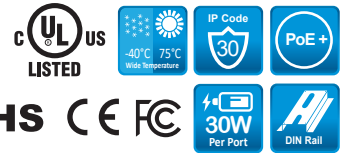# VOLKTEK

# SEN-9425P-24V-SS

## Unmanaged 4 x 10/100/1000 PoE+ & 1 x 10/100/1000 RJ45 & 2 x GbE SFP Switch, Substation Approval

## Description

To enforce the IP surveillance and provide sufficient power to PD devices Volktek introduces SEN-9425P-24V-SS, unmanaged PoE+ switch designed for reliable network connectivity even in substation environment. SEN-9425P-24V-SS secured with IEEE 1613 and IEC 61850-3 certificates guarantee trustworthy operation in critical environments where vibration and shock are common place. With IP30 protection it exhibits extreme tolerance in harsh temperature environment ranging from -40°C~75°C (-40°F~167°F).

Since industrial applications use 24V as their input voltage, SEN-9425P-24V-SS is built with 24V input and its Power Booster technology boosts power up to 30W per port with available 24V voltage. IEC 61850 standard prioritize the packets based on GOOSE and SMV type for mission-critical operation by default. Simple set up with no software or additional configuration needed, SEN-9425P-24V-SS proves to be a perfect solution for round the clock surveillance in hard-to-reach locations.



IEEE1613
IEC61850-3

## Features Highlight

### Robust Switch Performance

SEN-9425P-24V-SS is enclosed within IP30 aluminum case and can able to sustain harsh temperature ranging between -40°C~75°C. Besides, the switch is built with various protection features such as ESD Protection, Surge Protection, and Power Consumption Protection to deliver non-stop PoE service to the Powered Devices. Eventually, these features reduce the replacement cost of damaged units.
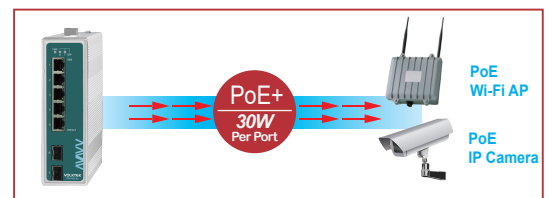


### Efficient Power Booster Support

There are many places such as small factories, workstations where the voltage supply is not sufficient for PoE operation. Hence to deal with this situation, SEN-9425P-24V-SS is designed with innovative power booster technology which can support DC voltage input 24V~57V DC for IP surveillance saving additional cost and space for an external voltage converter.
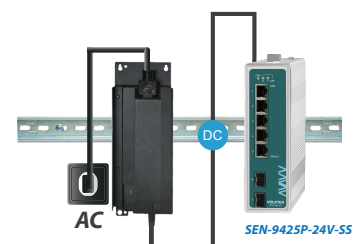
### High-Power Budget for PoE Network Devices

SEN-9425P-24V-SS is capable of delivering PoE power up to 30W per port (IEEE 802.3af/at) to PoE+ compliant powered devices (PDs). Addition to this, the switch allows simple "plug and play" PoE for various types of high power consuming PoE devices to scale up the network. Thereby, irrespective of their location, powered devices can be powered without installing additional power outlets or cabling and significantly reduce your CAPEX.



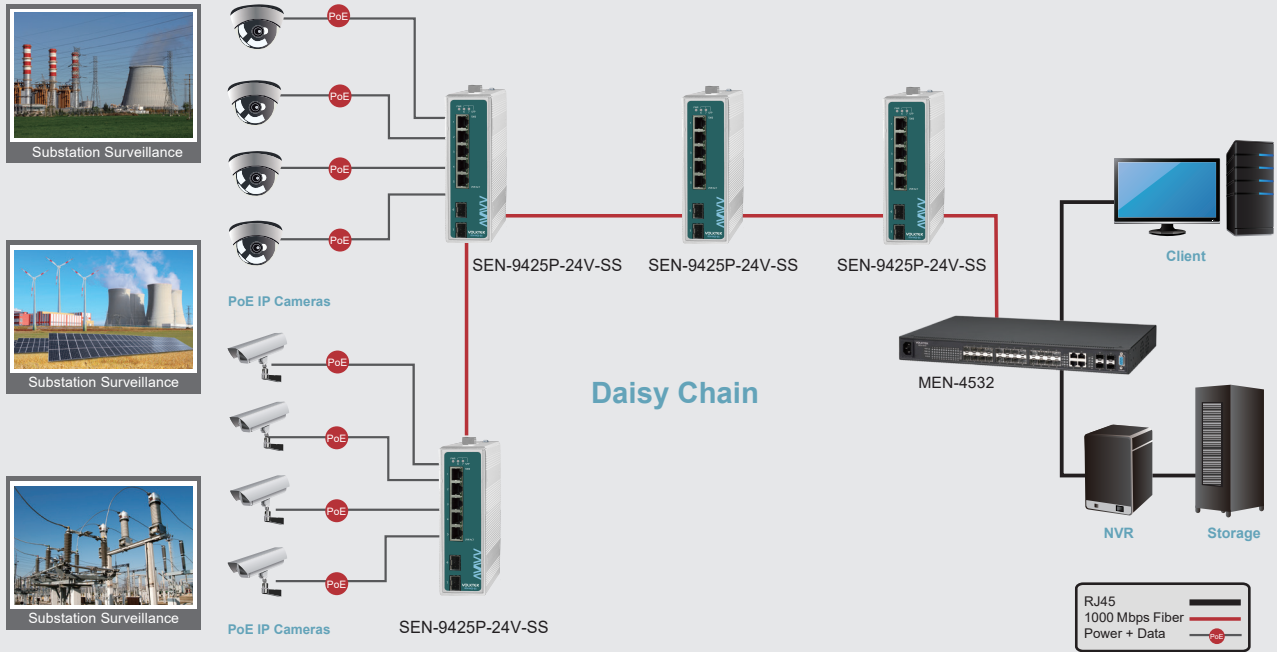### Hardened DIN-Rail-mounted Power Adapter (AC to DC)

SEN-9425P-24V-SS is designed with 4-pin mini-DIN power connector and adjustable DIN-Rail power holder which can easily power up the PDs and prevents from accidental power shutdown due to losing power.

# VOLKTEK

## Surveillance Applications

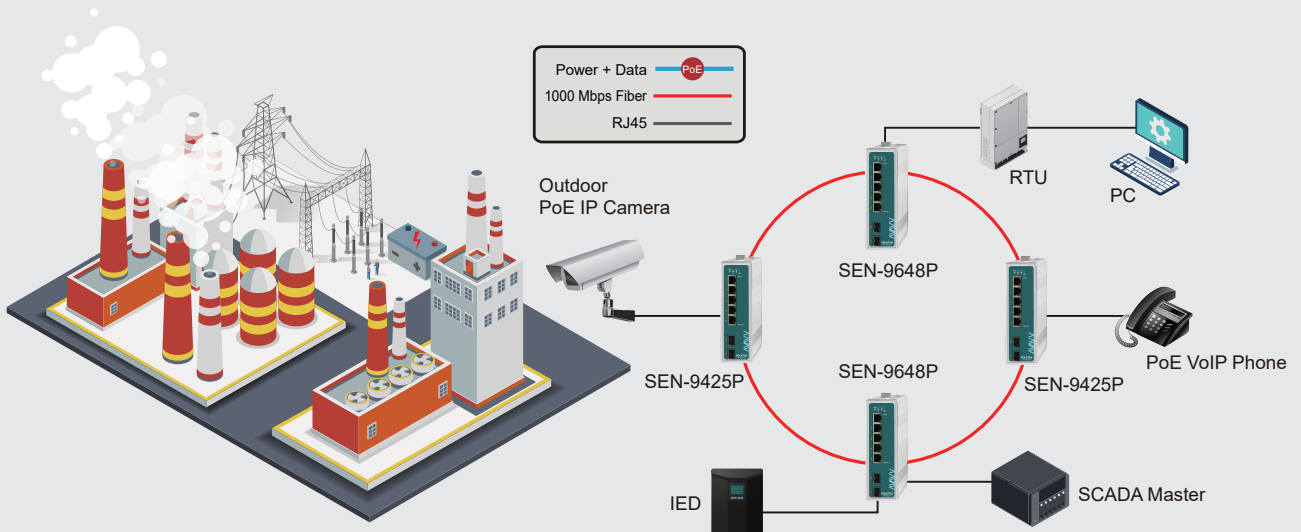### Sufficient PoE Power with Cost-saving Fiber Connectivity

The intelligent PoE+, compactable size, rugged design of SEN-9425P-24V-SS ensure continuous operations in some special requirements for transportation, factory and outdoor places where high vibration degree, shock, and wide range temperatures are present. Addition to this the dual Gigabit SFP ports which can easily make daisy chain topologies to power more number of PoE+ enable power devices to expand the network connection and saves the amount of fiber cabling connecting to the control room as well. Due to daisy chain architecture, only a single fiber connects to the control room which in turn saves CAPEX.



Substation Surveillance

Substation Surveillance

Substation Surveillance

PoE IP Cameras

PoE IP Cameras

SEN-9425P-24V-SS

SEN-9425P-24V-SS

SEN-9425P-24V-SS

SEN-9425P-24V-SS

MEN-4532

Client

NVR

Storage

**Daisy Chain**

RJ45
1000 Mbps Fiber
Power + Data

## Applications

### Scalable Ethernet for IP Surveillance

The SEN-9425P-24V-SS is compatible with 10/100/1000Mbps through RJ45 transceivers to guarantee a strong, stable connection of Ethernet, Fast Ethernet or Gigabit Ethernet, providing flexible deployment options to satisfy harsh and much-demanding surveillance requirements. With the innovative design of Volktek's Xpress Ring, multiple numbers of SEN-9425P-24V-SS switches are connected to expand the network with more number of PoE devices without any additional power supply. This unique design enables a reliable, and long-distance surveillance system for the IPcam surveillance including Substation-platform monitoring, and side-walk surveillance applications.



Power + Data
1000 Mbps Fiber
RJ45

Outdoor
PoE IP Camera

SEN-9648P

SEN-9648P

SEN-9425P

SEN-9425P

RTU

PC

PoE VoIP Phone

IED

SCADA Master

# VOLKTEK

## Specifications

| Standards | |
|---|---|
| IEEE 802.3 | 10BASE-T |
| IEEE 802.3u | 100BASE-TX |
| IEEE 802.3ab | 1000BASE-T |
| IEEE 802.3z | 1000BASE-SX/LX |
| IEEE 802.3 | Nway Auto-negotiation |
| IEEE 802.3x | Flow Control |
| IEEE 802.3af | Power over Ethernet |
| IEEE 802.3at | Power over Ethernet Plus |
| IEEE 802.3az | Energy Efficient Ethernet (EEE) |
| IEEE 802.1p | Class of Service |

| Features | |
|---|---|
| Throughput | 14,880 pps to 10 Mbps ports<br>148,800 pps to 100 Mbps ports<br>1,488,000 pps to 1000 Mbps ports |
| Performance | Jumbo frame Size: 10KBytes |
| | MAC Table Entries: 8K |
| | Switch Fabric: 14Gbps |
| | L2 Forwarding Rate: 14.8Mpps |
| Functions | Flow Control, Storm Control, LLDP Filter,<br>VLAN Passthru, Port Priority(p1),<br>802.1p/Tag QoS, EIP QoS (via TCP/UDP #),<br>PROFINET QoS (via VLAN 0),<br>GOOSE QoS (via Ether-type) |
| PoE+ Functions | Up to 4 IEEE 802.3at powered devices |
| | Supports PoE Power up to 30W for each PoE port |
| | Auto detect powered device (PD) |
| | Remote Power Feeding up to 100m |

| Power | |
|---|---|
| Input Voltage | 24~57VDC |
| Connection | Teminal Block |
| Power Input Polarity Protection | Present |
| Power Consumption | System: 14W<br>PoE Power Budget: 120W |

| PoE+ Functions | |
|---|---|
| PoE+ Functions | Up to 4 IEEE 802.3at powered devices |
| | Supports PoE Power up to 30W for each PoE port |
| | Auto detect powered device (PD) |
| | Remote Power Feeding up to 100m |

| Interface | |
|---|---|
| Ports | 4 x 10/100/1000BASE-T (PoE RJ45) |
| | 1 x 10/100/1000BASE-T (RJ45) |
| | 2 x GbE SFP Slots |
| LED Panel | PWR, SFP, PoE, 1000, LNK/ACT |

| Mechanical and Environment | |
|---|---|
| Housing | Aluminum Case (IP30 protection) |
| Mounting Kit | DIN-Rail |
| Operating Temperature | -40°C~75°C (-40°F~167°F) |
| Storage Temperature | -40°C~85°C (-40°F~185°F) |
| Operating Humidity | 5 to 95% RH (non-condensing) |
| Storage Humidity | 5 to 95% RH (non-condensing) |
| Weight | 869 g (1.9 lb) |
| Dimension (WxHxD) | 50 x 160 x 120 mm (1.97 x 6.3 x 4.72 in) |

| Standards and Certifications | | |
|---|---|---|
| CE | EMI | FCC Part 15 Subpart B Class A<br>EN 55022: class A<br>EN 55011: 2009  class A<br>EN 61000-6-4 |
| | EMS | EN 55024<br>EN 61000-6-2<br>EN 61000-4-2 (ESD)<br>EN 61000-4-3 (RS)<br>EN 61000-4-4 (Burst)<br>EN 61000-4-5 (Surge)<br>EN 61000-4-6 (CS)<br>EN 61000-4-8 (PFMF) |
| Shock | | IEC 60068-2-27 |
| Freefall | | IEC 60068-2-32 |
| Vibration | | IEC 60068-2-6 |
| Power Substation | | IEEE1613, IEC61850-3 |
| Safety | | UL 61010-1, UL 61010-2-201 |

| Ordering Information | |
|---|---|
| SEN-9425P-24V-SS | Unmanaged 4 x 10/100/1000 PoE+ & 1 x 10/100/1000 RJ45 & 2 x GbE SFP Switch, Substation Approval |
| SEN-9428P-24V-SS | Umanaged 8 x 10/100/1000 PoE+ & 2 x FX/GbE SFP Switch, Substation Approval |
| SEN-9648P-24V-SS | Managed 8 x 10/100/1000 PoE+ & 4 x GbE SFP Switch, Substation Approval |

| Optional Accessories | |
|---|---|
| Power Supply | SDR-240-48: DIN-Rail, 240W, 48VDC,<br>Industrial Power Supply with PFC Function<br>SDR-120-48: DIN-Rail, 240W, 48VDC,<br>Industrial Power Supply with PFC Function |
| Power Adapter | IRA-160:160W, 48V Industrial Grade AC Power Adapter<br>IRA-90: 90W, 48V Industrial Grade AC Power Adapter |
| DIN-Rail Holder | DR-160 (for GST-160) |
| GBM-104 | 1000BASE-SX 1.25G, Multi-mode SFP, 500m |
| GBM-104-2 | 1000BASE-SX 1.25G, Multi-mode, 3.3V, 1310nm, 2Km |
| GBM-104-10 | 1000BASE-LX 1.25G, Single mode SFP, 10Km |
| GBM-123 | 1000BASE-LX Bi-di Single Mode SFP Module, 10Km |

Note:
* Industrial SFP with wide operating temperature from -40°C~85°C (-40°F~185°F) is available upon request.
* The highest degree of temperature operation certified by UL is -40°C~70°C (-40°F~158°F).
* Specifications subject to change without notice.

## Dimension