EX29000 Series

IEC 61850-3/IEEE 1613 Modularized Managed 4 to 24-port 10/100BASE and 4-port Gigabit Ethernet Switch with SFP options

Overview

This product is discontinued as of 26th May 2020.click here for alternative product.

EtherWAN's EX29000 Series provides an industrial Fully Managed 28-port switching platform combining high performance switching backbone with robust and secure management features required for mission critical and industrial environments where sustained connectivity is crucial.

Highly modularized, the EX29000 switch supports up to 28 electrical and/or optical interfaces with data transfer rates of 10/100 Mbit/s.and up to four Gigabit, Fixed Fiber, or SFP Combo port options. Mountable on a 1U rack, the EX29000 Series is equipped with EtherWAN's Alpha-Ring self-healing technology, providing less than 15ms fault recovery time making it ideal for applications intolerant to interruption.

Users are able to access management features such as port security, IGMP snooping, VLANs, GARP protocols, LACP to name a few via web browser, Telnet, SNMP, RMON, TFTP, and RS-232 console interface.

EtherWAN — "When Connectivity is Crucial."

Spotlight

Versatile Connectivity

» Modularized Ethernet Switch of 24-port 10/100BASE-TX/FX/BX and 4-port Gigabit-TX/SX/LX/BX/SFP

IEC61850-3 Compliance

» Meets the standards for operating in power substation zones
» High shock and electric noise immunity
» Fanless and ruggedized housing
» -10°C to 60°C operatring temperature range

Features

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

Specifications

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)

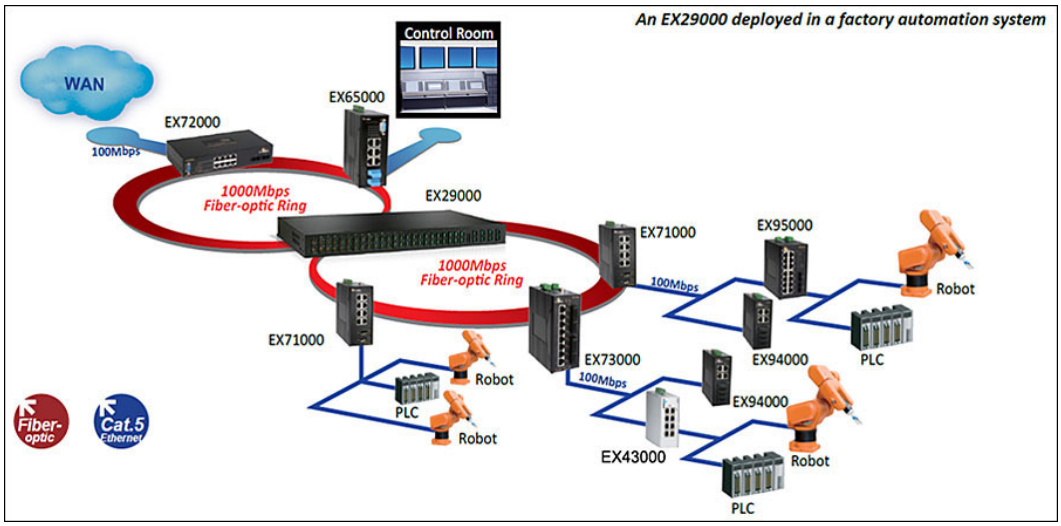
Environmental Test Compliance

IEC60068-2-6 Fc (Vibration Resistance)

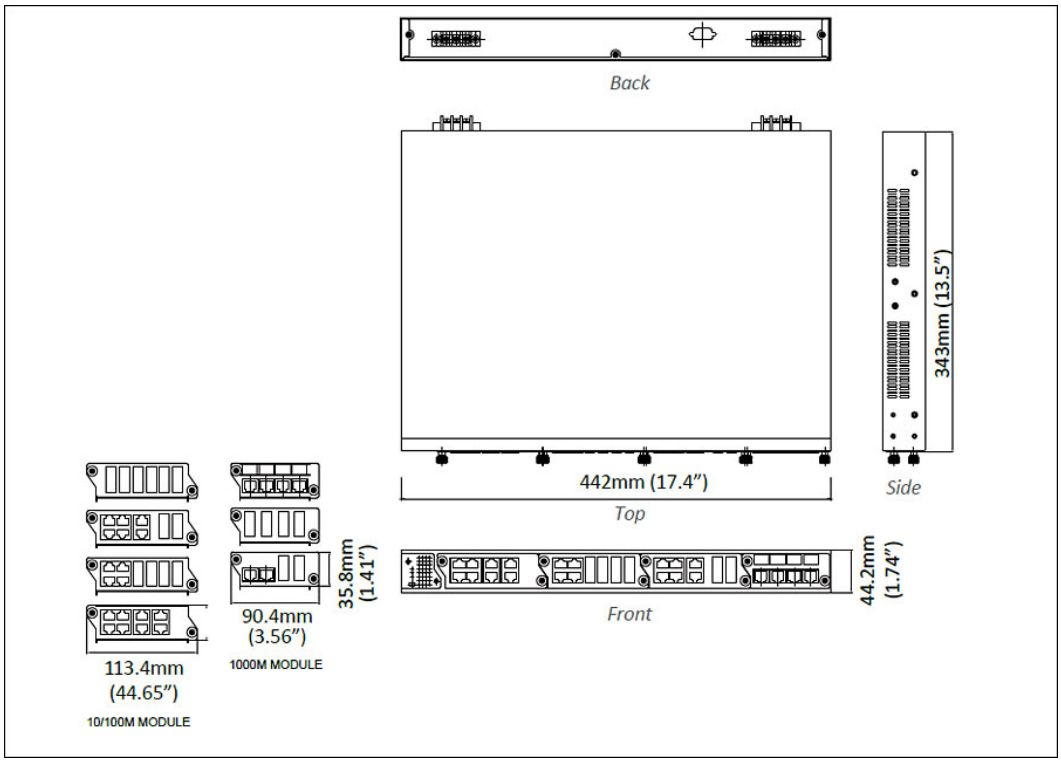
Industrial Compliance

IEC61850-3 / IEEE1613

Application



Dimensions



Ordering Info

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)

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