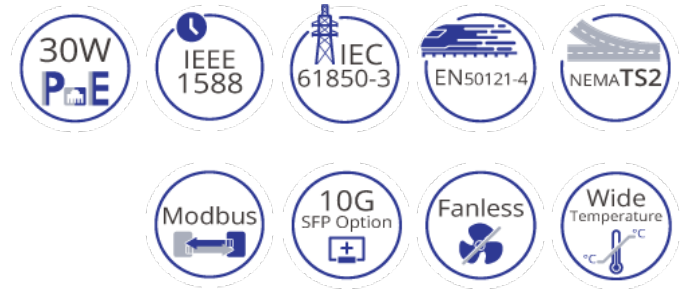


## IG5 SV Series

IEC 61850-3/IEEE 1613 Hardened Managed 24-port Gigabit (Optional 8 x PoE) and 4-port 1G/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 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 1G/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  
Reduces the need for extra switches in traffic cabinets, leading to cost savings

### + Layer 3 Functionality

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

### + Flexible Installation

Compact design with shortened depth ideal for tight cabinet spaces  
Concise communication status display  
Front facing design allows for easy access and simple installation

### + 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  
Extreme Hardened Grade, operating up to 85°C (185°F) for 16 hours, making it ideal for outdoor installations

## 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/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

### + 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

### 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  
IEC 61850-90-4

## + 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](http://www.etherwan.com/support/warranty-policy)

## + What's Included

### Device

Ethernet Switch

### Cables

1 Console Cable

### Installation

Mounting brackets, screws

## + MPN

### IG5-00244FTE

1828864

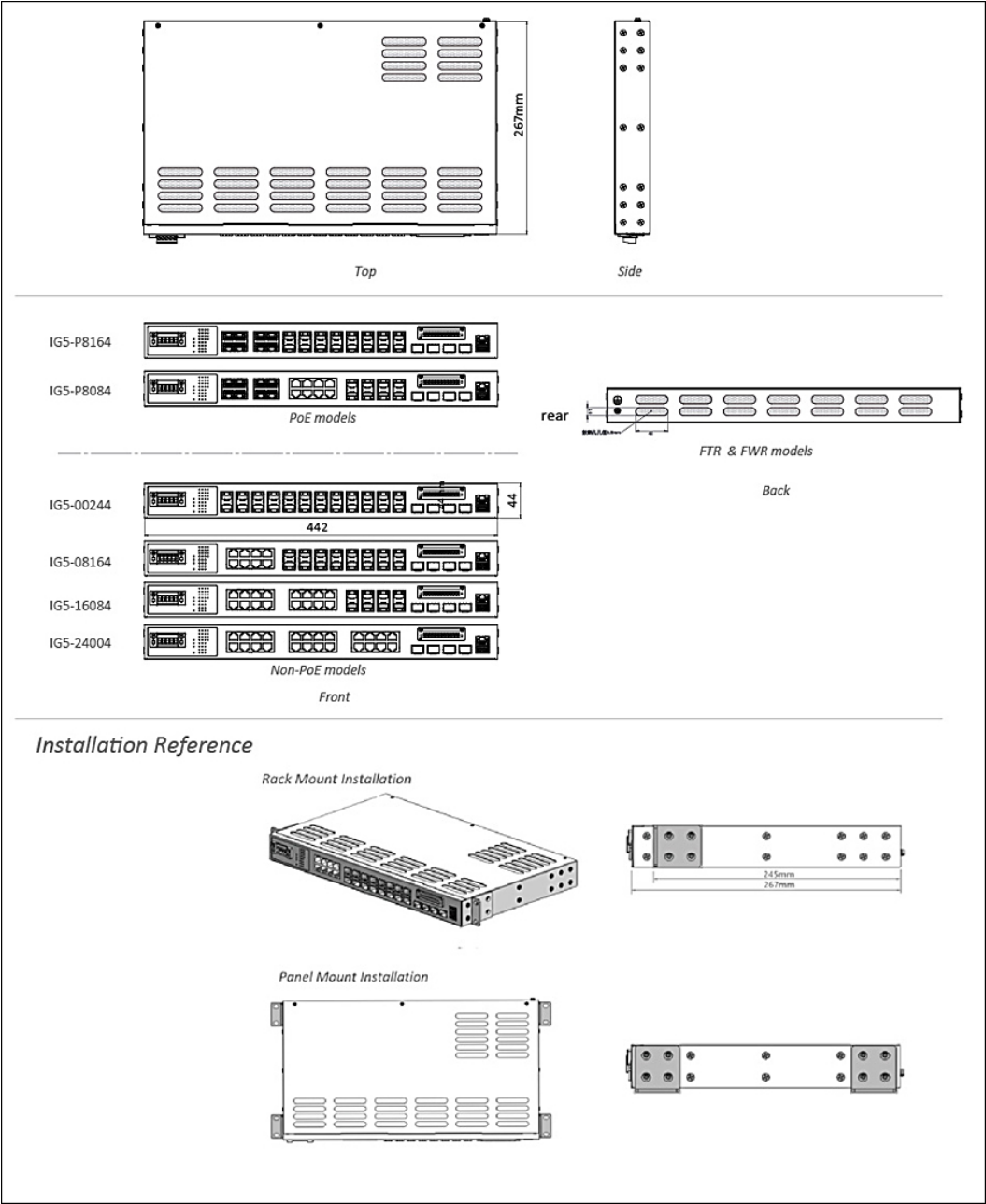
### IG5-08164FTE

1828865

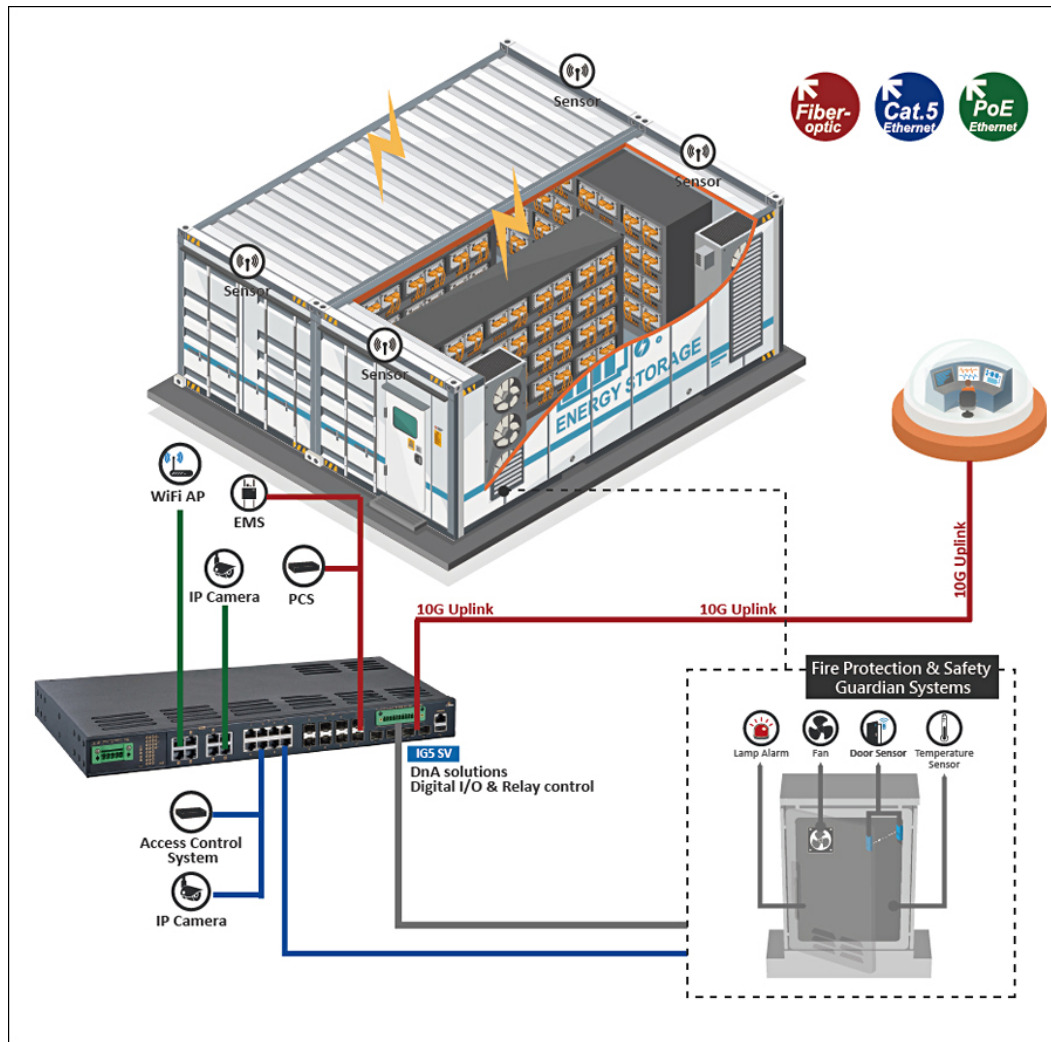
### IG5-P8164FTE

1828863

# Dimensions



## Application



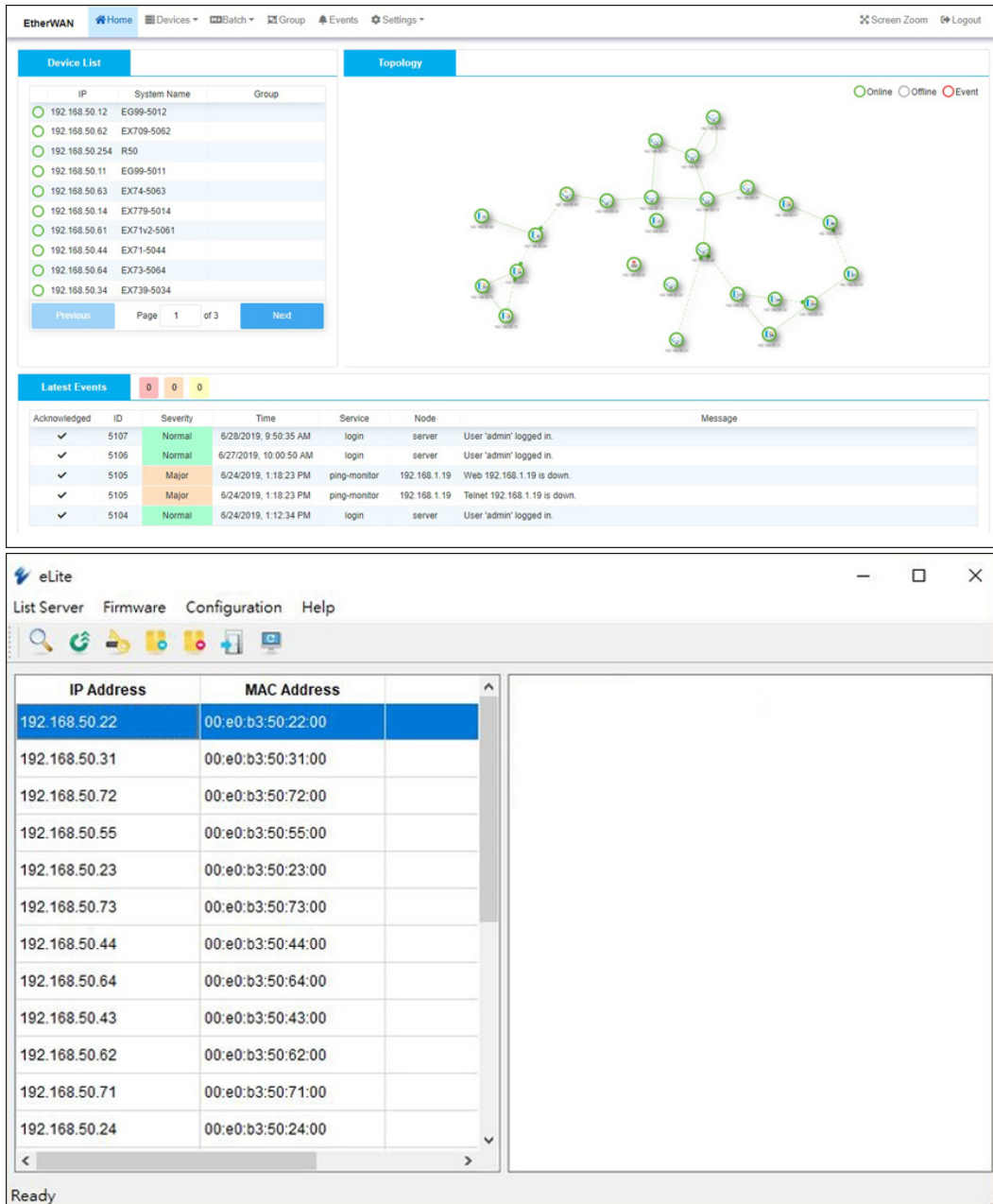
## Software

Network Management

[eVue™ Network Configuration and Monitoring Tool](#)

Network Discovery

[eLite™ Network Discovery and IP Configuration Tool](#)



The screenshot displays the EtherWAN eLite software interface, which is used for network discovery and IP configuration. The interface is divided into several sections:

- Top Navigation Bar:** Includes links for Home, Devices, Batch, Group, Events, and Settings. It also features a Screen Zoom and Logout option.
- Device List:** A table listing network devices with columns for IP, System Name, and Group. The list shows 10 devices, all with green status indicators.
- Topology:** A visual representation of the network topology, showing devices connected in a mesh-like structure. A legend indicates Online (green circle), Offline (grey circle), and Event (red circle).
- Latest Events:** A table showing recent events with columns for Acknowledged, ID, Severity, Time, Service, Node, and Message. It lists 6 events, including login attempts and ping monitor results.
- eLite Main Window:** A separate window titled "eLite" with a menu bar (List Server, Firmware, Configuration, Help) and a toolbar. It contains a table with IP Address and MAC Address columns, listing 10 IP addresses and their corresponding MAC addresses.

The eLite window also includes a search bar, a list of network devices, and a status bar at the bottom indicating "Ready".

## 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+ Managed Ethernet Switch |
| IG5-P8164FTE | 8-port 10/100/1000BASE-T(X) PoE + 16-port 100/1000BASE SFP + 4-port 1G/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/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      | ✓   |
| SFPTIS10M         | 10Gbps     | Single | 10km      | -40 to 85°C           | 1310nm     | ✓   |

### + For more SFP, please visit website:

|                              |                                                                                                                            |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Hardened 100BASE SFP Modules | <a href="http://www.etherwan.com/us/products/sfp-fiber-transceiver">www.etherwan.com/us/products/sfp-fiber-transceiver</a> |
| Hardened Gigabit SFP Modules | <a href="http://www.etherwan.com/us/products/sfp-fiber-transceiver">www.etherwan.com/us/products/sfp-fiber-transceiver</a> |
| Hardened 10G SFP+ Modules    | <a href="http://www.etherwan.com/us/products/sfp-fiber-transceiver">www.etherwan.com/us/products/sfp-fiber-transceiver</a> |

### + Power Supplies

|                                    |                                                                                                                                                               |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#"><u>EPOW-24-60</u></a>  | 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  |
| <a href="#"><u>EPOW-54-240</u></a> | 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 |
| <a href="#"><u>EPOW-54-400</u></a> | Hardened Power Supply, 100-277 VAC Input; NEMA-TS2 Rated; 54VDC, 400W/7.4A, with Open Wire (US Plug) - No Deration at High Temps                              |
| <a href="#"><u>EPOW-54-600</u></a> | 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 |
| <a href="#"><u>EPHX-24-60</u></a>  | 60W/2.5A DIN-Rail 24VDC Industrial Power Supply - No Deration at High Temps                                                                                   |
| <a href="#"><u>EPHX-48-240</u></a> | 240W/5A DIN-Rail 48VDC (42-56VDC Adjustable) Industrial Power Supply - No Deration at High Temps                                                              |
| <a href="#"><u>EPHX-48-480</u></a> | 480W/10A DIN-Rail 48VDC (36-55VDC Adjustable) Industrial Power Supply - No Deration at High Temps                                                             |

