WAVESYS

HARDWARE USER MANUAL

- **WINJ-0201-30W-24**

FCC Notice

This equipment has been tested and found to comply with the limits for a Class-A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. It may cause harmful interference to radio communications if the equipment is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which thereceiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

CE Mark Warning

This is a Class-A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This document is the current official release manual. Please check our website (www.wavesysglobal.com) for any updated manual or contact us by e-mail (sales.apac@wavesysglobal.com).

Contents

Overview

PoE and Non-PoE are both highly utilized in the industrial networking applications nowadays; however, it sometimes goes to an awkward situation that end-device, e.g. remote camera, supports PoE function but the Ethernet switch does not. Is there any other solution but replacing the switch with a PoE one?

WINJ-0201-30W-24 Series, launched by Wavesys, solve the problem simply by deploying data and power from non-PoE switch and power input to the PD device. PoE injector is a brilliant low-cost solution for the case that only one side of devices is supporting PoE function. Therefore, Wavesys's WINJ-0201-30W-24 Series will be your best choice to deal with the lack of PoE function cases.

WINJ-0201-30W-24 Series supports low voltage 24VDC model with power booster technology, ensuring full 30W PoE output, for better usage in the automation industry. WINJ-0201-30W-24 Serieswith fan less design, besides extending surely apply to various industrial application,

WINJ-0201-30W-24 Series works perfectly in polarized temperature from -40~75℃, and undoubtedly becomes your best option in the industrial market.

Hardware Features

Interface & Performance

- Embedded 1*10/100/1000Tx (PSE 30W) and 1*10/100/1000Tx copper port
- Compliant IEEE802.3af/at PoE technologies
- Support auto detection and classification for PoE application
- Support short-circuit and current-overloading protection for PoE application
- The total length from the device A through the Injector to the device B must not exceed 100 meters

Power Input

- WINJ-0201-30W-24 Series
  - Redundant power DC 12~55V with connective 1*4-pin removable terminal block
  - Max. current 2.7A (Included PoE power budget)
  - Max. PoE output: 30W

Certification

- CE/FCC

Operating Temperature

- Standard operating temperature model: -10°C ~ 65°C
- Extended operating temperature model (–T): -40°C ~ 75°C

Case/Installation

- IP-30 protection
- Installation in a Pollution Degree 2 industrial environment
- DIN-Rail and wall mount design

Package Contents

- 1 - WINJ-0201-30W-24(-T) product
- 2 - Wall mounting brackets and screws
- 1 – Quick Installation Guide (printed)

Physical Dimensions

Figure 2.1, below, shows the physical dimensions of WINJ-0201-30W-24 series.

(W x D x H) is **26mm x 75mm x 95mm**

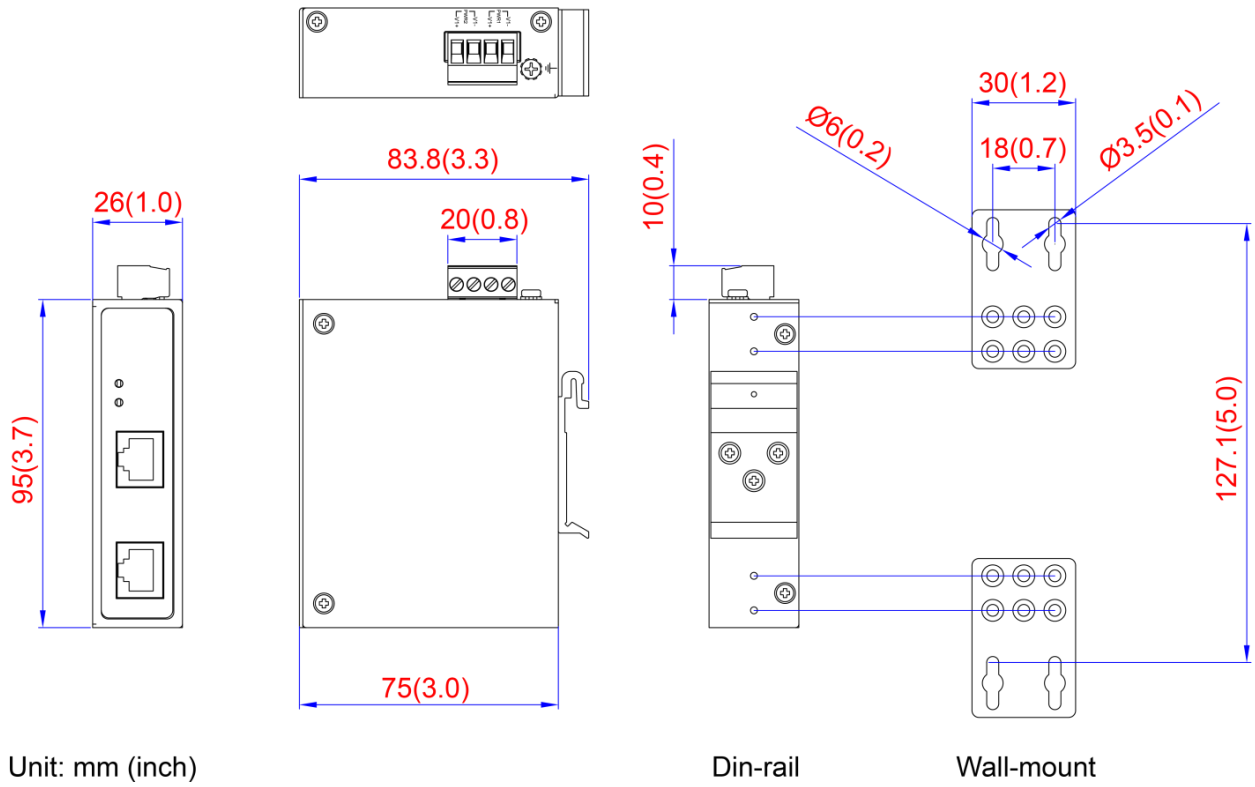

Figure 2.1: WINJ-0201-30W-24 Series Physical Dimensions

Front Panel

The front panel of the WINJ-0201-30W-24 series industrial Gigabit PoE Injector is shown below inFigure 2.2.

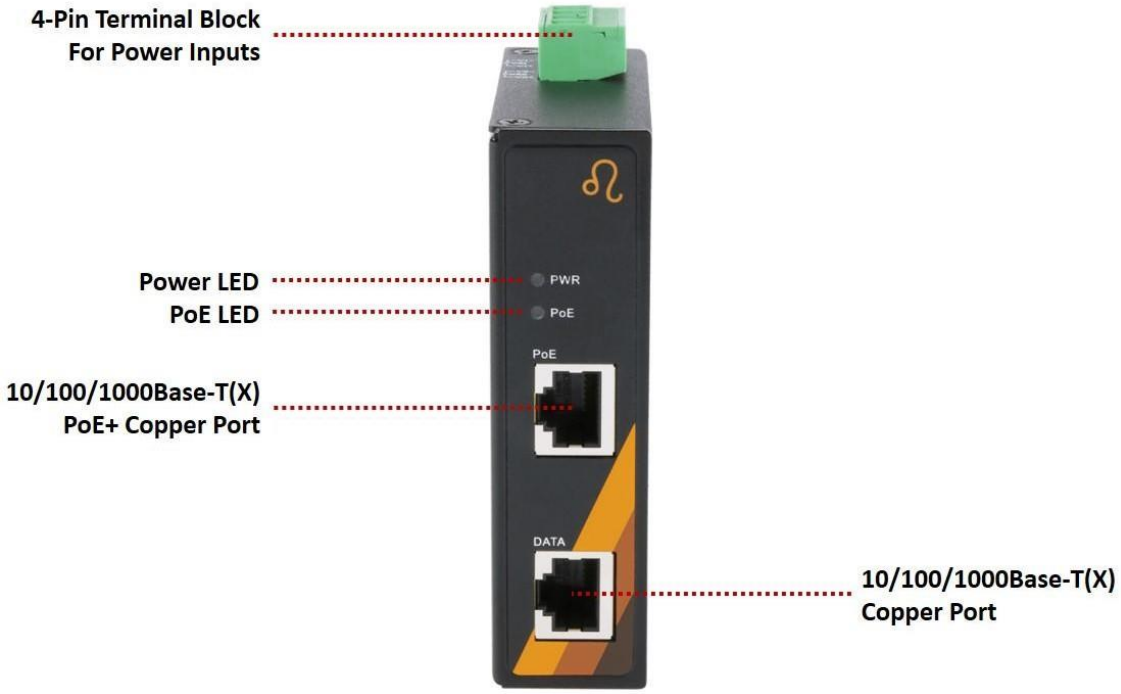

Figure 2.2: The Front Panel of WINJ-0201-30W-24 Series

Top View

Figure 2.3, below, shows the top panel of the WINJ-0201-30W-24 series injector that is equipped with one 4-pin removal terminal block connector for dual 12-55VDC power inputs.

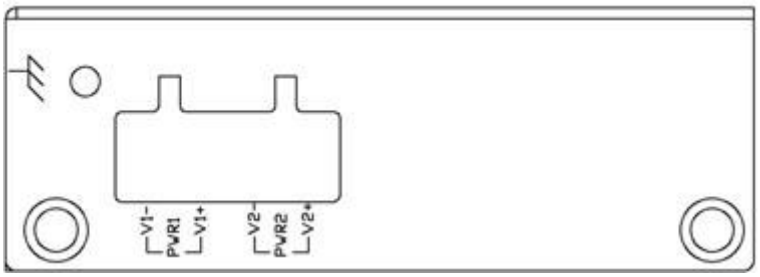

Figure 2.3: Top Panel View of WINJ-0201-30W-24 Series

LED Indicators

There are LED light indicators located on the front panel of the industrial PoE Injector that display the power and PoE status. Each LED indicator has a different color and has its own specific meaning, see below in Table 2.4.

LED	Color	Description	
PWR	Green	On	Power input 1 or 2 is active
		Off	Power input 1 and 2 is inactive
PoE	Green	On	The port is supplying power to the powered-device
		Off	No powered-device attached or power supplying fails

Table 2.4: LED Indictors for WINJ-0201-30W-24 Series

Caution: "PWR" is the abbreviation for "Power".

Cabling

Use the four twisted-pair, category 5e, or the above cabling for RJ-45 port connections. The total length from the device A through the INJECTOR to the device B must not exceed 100 meters.

Wiring the Power Inputs

Caution: Please follow the below steps to insert the power wire.

Step 1 Insert the positive and negative wires into the PWR1 (V1+, V1-) and PWR2 (V2+, V2-) contacts on the terminal block connector as shown below in Figure 2.5.

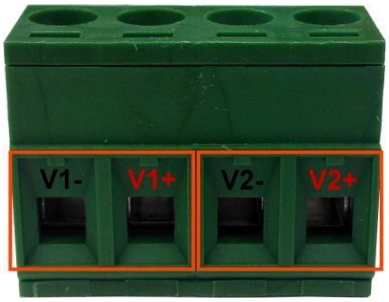

Figure 2.5: Power Terminal Block

Step 2 Tighten the wire-clamp screws to prevent the wires from loosening, as shown below in Figure 2.6.

Figure 2.6: Power Terminal Block

Caution: Only use copper conductors, 60/75°C, tighten to 5 in-lbs.

The wire gauge for the terminal block should range between 18~20 AWG.

Grounding Note

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. The grounding screw symbol is shown blow in Figure 2.7.

Figure 2.7: Grounding screw

Caution: Using a shielded cable achieves better electromagnetic compatibility.

Mounting Installation

DIN-Rail Mounting

The DIN-Rail is pre-installed on the industrial PoE Injector from the factory. If the DIN-Rail is not on the industrial PoE Injector, please see Figure 3.1 to learn how to install the DIN-Rail on the injector.

Figure 3.1: The Rear Side of the Injector and DIN-Rail Bracket

Follow the steps below to learn how to hang the industrial PoE Injector.

Step 1 Use the screws to install the DIN-Rail bracket on the rear side of the industrial PoE Injector.

Caution: The torque for tightening the screws on the device is 3.5 in-lbs.

Step 2 To remove the DIN-Rail bracket, do the opposite from Step 1.

Step 3 After the DIN-Rail bracket is installed on the rear side of the injector, insert the top of the DIN-Rail on to the track as shown below in Figure 3.2.

Figure 3.2: Insert the Injector on the DIN-Rail

Step 4 Lightly pull down the bracket on to the rail as shown below in Figure 3.3.

Figure 3.3: Stable the Injector on DIN-Rail

Step 5 Check if the bracket is mounted tightly on the rail.

Step 6 To remove the industrial PoE Injector from the rail, do the opposite from the above steps.

Wall Mounting

Follow the steps below to mount the industrial PoE Injector using the wall mounting bracket as shown below in Figure 3.4.

Caution: “Wall” means industrial control panel wall.

Step 1 Remove the DIN-Rail bracket from the industrial PoE Injector by loosening the screws.

Step 2 Place the wall mounting brackets on the top and bottom of the industrial PoE Injector.

Step 3 Use the screws to screw the wall mounting bracket on the industrial PoE Injector.

Step 4 Use the hook holes at the corners of the wall mounting bracket to hang the industrial PoE Injector on the wall.

Step 5 To remove the wall mount bracket, do the opposite from the steps above.

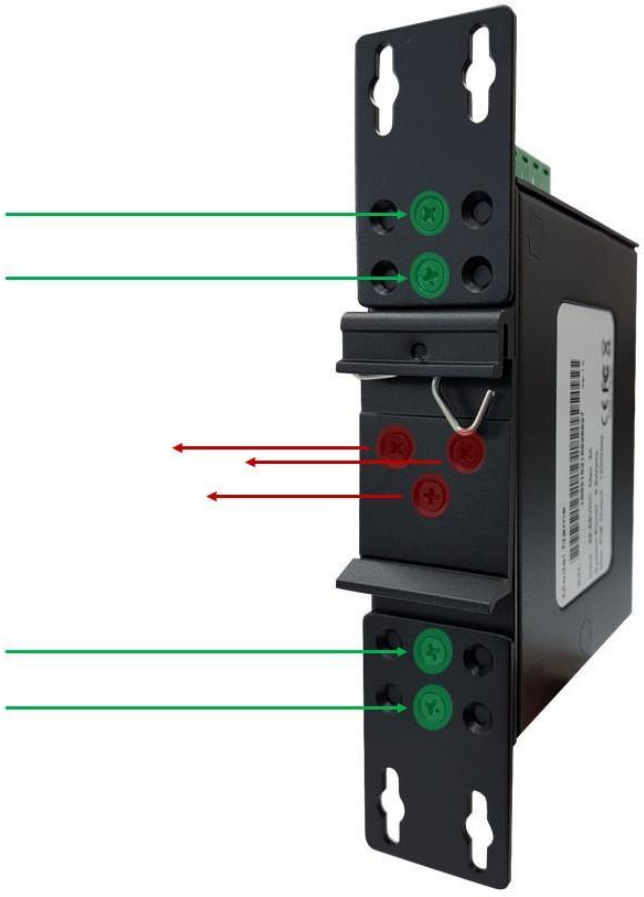

Figure 3.4: Remove DIN-Rail Bracket from the Injector

Below, in Figure 3.5 are the dimensions of the wall mounting bracket.

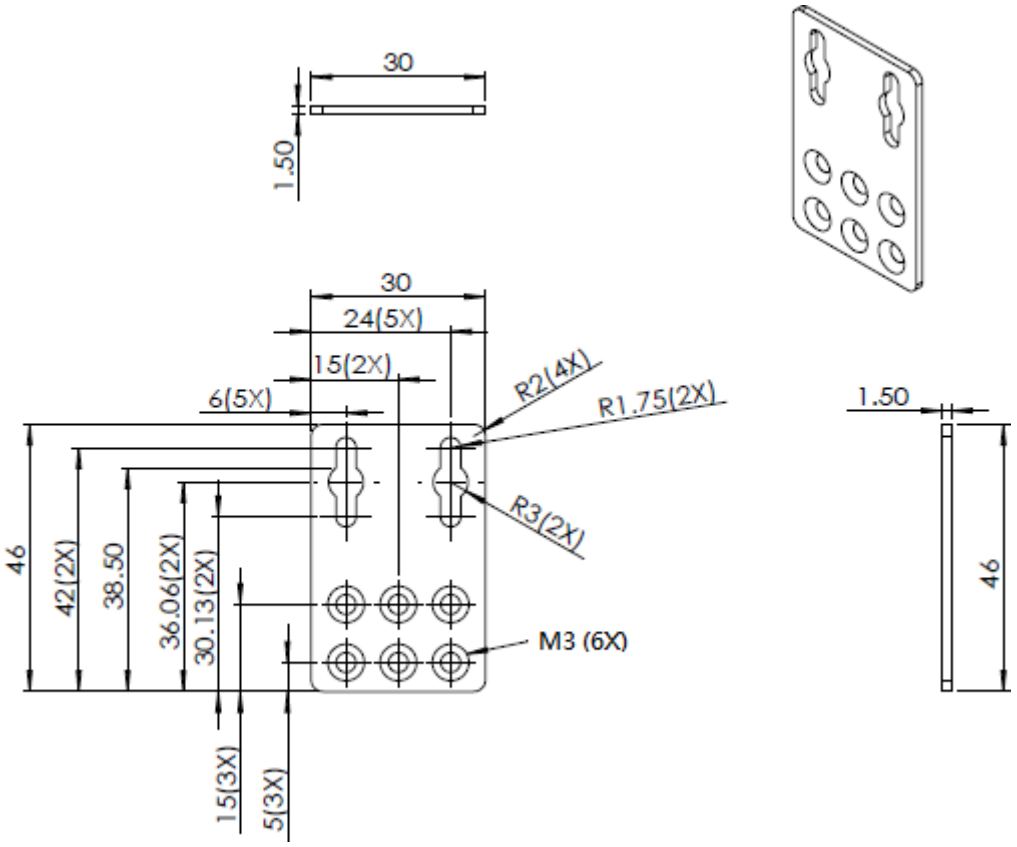

Figure 3.5: Wall Mounting Bracket Dimensions

Hardware Installation

Installation Steps

This section will explain how to install WINJ-0201-30W-24 series.

Caution: This device is intended for use indoor and at altitudes up to 2000 meters.

Caution: The device is intended to be installed in an industrial control enclosure and panel

Installation Steps

Step 1 Unpack the industrial PoE Injector from the original packing box.

Step 2 Check if the DIN-Rail bracket is screwed on the industrial PoE Injector.

- If the DIN-Rail is not screwed on the industrial PoE Injector, please refer to the **DIN-Rail Mounting** section for DIN-Rail installation.
- If you want to wall mount the industrial PoE Injector, please refer to the **Wall Mounting** section for wall mounting installation.

Step 3 To hang the industrial PoE Injector on a DIN-Rail or wall, please refer to the **Mounting Installation** section.

Step 4 Power on the industrial PoE Injector and then the power LED light will turn on.

- If you need help on how to wire power, please refer to the **Wiring the Power Inputs** section.
- Please refer to the **LED Indicators** section for LED light indication.

Step 5 Prepare the twisted-pair, straight-through category 5 cable for Ethernet connection.

Maintenance and Service

- If the device requires servicing of any kind, the user is required to disconnect and remove it from its mounting. The initial installation should be done in a way that makes this as convenient as possible.

- Voltage/Power lines should be properly insulated as well as other cables. Be careful when handling them so as to not trip over.

- Do not under any circumstance insert foreign objects of any kind into the heat dissipation holes located in the different faces of the device. This may not only harm the internal layout, but might cause harm to user as well.

- Do not under any circumstance open the device for any reason. Please contact your dealer for any repair needed or follow the instructions within the manual.

- Clean the device with dry soft cloth.

Trouble Shooting

- Verify you have the right power cord or adapter. Never use a power supply or adapter with a non-compliant DC output voltage or it will burn the equipment.

- Select the proper UTP or STP cable in order to construct the network. Use an unshielded twisted-pair (UTP) or shield twisted-pair (STP) cable for RJ-45 connections: 100Ω Category 5e for 10M/100M/1000Mbps. Also be sure that the length of any twisted-pair connection does not exceed 100 meters (328 feet).

  NOTE: The total length from the device A through the Injector to the device B must not exceed 100 meters

- Diagnosing LED Indicators: To assist in identifying problems, the injector can be easily monitored with the LED indicators which help to identity if any problems exist.
  - Please refer to the LED Indicators section for LED light indication.

- If the power indicator LED does not turn on when the power cord is plugged in, the user may have a problem with the power cord. Check for loose power connections, power losses or surges at the power outlet.
  - Please contact WAVESYS for technical support service, if the problem still cannot be resolved.