VOLKTEK

Quick Installation Guide
IEN-9428-RW/SS

1. Overview

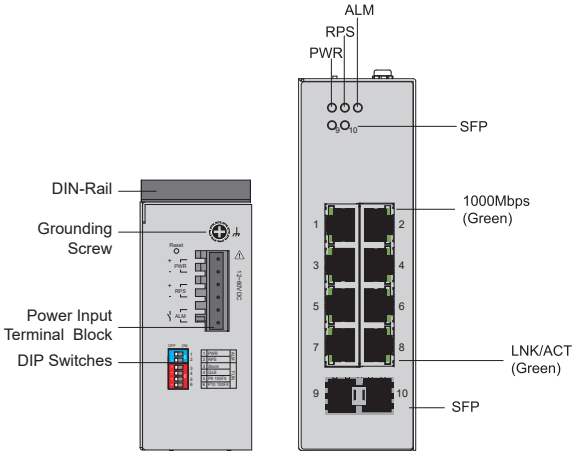
IEN-9428P-RW/SS Unmanaged PoE+ Ethernet Switch is specially designed to expand reliable Ethernet connectivity to Railway (RW) and Substation (SS) applications and outdoor environments with extreme temperature and climatic conditions.
IEN-9428P-RW/SS is equipped with 8x10/100/1000Base-T PoE+ ports & 2x100FX/Gigabit SFP slots enclosed in IP30 housing.

2. Package Checklist

IEN-9428P-RW/SS is shipped with the following items*. If any of these are missing or damaged, please contact your customer service representative for assistance.

- IEN-9428P-RW/SS Switch x 1
- DIN rail kit x 1
- Quick Installation Guide x 1

*Contents of the package can be adjusted based on customer demand.



3. Mounting and Dismounting to DIN-Rail

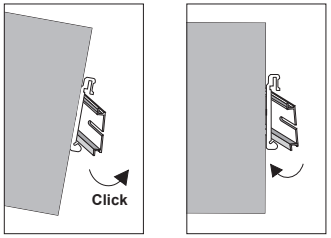
ATTENTION:
The IEN-9428P-RW/SS is an open type device and IEN-9428P-RW/SS shall be DIN-Rail mounted or wall mounted (optional) in cabinet or enclosure and the ambient temperature should not exceed 75°C

Mounting the switch

Place the IEN-9428P-RW/SS on the DIN rail from above using the slot, push the front of the switch toward the mounting surface until it snaps into place with a click sound.

Dismounting the switch

Press the switch from top and pull out the lower edge of the switch and then remove the switch from the DIN rail.



Mounting the Switch Removing the Switch

ATTENTION:
A corrosion-free mounting rail is advisable.
When installing, make sure to allow for enough space between devices to properly install the cabling. And provide ample space for air flow.

4. Grounding the switch IEN-9428P-RW/SS

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting devices.

ATTENTION:
This product is intended to be mounted to a well-grounded mounting surface such as a metal panel.

5. Wiring requirements

WARNING:

Safety measures should be taken before connecting the power cable.Turn off the power before connecting modules or wires. The correct power supply voltage is listed on the product label. Check the voltage of your power source to make sure that you are using the correct voltage. DO NOT use a voltage greater than what is specified on the product label. Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size. If current exceeds the maximum rating, the wiring can overheat causing serious damage to your equipment.

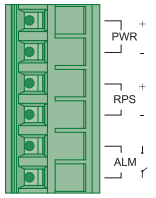
Please read and follow these guidelines:

- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross make sure the wires are perpendicular at the intersection point.
  NOTE: Do not run signal or communications wiring and power wiring through the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.
- You can use the type of signal transmitted through a wire to determine which wires should be kept separate. The rule of thumb is that wiring that shares similar electrical characteristics can be bundled together
- You should separate input wiring from output wiring
- We advise that you label the wiring to all devices in the system.

5.1 Wiring Power Input

You can use "PWR" for Primary Power input and "RPS" for Redundant Power Input.

Top view of Terminal Block is shown in the figure below:



Terminal Block

Caution:

- Use copper conductors only
- To use wiring cable with rated temperature at least **105°C**
- Tighten the wire to a torque value **5lb**
- The wire gauge for the terminal block should range between **12~24 AWG**

MISE EN GARDE:

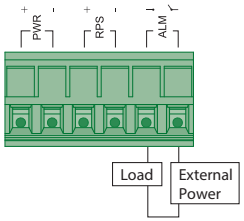
- Utilisez uniquement des conducteurs en cuivre
- Utiliser un câble avec une température nominale d'au moins **105°C**
- Serrer le fil à une valeur de couple de **5lb**
- Le calibre de fil du bornier doit être compris entre **12 et 24 AWG**

To insert power wire and connect the 12~60VDC at a maximum of 1A DC power to the power terminal block, follow the steps below:

- Use flat-head screw driver to loosen the wire-clamp screws
- Insert the negative/positive DC wires into the PWR-/PWR+ terminals, respectively
- Tighten the wire-clamp screws to prevent the wires from loosening

ATTENTION:
Please use a power supply from 12~60VDC, the device power shall be supplied by SELV circuit.

5.2 Wiring the relay contact (ALM)



Relay rating: 24V, 1A

The IEN-9428P-RW/SS has one set of relay alarm output.
This relay contact uses two contacts of the terminal block on the IEN-9428P-RW/SS top panel.
The two contacts of the 6-pin terminal block connector are used to detect user-configured events. The two wires attached to the fault contacts form an open circuit when a user-configured event is triggered. If a user-configured event does not occur, the fault circuit remains closed.

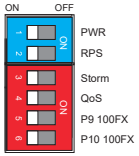
5.3 Cabling RJ45

Connect one end of an Ethernet/RJ45 cable into Ethernet port of IEN-9428P-RW/SS and other end to attached networking device.

- Ports 1-8 of the switch support Fast Ethernet as well as Gigabit Ethernet (10/100/1000Base-T PSE Ports)
- 9-10 Port of the switch supports 100FX/Gigabit speed
- All the RJ45 ports on the IEN-9428P-RW/SS support auto negotiation and auto MDI/MDI-X to eliminate the need for crossover cabling.

*Category 5e cable or above should be used.

6. DIP Switch Setting



PWR	ON	: Primary power alarm reporting is enabled
	OFF	: Primary power alarm reporting is disabled
RPS	ON	: Redundant power alarm reporting is enabled
	OFF	: Redundant power alarm reporting is disabled
Storm	ON	: Storm control is enabled and broadcast packets are limited to 300pps
	OFF	: Storm control is disabled
QoS	ON	: Port 1&2 priority are set to high
	OFF	: 802.1p support. Priority are set as per packet priority
P9 100FX	ON	: Port 9 speed is set to 100Mbps
	OFF	: Port 9 speed is set to 1000Mbps
P10 100FX	ON	: Port 10 speed is set to 100Mbps
	OFF	: Port 10 speed is set to 1000Mbps

7. LED Indicators

PWR (Green)	Illuminated	Power On by terminal block PWR
	Off	Terminal block PWR fails or is not available
RPS (Green)	Illuminated	Power On by terminal block RPS
	Off	Terminal block RPS fails or is not available
ALM (Red)	Illuminated	PWR/RPS fails or not available
	Off	No power lost or DIP switch is disabled
1000 Mbps (Green)	Illuminated	Copper port operates at 1000Mbps speed
	Off	Copper port operates at 10/100Mbps speed
LNK/ACT (Green)	Illuminated	Connection is established or Link up
	Blinking	Data is transmitting / receiving
	Off	Port disconnected or link failed
SFP 9-10 (Green)	Illuminated	Connection is established or Link up
	Blinking	Data is transmitting / receiving
	Off	Port disconnected or link failed

8. Environmental limits

Operating Temperature	-40˚C~75˚C
Storage Temperature	-40˚C~85˚C
Altitude	Up to 2000m
Ambient relative humidity	10 to 95% (non condensing)

ATTENTION:
This device complies with Part 15 of the FCC rules. Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received including interference that may cause undesired operation.

ATTENTION:
If the equipment is used in a manner not specified by the VOLKTEK, the protection provided by the equipment may be impaired.

10. Limited Warranty

VOLKTEK Corporation warrants this product against defect in materials and workmanship for a period of FIVE (5) YEARS to the original purchaser.

If you discover a defect, VOLKTEK will, at its sole option, repair or replace the product at no additional charge, provided that you contact VOLKTEK technical support to obtain a Return Merchandise Authorization Number (RMA) and instruction on how and where repairs can be made. This warranty does not apply if the product has been damaged by accident, abuse, misuse, misapplication, neglect, fire, water, lightning or other acts of nature, failure to follow supplied instructions, installation or removal, have been repaired or have undergone attempted repair by unauthorized personnel without written consent from VOLKTEK, modified, defaced, or has its serial numbers removed. VOLKTEK reserves the right to use remanufactured, refurbished, or used parts and components in making warranty repairs.

All expressed or implied warranties for this product, including the implied warranties of merchantability and fitness for a particular purpose are limited in duration to the warranty period. No warranties expressed or implied will applied after this period. VOLKTEK shall not be liable for lost profits, damage to other property caused by any defects of this product, or damages based upon inconvenience, loss of product use, loss of time, commercial use, incidental and/or consequential damages for the breach of any expressed or implied warranty, including damages to property, and to the extent permitted by law, damages for personal injury, even if VOLKTEK has been advised of the responsibilities of such damages.

If you have any further questions, please contact Customer Support:

Address of the manufacturer.

VOLKTEK CORPORATION
4F, 192 Liancheng Rd, Zhonghe, New Taipei 23553, Taiwan
Email: info@volktek.com
Tel: +886-2-8242-1000
Fax: +886-2-8242-3333