IG5 SV Series

IEC 61850-3/IEEE 1613 Hardened Managed 24-port Gigabit (8*PoE) and 4-port 1G/2.5G/10G SFP+ Ethernet PoE Switch



Overview

EtherWAN's IG5 SV switches offer enhanced performance with versatile port combinations, including 8 PoE ports delivering up to 30W each. The compact, front-facing design with a shorter depth ensures easy access and installation in tight cabinet spaces, while PoE capabilities reduce the need for extra switches.

With 10G bandwidth, these switches support 24 1G ports and 4 1G/2.5G/10G ports, offering high bandwidth and full duplex capabilities. Rich Layer 2 and Layer 3 management functionalities, along with digital I/O and relay control ports, support diverse network applications.

The rugged IP40 casing and extreme hardened grade, operating up to 85°C for 16 hours, make them ideal for outdoor installations. These switches meet IEC and IEEE standards for network time synchronization, ensuring rapid response and high reliability. The IG5 SV is ideal for critical applications like urban infrastructure, intelligent transportation, industrial IoT, and smart energy networks.

EtherWAN — "When Connectivity is Crucial."

Highlights

High Bandwidth and Versatility

- 24 full gigabit port with multiple configurations
- 4 x 1G/2.5G/10G SFP+ uplink ports
- Sufficient switching capacity at 128Gbp
- DnA solutions for Digital I/O & Relay control

PoE Features

- 8-port IEEE 802.3 af/at PSE with 90W total power budget
- PoE watchdog monitors status of connected PD devices

Layer 3 Functionality

- Static routing, RIP v1/v2, and OSPF
- Redundancy with VRRPv2

Flexible Installation

- Support Rack and Panel mount installation
- Concise communication status display
- Considerable ease of cabling management

Substation communication and time synchronization

- Complies with IEC61850-90-4 GOOSE and multicast message transmission
- IEEE 1588v2 Available in all ports
- Support One-Step and Two-Step delay measurement mechanism
- Operation as transparent clock

Designed for Crucial Environments

- Wide Operation Temperature range from -40 to 75°C(-40 to 167°F)
- Thermal shock and electrical noise resistance

Features

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)
IPSG (IP Source guard)
DAI (Dynamic ARP Inspection)
DHCP Snooping

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: 512 entries
Static Routing
RIP v1/v2
OSPF v2

Routing Redundancy

VRRPv2

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)

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

Specifications

Interface

Ethernet

10/100/1000BASE-T(X) PoE: 8 ports (PoE models)

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

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

1G/2.5G/10G SFP+: 4 ports

Console

1 x RJ45

Config Backup

1 x USB (Type A Connector)

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 0.5A/48VDC

LED Indicators

Per Unit: Power 1, Power 2 (Green)

Link/Activity (Green)

Per Port:Alarm (Red)

PoE Port: PoE Status (Green)

Physical

Casing Material

Metal

IP Rating

IP40

Dimensions

442 x 267 x 44mm (W x D x H)
17.4" x 10.5" x 1.73"

Weight

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

Installation Type

Rack mounting / Panel mounting

Environmental

Operating Temp.

-40 to 75°C (-40 to 167°F)
(-40°C to 85°C for IEC 60068-2-2 Environmental 16 hours)

Storage Temp.

-45 to 85°C (-49 to 185°F)

Relative Humidity

5% to 95% (non-condensing)

MTBF

790,907 hours

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 802.1D 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

Regulatory

ISO

Manufactured in ISO-9001 facility

EMI

FCC Part 15B Class A

VCCI Class A

EN 61000-6-4

EN 61000-3-2

EN 61000-3-3

EN 55032

BSMI

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

Cybersecurity

IEC 62443-4-1

IEC 62443-4-2

Vibration

IEC 60068-2-6

Shock

IEC 60068-2-27

Free Fall

IEC 60068-2-31

Traffic

NEMA TS2

Railway

EN 50121-4

Power Substation

IEC 61850-3/IEEE 1613/IEC 60255-27

Power

Input

24VDC to 48VDC (Nominal)

18 - 60VDC (Operational)

Redundant Power Inputs (Terminal Block)

Power Consumption

50W max. (Without PoE)

Protection

Reverse Polarity Protection

Overload Current Protection

PoE (Available for PoE models)

PoE Modes
- 802.3af/at Mode A: Pins 1/2(-), 3/6(+)

Power Output
- Ports 1-8: 15W Up to 30W/port
- Total Power Budget: 90W

Compliance
- IEEE 802.3af type 1, ≤15.4W PD devices
- IEEE 802.3at type 2, 30W PD devices.

Warranty

Length

Limited Lifetime

Details

www.etherwan.com/support/warranty-policy

What's Included

Device

Ethernet Switch

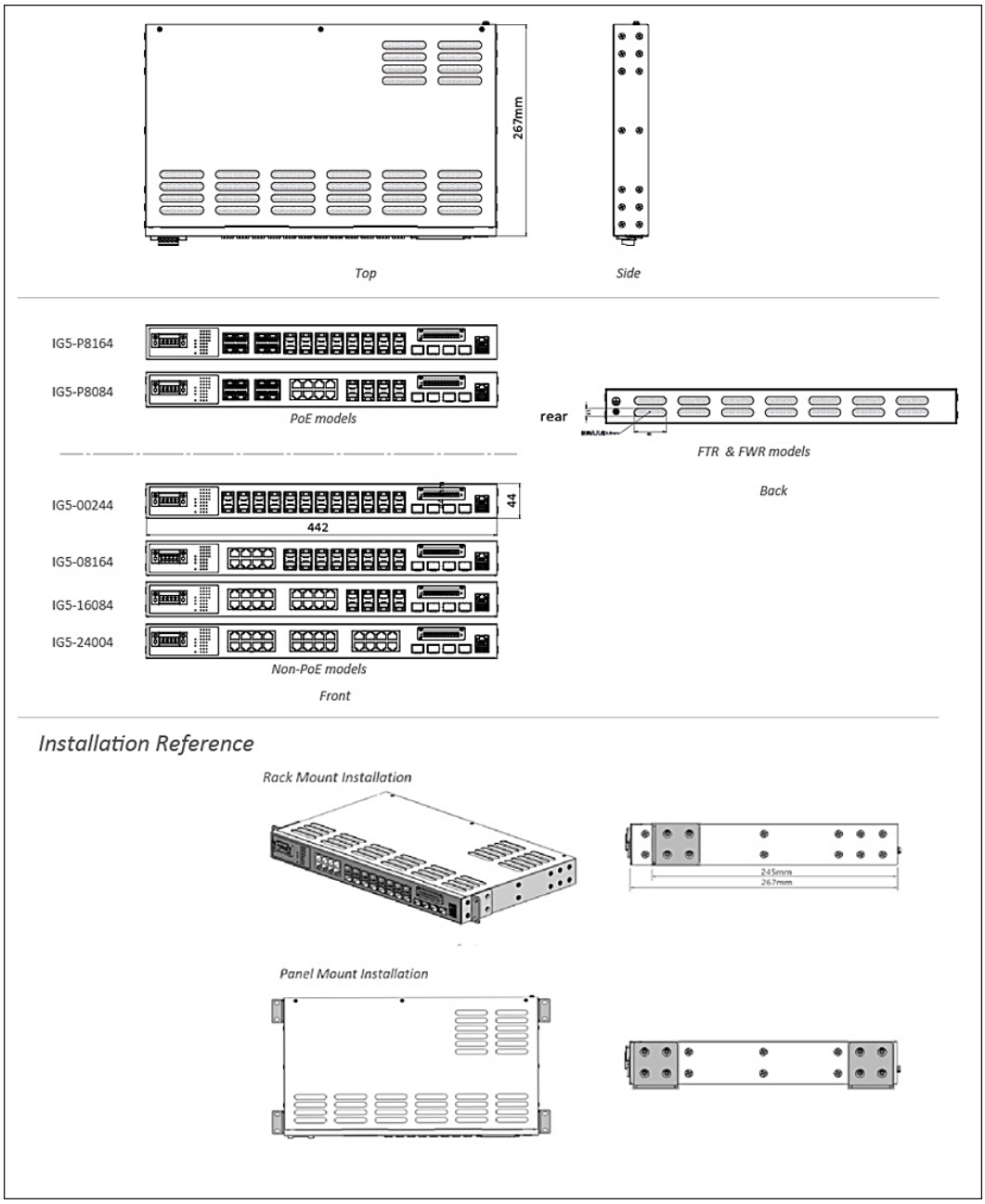
Cables

1 Console Cable

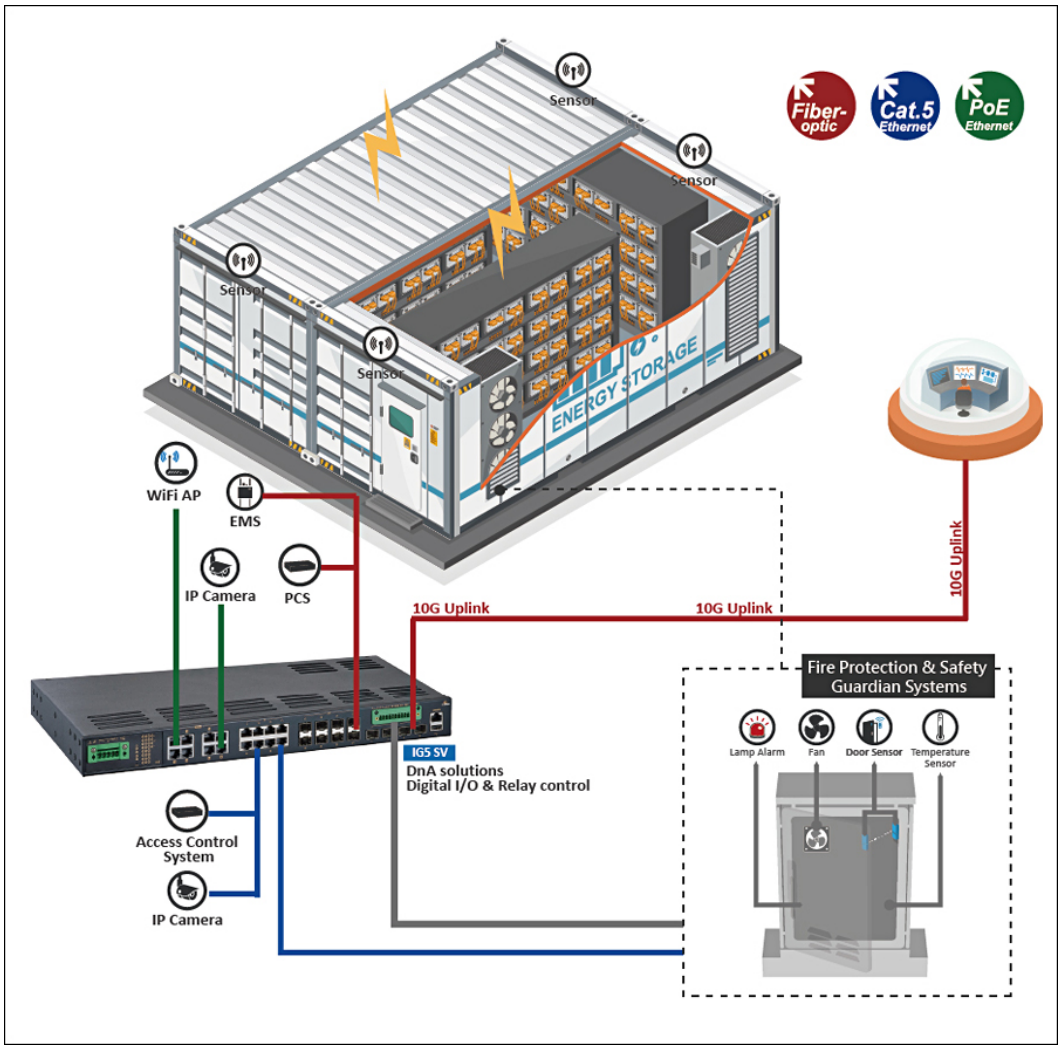
Installation

Mounting brackets, screws

Dimensions

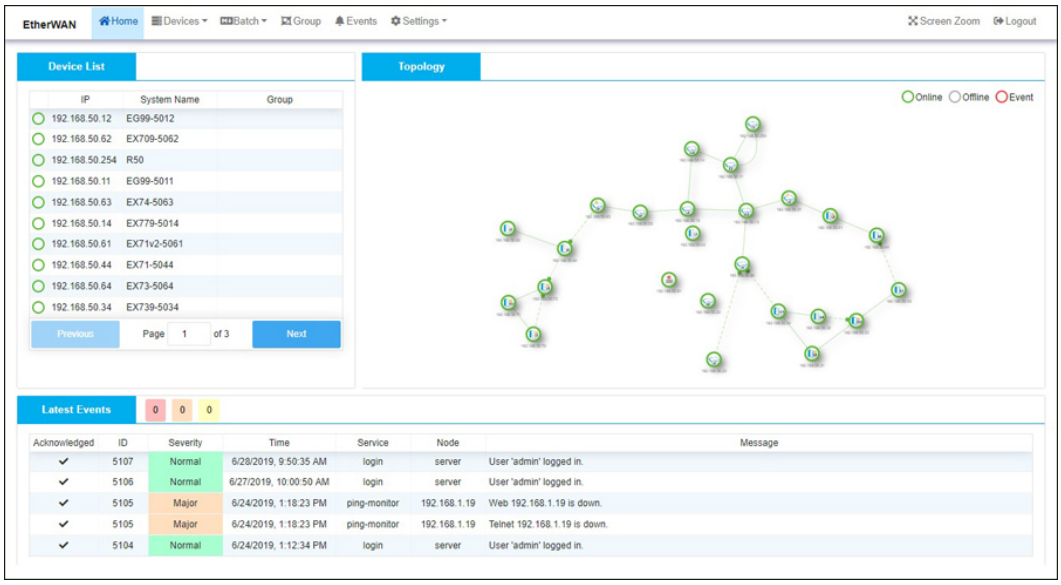

267mm
Top
Side
IG5-P8164
IG5-P8084
PoE models
rear
FTR & FWR models
Back
IG5-00244
442
44
IG5-08164
IG5-16084
IG5-24004
Non-PoE models
Front
Installation Reference
Rack Mount Installation
245mm
267mm
Panel Mount Installation

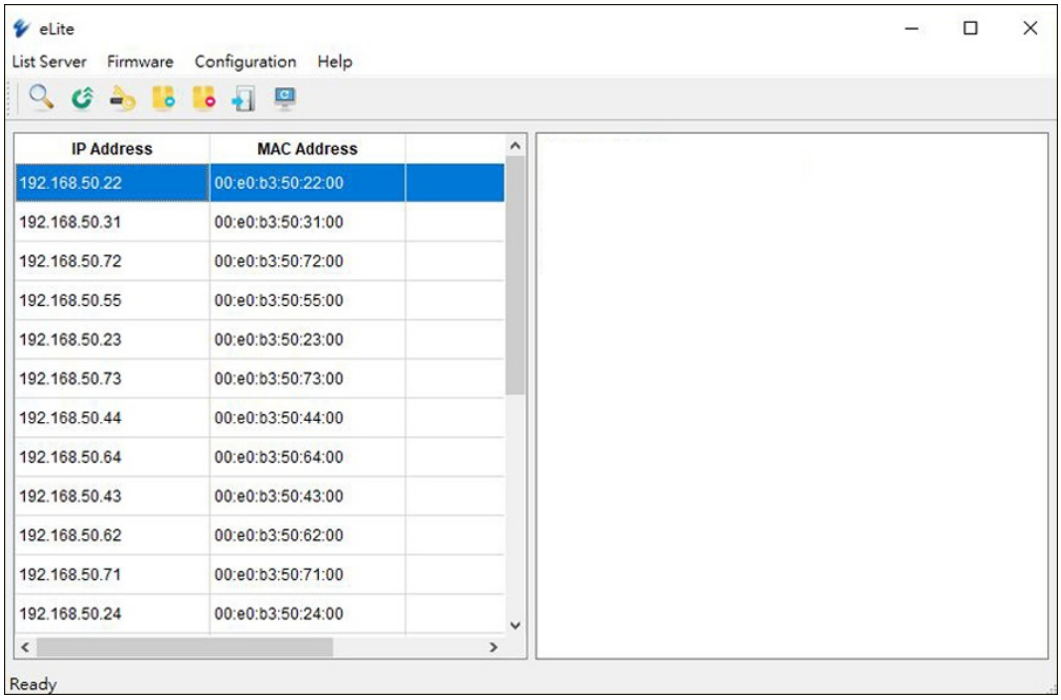
Application



Software

Network Management	eVue™ Network Configuration and Monitoring Tool
Network Discovery	eLite™ Network Discovery and IP Configuration Tool





Ordering Info

PoE Models

IG5-P8084FTE	8-port 10/100/1000BASE-T(X) PoE + 8-port 10/100/1000BASE-T(X) + 8-port 100/1000BASE SFP + 4-port 1G/2.5G/10G SFP+ Managed Ethernet Switch
IG5-P8164FTE	8-port 10/100/1000BASE-T(X) PoE + 16-port 100/1000BASE SFP + 4-port 1G/2.5G/10G SFP+ Managed Ethernet Switch

Non-PoE Models

IG5-24004FTE	24-port 10/100/1000BASE-T(X) + 4-port 1G/10G SFP+ Managed Ethernet Switch
IG5-16084FTE	16-port 10/100/1000BASE-T(X) + 8-port 100/1000BASE SFP + 4-port 1G/2.5G/10G SFP+ Managed Ethernet Switch
IG5-08164FTE	8-port 10/100/1000BASE-T(X) + 16-port 100/1000BASE SFP + 4-port 1G/2.5G/10G SFP+ Managed Ethernet Switch
IG5-00244FTE	24-port 100/1000BASE SFP + 4-port 1G/2.5G/10G SFP+ Managed Ethernet Switch

Accessories

SFP Modules

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	✔
SFPTIS10M	10Gbps	Single	10km	-40 to 85°C	1310nm	✔

For more SFP, please visit website: www.etherwan.com/products/sfp-fiber-transceiver

Power Supplies

EPOW-24-60	Power Supply, Hardened (-40°C - +75°C) External 100-277 VAC Input; NEMA-TS2 rated; 60W, 24VDC, 0-11.1A with Open Wire (US Plug) - No Deration at High Temps

EPOW-54-240	Power Supply, Hardened (-40°C - +75°C) External 100-277 VAC Input; NEMA-TS2 rated; 240W, 54VDC, 0-11.1A with Open Wire (US Plug) - No Deration at High Temps
EPOW-54-400	Hardened Power Supply, 100-277 VAC Input; NEMA-TS2 Rated; 54VDC, 400W/7.4A, with Open Wire (US Plug) - No Deration at High Temps
EPOW-54-600	Power Supply, Hardened (-40°C - +75°C) External 100-277 VAC Input; NEMA-TS2 rated; 600W, 54VDC, 0-11.1A with Open Wire (US Plug) - No Deration at High Temps
EPHX-24-60	60W/2.5A DIN-Rail 24VDC Industrial Power Supply - No Deration at High Temps
EPHX-48-240	240W/5A DIN-Rail 48VDC (42-56VDC Adjustable) Industrial Power Supply - No Deration at High Temps
EPHX-48-480	480W/10A DIN-Rail 48VDC (36-55VDC Adjustable) Industrial Power Supply - No Deration at High Temps

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