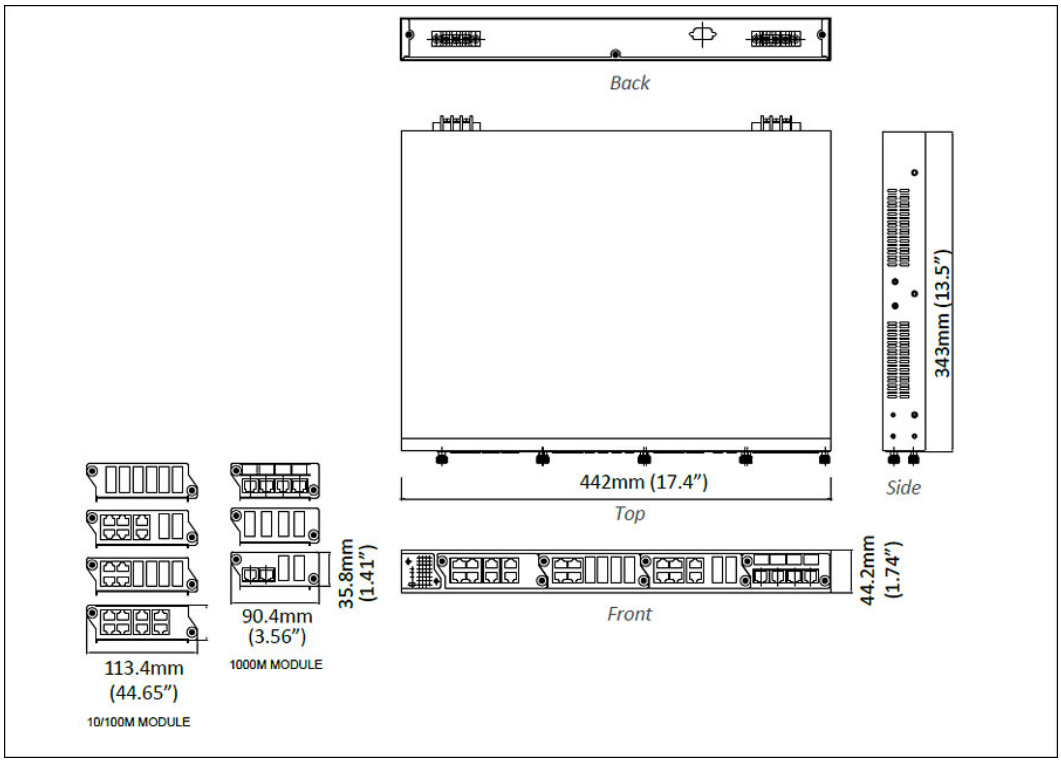
Industrial Compliance

IEC61850-3 / IEEE1613

產品應用圖


An EX29000 deployed in a factory automation system
Control Room
WAN
EX72000
100Mbps
EX65000
1000Mbps
Fiber-optic Ring
EX29000
EX71000
EX95000
1000Mbps
Fiber-optic Ring
100Mbps
Robot
PLC
EX71000
Robot
PLC
Robot
EX73000
100Mbps
EX94000
EX94000
EX43000
Robot
PLC
Fiber-optic
Cat.5 Ethernet

產品尺寸圖


Back
442mm (17.4")
Top
343mm (13.5")
Side
Front
44.2mm
(1.74")
35.8mm
(1.41")
90.4mm
(3.56")
1000M MODULE
113.4mm
(44.65")
10/100M MODULE

訂購型號

Model

EX29000-00Z	IEC61850-3/IEEE1613 Modularized Managed 24-port 10/100BASE and 4-port Gigabit Ethernet Switch with SFP options

* Rack mounting kit included

Modules for EX29000 Series

Model	Description	Slot 1	Slot 2	Slot 3	Slot 4
M29800-000	8-Port 10/100BASE TX	YES	YES	YES	
M29620-W00	6-Port 10/100BASE TX + 2-Port 100BASE FX	YES	YES	YES	
M29420-W00	4-Port 10/100BASE TX + 2-Port 100BASE FX	YES	YES	YES	
M29060-W00	6-Port 10/100BASE FX	YES	YES	YES	
M29240-W00	2-Port 10/100BASE TX + 4-Port 100BASE FX	YES	YES	YES	
M29440-W00	4-Port 10/100BASE TX + 4-Port 100BASE FX	YES	YES	YES	
M29004-0XY	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

Number of Fixed Gigabit Fibers (X)

0	None
4	Four Gigabit fiber 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

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)

© EtherWAN Systems, Inc. All rights reserved. 20260129
EtherWAN is constantly developing and improving products. Specifications are subject to change without notice and without incurring any obligation.