# Huiling - IG5 SV Series

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

## Overview

**When should you use an Industrial Layer 3 switch?**

EtherWAN's IG5 SV switches have been enhanced for better performance and retain the original versatile port combination of the IG5 series. New options include 8 IEEE 802.3af/at PoE ports combined with either 16 TX ports or 8 TX ports, providing more flexible network applications. These models deliver up to 30 watts per port and built-in intelligent controller optimizes real-time allocation of 90w total power budget, making ideal for applications requiring high power safety protection and integrated network power configuration.

With a minimum input voltage of 24VDC, rugged IP40 metal casing protection combined with a more compact body size offers better flexibility for installation in spaces with limited depth. Rich Layer 2 and Layer 3 management functionalities, featuring equipped digital I/O and relay control ports, expanding for detection and alarm systems, enable diverse network construction.

All models meet the IEC 61850-90-4 GOOSE message transmission requirements and the IEEE 1588v2 Precision Time Protocol (PTP) for network time synchronization, ensure rapid response and high reliability of the power system. With 10G bandwidth, IEEE 802.3at type 2 compatibility, and compliance with IEC 61850-3 ,IEEE 1613, and IEC 60255- 27 with up to 5kV Impulse protection. The IG5 SV is an ideal choice for critical mission applications such as urban infrastructure, intelligent transportation, industrial IoT, and smart energy network management.

EtherWAN — "**When Connectivity is Crucial.**"

# Highlights

## + High Bandwidth and Versatility

24 full gigabit port with multiple configurations

4 1G/10G SFP+ uplink ports

Sufficient switching capacity at 128Gbp

DnA solutions for Digital I/O & Relay control

## + Layer 3 Functionality

Static routing, RIP v1/v2, and OSPF

Redundancy with VRRPv2

## + 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

## + PoE Features

8-port IEEE 802.3 af/at PSE with 90W total power budget

PoE watchdog monitors status of connected PD devices

## + Flexible Installation

Support Rack and Panel mount installation

Concise communication status display

Considerable ease of cabling management

## + 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)
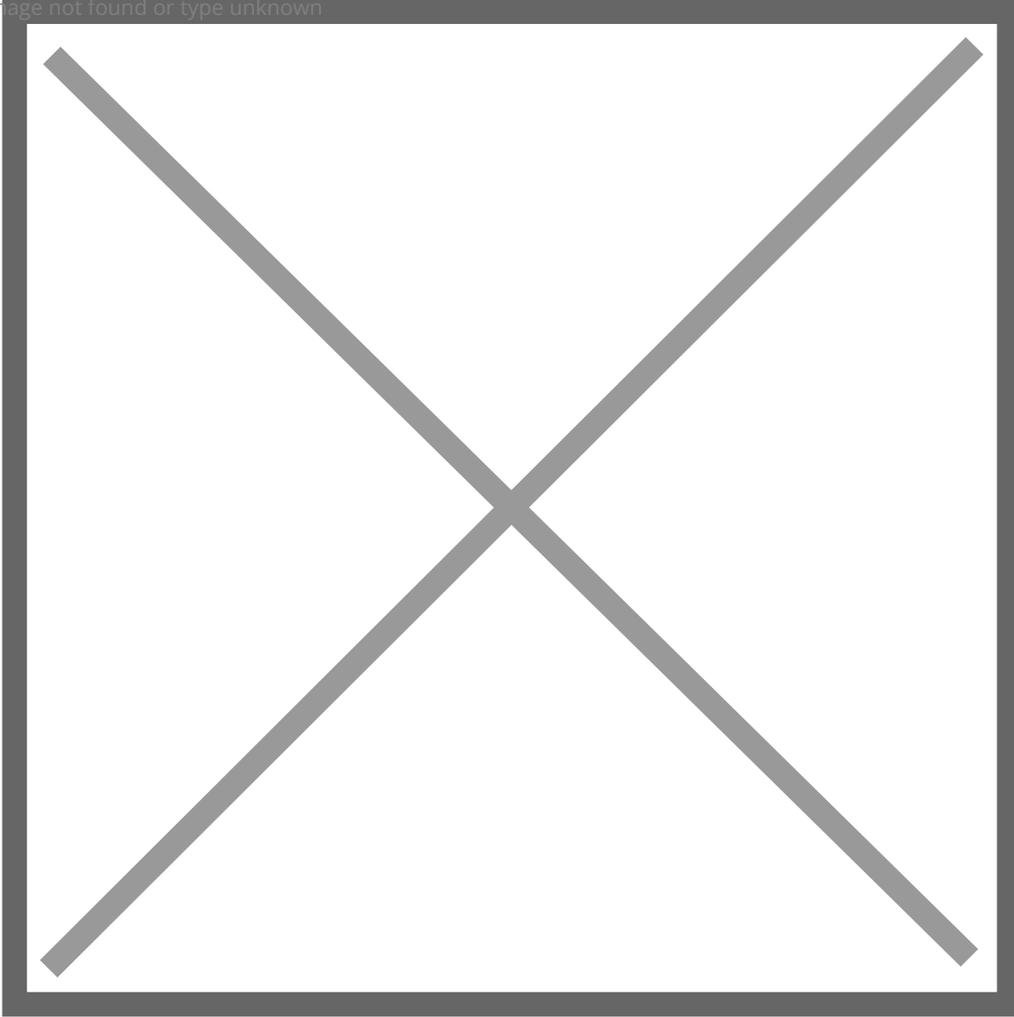
**Jumbo Frame Size**
9KB

**MAC Table Size**
16K

**Packet Buffer Memory**
12M bits

# Dimensions

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# 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/10G SFP+ <br> Managed Ethernet Switch |
| IG5-P8164FTE | 8-port 10/100/1000BASE-T(X) PoE + 16-port 100/1000BASE SFP + 4-port 1G/10G SFP+ <br> 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/10G SFP+ Managed Ethernet Switch |
| IG5-08164FTE | 8-port 10/100/1000BASE-T(X) + 16-port 100/1000BASE SFP + 4-port 1G/10G SFP+ Managed Ethernet Switch |
| IG5-00244FTE | 24-port 100/1000BASE SFP + 4-port 1G/10G SFP+ Managed Ethernet Switch |

## ➕ Accessories

| 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 | ✔ |

## ➕ For more SFP, please visit website:

| | |
|---|---|
| Hardened 100BASE SFP Modules | www.etherwan.com/products/sfp-fiber-transceiver |
| Hardened Gigabit SFP Modules | www.etherwan.com/products/sfp-fiber-transceiver |
| Hardened 10G SFP+ Modules | www.etherwan.com/jp/products/sfp-fiber-transceiver |
| DIN-Rail Power Supplies | www.etherwan.com/jp/products/din-rail-power-supply |