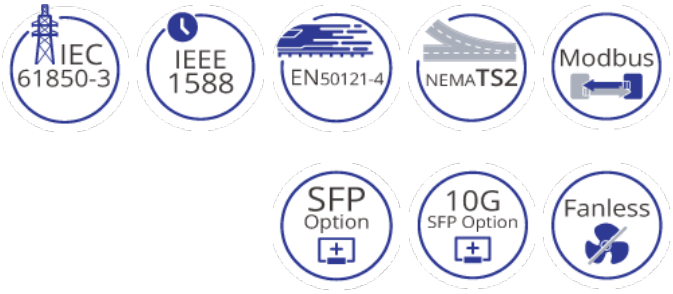
IG5 L Rack 系列

IEC 61850-3/IEEE 1613 工業級網管型 24 埠 Gigabit + 4 埠1G/10G SFP+ 乙太網路交換器



產品亮點

高頻寬和多介面配置

24 埠 Full Gigabit 全千兆高頻寬連接
4 個獨立 SFP+ 埠支援 1G/10G 光纖連接
高達 128Gbps 交換容量的全雙工運行
所有連接埠均採雙速率設計，最高可達 10G
多種光纖/銅纜介面搭配選擇

專為工業應用環境的設計

-10 至 60°C（14 至 140°F）工作溫度範圍
高耐溫衝擊和高雜訊抗噪
高靜電/突波防護能力
通過 IEC 61850-3 和 IEEE 1613 標準測試

第三層網管功能

靜態路由、RIP v1/v2 , 和 OSFP
VRRP 虛擬路由器備援協定
廣播流量減輕

支援時間戳記

所有連接埠皆支援 IEEE 1588v2 PTP 協議
支援 One-Step & Two-Step 對等延遲量測機制
可作為透明時鐘的網橋裝置運行

靈活的機櫃安裝

雙側 LED 面板設計，支援前後安裝
簡潔易讀的連結狀態顯示
方便的佈線管理

服務支援

技術支援
免費韌體升級和通知
有限終身保固

產品介紹

益網科技 IG5 L 機架系列工業級網管型交換器，將第 3 層路由協定的優勢與強大的管理功能和增強的規格相結合。支援靜態路由、路由資訊協定 (RIP) v1/v2、OSPF 和虛擬路由器備援協定 (VRRP) ，在高性能與高成本效益的解決方案中，提供出色的靈活性和安全性。

具備多種銅纜/光纖連接埠組合選項，提供有效的模組化。全部 24 連接埠皆支援 Gigabit 傳輸和 4 個支援 10G 速度的 SFP+ 埠。1U機架高度，搭載益網科技的Alpha-Ring自癒技術，提供小於1毫秒的斷線回復時間，完美應用於無法忍受中斷的網路架構環境，促進更強的通訊網路。

IG5 L 機架系列符合 IEEE 1588v2 標準的精確時間通訊協定 (PTP)，利用網路封包及時間戳記進行網路時間同步。廣泛的第 2 層功能包括連接埠安全性、IGMP偵聽、連接埠基礎的VLAN、GARP、鏈路聚合控制和 ACL，支援 SSH、 SNMP、RMON、HTTPS 和 SFTP 等多種安全存取方法，實現豐富的管理功能和操作。

堅實可靠的設計可滿足-10°C 至60°C 範圍內的絕大多數工業應用操作，並符合IEC61850 和IEEE 1613 認證規範，在高電磁干擾的環境中保持穩定的性能，使其成為關鍵任務應用的理想選擇。

EtherWAN — "When Connectivity is Crucial."

影片介紹

IG5 Series
IEC 61850-3/IEEE 1613 Lite L3 Hardened Managed 24-port Gigabit and 4-port 1G/10G SFP+ Ethernet Switch
IEEE 1588
IEC 61850-3
NEMA TS2
EN50121-4
IG5 Series
IEC 61850-3/IEEE 1613 Lite L3 Hardened Managed 24-port Gigabit and 4-port 1G/10G SFP+ Ethernet Switch
Precision time protocol
Up stream up to 10G
LED dual display
Flexible port combinations
DnA supportive
IEEE 1588

軟體功能

Interface

CLI, Telnet, Web GUI

Management

Firmware Upgrade
Configuration Backup
DHCP Server/Client
RMON (Remote Monitoring)
Port Mirroring
NTP (Network Time Protocol) Synchronization
LLDP (Link Layer Discovery Protocol)
IPv4/IPv6
SNMP v1/v2c/v3
Modbus

Security

MAC Address Filtering
Enable/Disable Port
Storm Control
System Logging
IEEE 802.1x LAN Access Control
Remote Authentication through RADIUS and TACACS+
Complex Password Support
Multi-user Login and Privileged Access Management
SSH for CLI and Telnet Security
SSL and HTTPS for Web Security
ACL (Access Control List, up to 4096 Entries)

Quality of Service (QoS)

Priority Queues: 8 Queues Per Port
Traffic Classification Based on IEEE 802.1p CoS (Cost of Service), DSCP (Differentiated Services Code Point), WRR (Weighted Round Robin), and Strict Mode
Rate Limiting (Ingress/Egress)

Layer 2 Features

Auto-negotiation for Port Speed and Duplex
Flow Control
IEEE 802.3x full duplex mode
Back-pressure half duplex mode

Redundant Protocols
IEEE 802.1D STP
IEEE 802.1w RSTP
IEEE 802.1s MSTP
EtherWAN's Alpha-Ring network fault recovery

VLANs
IEEE 802.1Q Tag VLANs
GVRP
GMRP

Link Aggregation
Static Trunk (4 groups)
IEEE 802.3ad LACP

IGMP Snooping v1/v2/v3

Layer 3 Features

IP Packet Routing
Maximum number of routes in hardware: 64 entries
Static Routing
RIP v1/v2
OSPF v2

Routing Redundancy
VRRPv2

Software Properties and Performance

Switching Fabric
128Gbps

Forwarding Rate

95.23Mpps

Max VLANs

256 (4096 VID)

Jumbo Frame Size

9KB

MAC Table Size

16K

Packet Buffer Memory

12M bits

硬體規格

Interface

Ethernet

10/100/1000BASE-T(X): 0, 8, 16 or 24 ports

100/1000BASE SFP: 0, 8, 16 or 24 ports

1G/10G SFP+: 4 ports

Console

1 x RJ45

Digital Input

2 x Digital Input

Wet Contact: 0-3V for State 0; 13-30V for State 1; Max input current: 8mA

Dry Contact: Logic Level 1–Close to GND; Logic Level 0-Open

Alarm Contact

2 x Relay output, current capacity 0.6A/30VDC

LED Indicators

Per Unit:

Power 1 (Single Power models) (Green)

Power 2 (Dual Power models) (Green)

Per Port: Link/Activity (Green)

Per Port: Alarm (Red)

Technology

Standards

IEEE 802.3 10BASE-T

IEEE 802.3u 100BASE-TX/100BASE-FX

IEEE 802.3ab 1000BASE-T

IEEE 802.3ae 10Gigabit Ethernet

IEEE 802.3ad link aggregation control

IEEE 802.3z 1000BASE-SX/1000BASE-LX
IEEE 802.3x full duplex and flow control
IEEE 802.1D STP
IEEE 802.1p QoS
IEEE 802.1Q Tag VLANs
IEEE 802.1s MSTP
IEEE 802.1w RSTP
IEEE 802.1x PNAC
IEEE 802.1ab LLDP

Forward/Filtering Rate
14,880pps for 10Mbps
148,810pps for 100Mbps
1,488,100pps for 1000Mbps
14,881,000pps for 10Gbps

Processing Type
Store-and-forward
Auto-negotiation
Half-duplex back-pressure and full-duplex
flow control
Auto MDI/MDIX

System Memory
2Gb DDR3 SDRAM

Flash Storage
1Gb

+ Power

Input
Dual Power
FTRL: (Terminal Block)
24VDC to 48VDC (Nominal)
18 - 60VDC (Operational)
FWRL: (Terminal Block)
100 - 250VDC or 100 - 240VAC (Nominal)
88 - 300VDC or 88 - 264VAC

(Operational)
RCRL: (AC Inlet)
100 - 240VAC

Single Power
FWSL: (Terminal Block)
100 - 250VDC or 100 - 240VAC (Nominal)
88 - 300VDC or 88 - 264VAC (Operational)
RCSL: (AC Inlet)
100 - 240VAC

Power Consumption
50W max.

Protection
Reverse Polarity Protection

Physical

Casing Material
Metal

IP Rating
IP40

Dimensions
442 x 325 x 44mm (W x D x H)
17.4” x 12.8” x 1.73”

Weight
4.6kg (10.14lbs) / 4.0kg (8.82lbs)

Installation Type
Rack mounting

Environmental

Operating Temp.
-10 to 60°C (14 to 140°F)

Storage Temp.
-45 to 85°C (-49 to 185°F)

Relative Humidity
5% to 95% (non-condensing)

MTBF
644,723 hours

Regulatory

ISO
Manufactured in ISO-9001 facility

EMI
FCC Part 15B Class A
VCCI Class A
EN 61000-6-4

EMS

EN 61000-6-2

EN 61000-4-2 (ESD)

EN 61000-4-3 (Radiated RFI)

EN 61000-4-4 (Burst)

EN 61000-4-5 (Surge)

EN 61000-4-6 (Induced RFI)

EN 61000-4-8 (Magnetic field)

Safety

UL 62368-1

Vibration

IEC 60068-2-6

Shock

IEC 60068-2-27

Free Fall

IEC 60068-2-31

Industrial

EN 50121-4

Power Substation

IEC 61850-3/IEEE 1613

+ Warranty

Length

Limited Lifetime

Details

www.etherwan.com/support/warranty-policy

+ What's Included

Device

Ethernet Switch

Cables

1 Console Cable

Installation

Mounting brackets, screws

Documentation

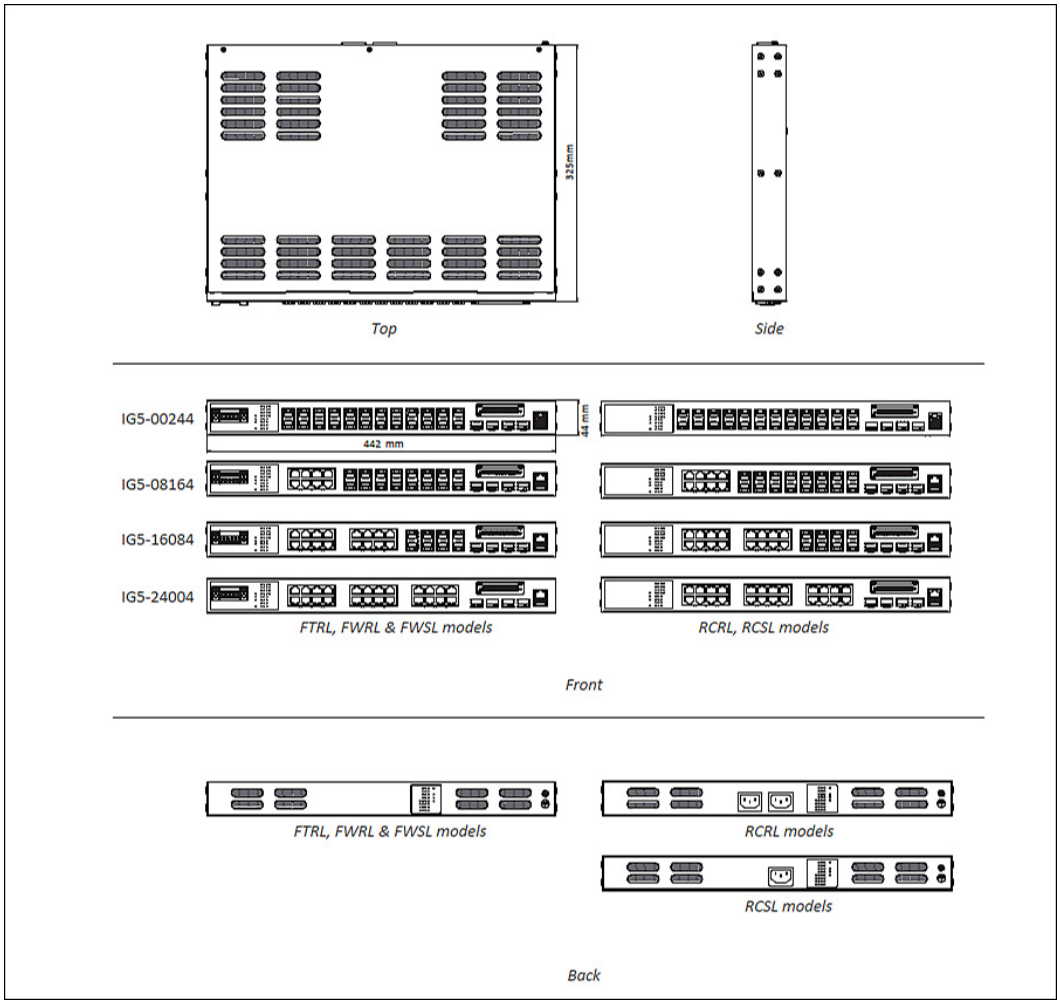
Quick Install Guide

Power

1 AC Power Cord (RCSL models)

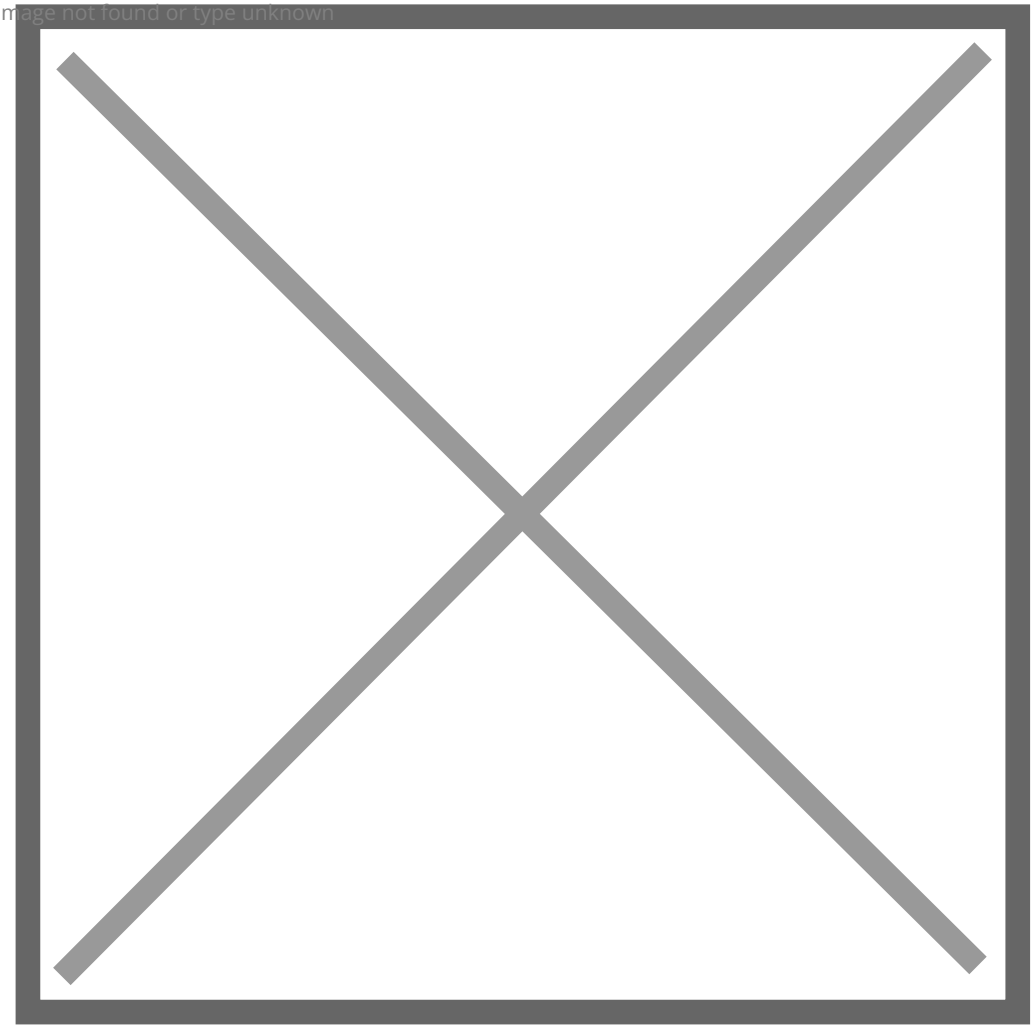
2 AC Power Cord (RCRL models)

產品尺寸



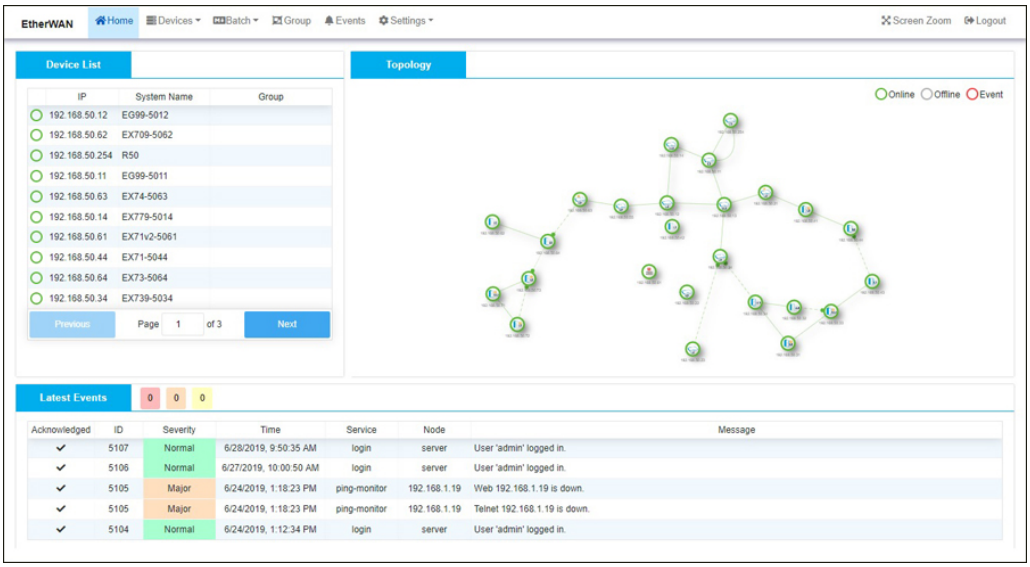
應用圖

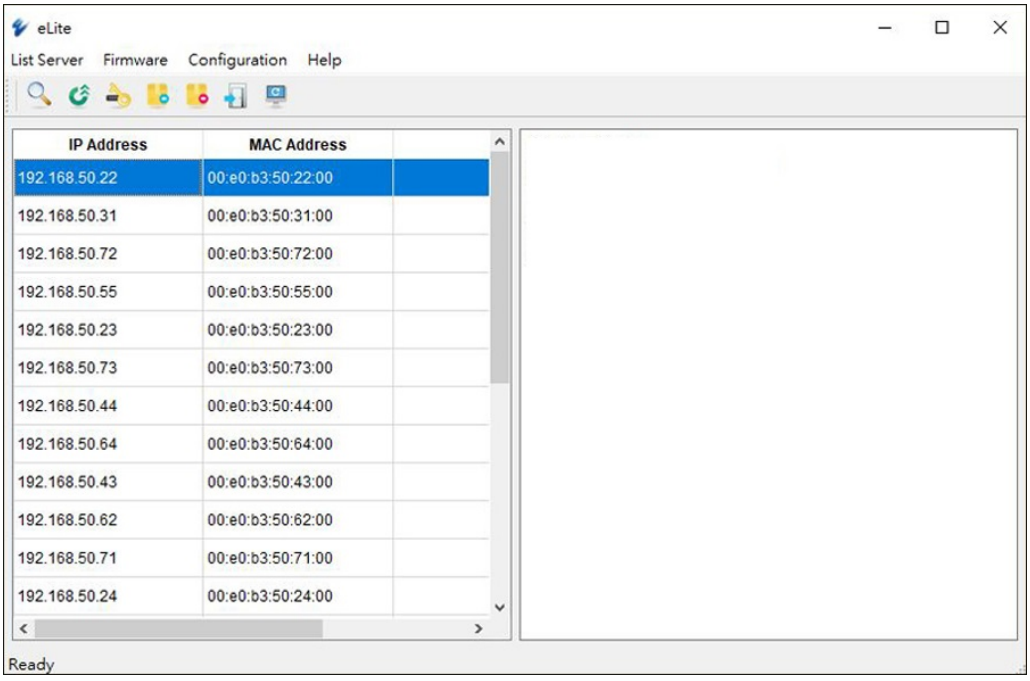
Image not found or type unknown



軟體工具

網路管理	eVue™ 網路配置和監控工具
網路探索	eLite™ 網路偵測和 IP 配置工具





訂購型號

Model

IG5-24004YYYZ	24 埠 10/100/1000BASE-T(X) + 4 埠 1G/10G SFP+ 網管型乙太網路交換器
IG5-16084YYYZ	16 埠 10/100/1000BASE-T(X) + 8 埠 100/1000BASE SFP + 4 埠 1G/10G SFP+ 網管型乙太網路交換器
IG5-08164YYYZ	8 埠 10/100/1000BASE-T(X) + 16 埠 100/1000BASE SFP + 4 埠 1G/10G SFP+ 網管型乙太網路交換器
IG5-00244YYYZ	24 埠 100/1000BASE SFP + 4 埠 1G/10G SFP+ 網管型乙太網路交換器

Power Input Interface (YYYZ)

FTRL	24VDC 到 48VDC 雙電源配置 (接線端子台)，工業等級操作溫度 (-10 到 60°C)
FWRL	88 到 300VDC 或 100-240VAC 雙電源配置 (接線端子台)，工業等級操作溫度 (-10 到 60°C)
RCRL	100 到 240VAC 雙電源配置 (AC 電源插座)，工業等級操作溫度 (-10 到 60°C)
FWSL	88 到 300VDC 或 100-240VAC 單電源配置 (接線端子台)，工業等級操作溫度 (-10 到 60°C)
RCSL	100 到 240VAC 單電源配置 (AC 電源插座)，工業等級操作溫度 (-10 到 60°C)

配件選購

Part Number	Speed Info	Mode	Distance	Operating Temperature	Wavelength	DDM
EX-0155NSP-MB2L-A	100Mbps	Multi	2km	-40 to 85°C	1310nm	-
SFPMIS20M	100Mbps	Single	20km	-40 to 85°C	1310nm	✔
SFPGIM5AM	1000Mbps	Multi	275m/550m	-40 to 85°C	850nm	✔
SFPGIM02M	1000Mbps	Multi	2km	-40 to 85°C	1310nm	✔
SFPGIS10M	1000Mbps	Single	10km	-40 to 85°C	1310nm	✔
SFPTIM3AM	10Gbps	Multi	300m	-40 to 85°C	850nm	✔
SFPTIM3AM	10Gbps	Single	10km	-40 to 85°C	1310nm	✔

更多配件選擇, 請參照下列網址:

強固級100BASE SFP 模組	www.etherwan.com/products/sfp-fiber-transceiver
強固級 Gigabit SFP 模組	www.etherwan.com/products/sfp-fiber-transceiver
強固級10 Gigabit SFP 模組	www.etherwan.com/products/sfp-fiber-transceiver
DIN 導軌式電源供應器	www.etherwan.com/products/din-rail-power-supply

© EtherWAN Systems, Inc. All rights reserved. 20240419
EtherWAN is constantly developing and improving products. Specifications are subject to change without notice and without incurring any obligation.