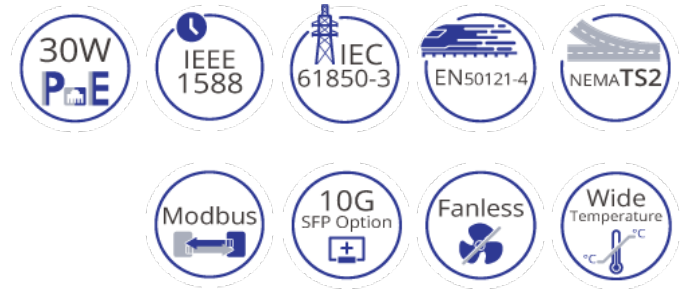


IG5 SV Series

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

+ What's Included

Device

Ethernet Switch

Cables

1 Console Cable

Installation

Mounting brackets, screws

+ MPN

IG5-00244FTE

1828864

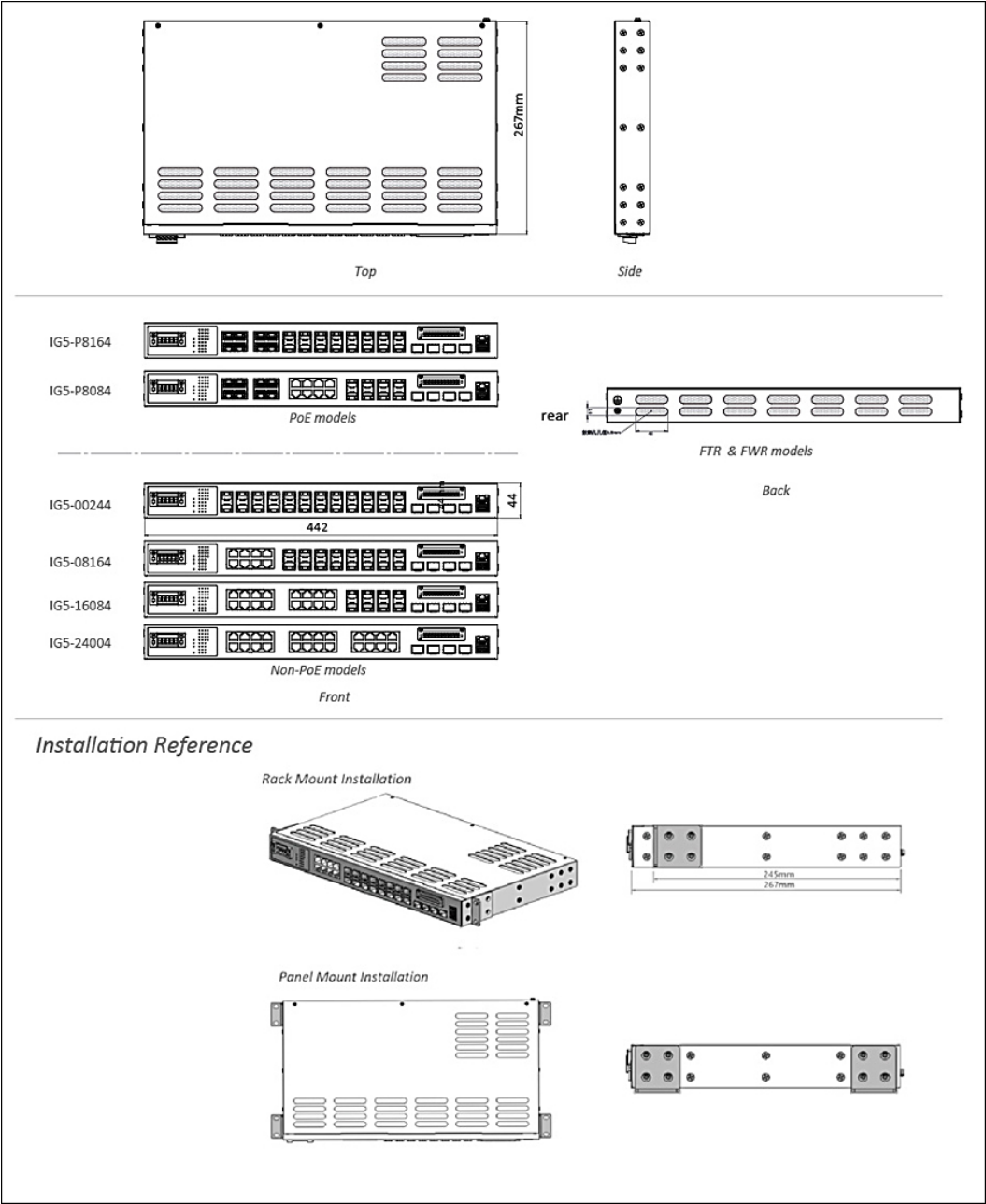
IG5-08164FTE

1828865

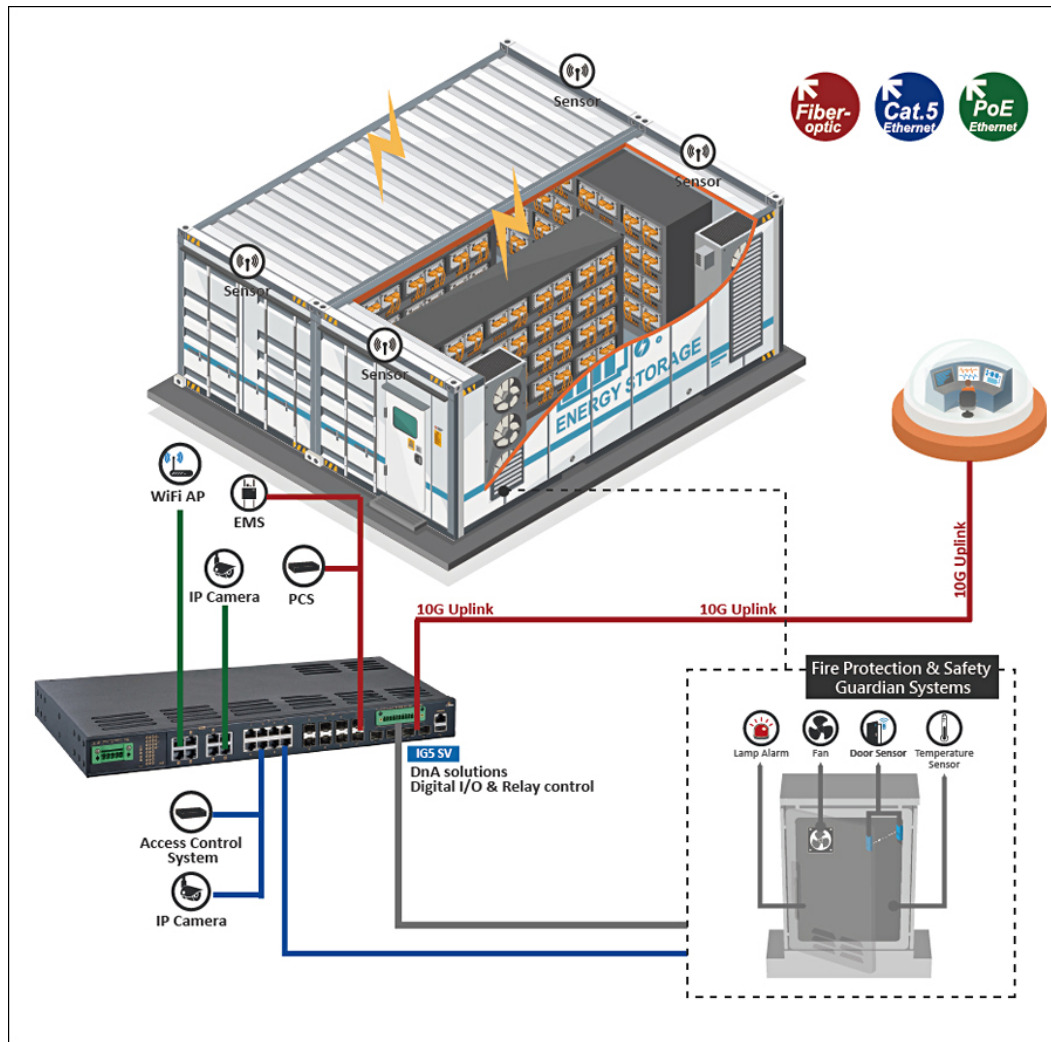
IG5-P8164FTE

1828863

Dimensions



Application



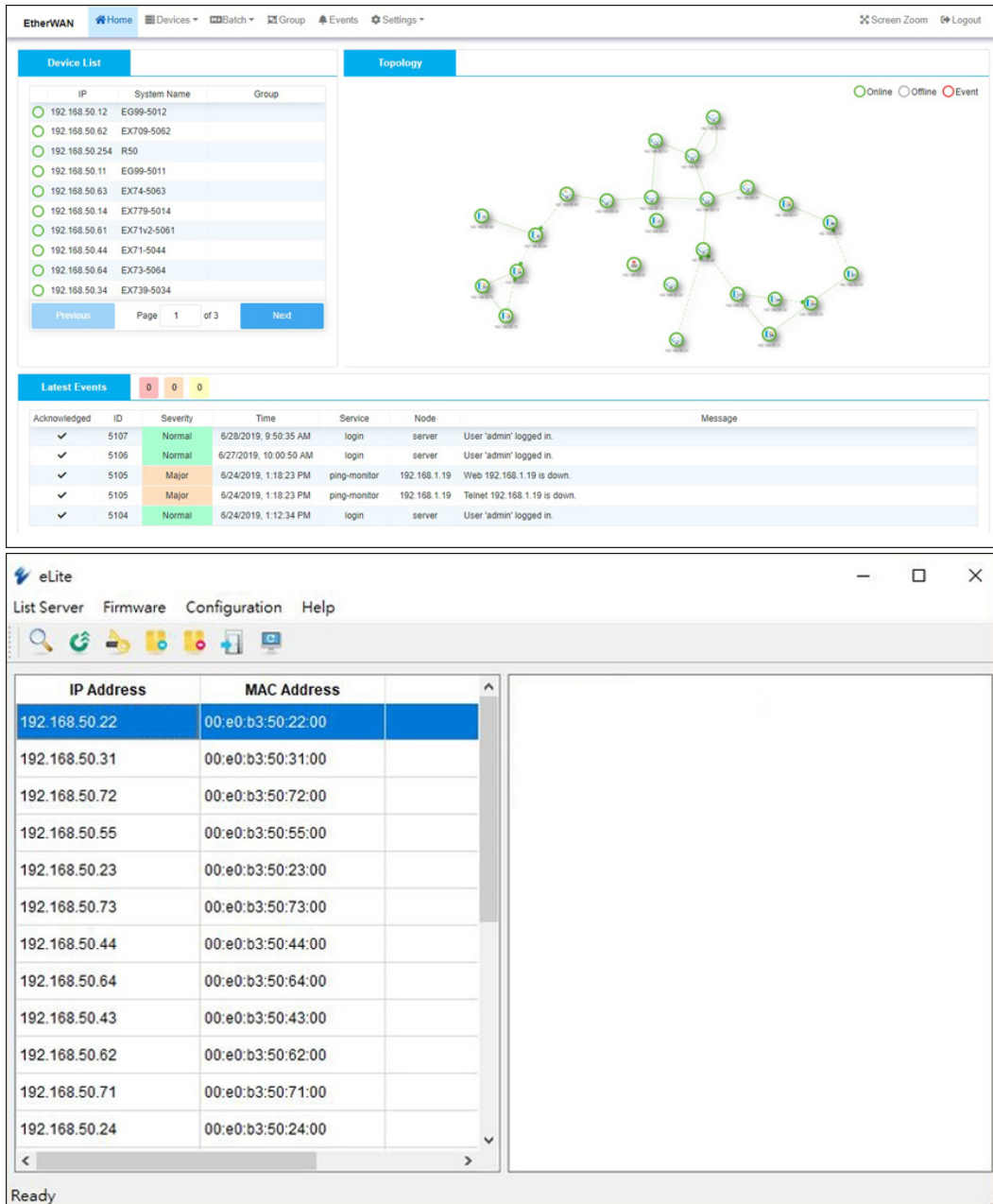
Software

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 includes devices like EG99-5012, EX709-5062, R50, and various EX74-5063 and EX779-5014 models.
- 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) status.
- Latest Events:** A table showing recent events with columns for Acknowledged, ID, Severity, Time, Service, Node, and Message. Events include login attempts and ping-monitor alerts.
- eLite Main Window:** A separate window titled "eLite" with a menu bar (List Server, Firmware, Configuration, Help) and a toolbar. It contains a table for IP and MAC addresses, listing various IP addresses (e.g., 192.168.50.22, 192.168.50.31) and their corresponding MAC addresses (e.g., 00:e0:b3:50:22:00).

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	www.etherwan.com/us/products/sfp-fiber-transceiver
Hardened Gigabit SFP Modules	www.etherwan.com/us/products/sfp-fiber-transceiver
Hardened 10G SFP+ Modules	www.etherwan.com/us/products/sfp-fiber-transceiver

+ Power Supplies

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

