INJ-24 Series
Quick Installation Guide

Moxa PoE Injector

Version 4.2, September 2022

Technical Support Contact Information
www.moxa.com/support

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Overview

The **Moxa PoE Injector INJ-24 Series** is a 1-port PoE injector that delivers both data and electrical power to Ethernet-enabled devices using a single Ethernet cable. The INJ-24 can supply up to 30 watts of power through the Ethernet port, and can power IEEE 802.3af/at compliant powered devices (PD), such as wireless access points or IP cameras, eliminating the need for additional wiring. The INJ-24 supports Gigabit communication, which is vital for high-speed and low-latency applications. The INJ-24 also offers a wide operating temperature range of -40 to 75°C, and is designed to withstand a high degree of vibration and shock. A rugged hardware design makes the INJ-24 perfect for ensuring that your Ethernet equipment can operate in critical industrial environments, such as in hazardous locations, and complies with FCC and CE standards.

Wiring Requirements

WARNING

Do not disconnect modules or wires unless the power supply has been switched off or the area is known to be non-hazardous. The devices may only be connected to the supply voltage shown on the type plate. The devices are designed for operation with a Safety Extra-Low Voltage. Thus, they may only be connected to the supply voltage connections and to the signal contact with the Safety Extra-Low Voltages (SELV) in compliance with IEC 60950-1/EN 60950-1.

WARNING

The power for this product is intended to be supplied by a Listed Power Unit, with output marked LPS, and rated to deliver 24 DC at a maximum of 1.3 A.

WARNING

This unit is a built-in type. When the unit is installed in another piece of equipment, the equipment enclosing the unit must comply with fire enclosure regulation IEC 60950-1/EN 60950-1 (or similar regulation).

WARNING

Safety First!

Be sure to disconnect the power cord before installing and/or wiring your Moxa PoE injector. 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 the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

You should also pay attention to the following items:

- 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 in 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.
- Keep input wiring and output wiring separated.
- It is strongly advised that you label wiring to all devices in the system when necessary.

Package Checklist

The Moxa INJ-24 Series is shipped with the following items. If any of these items is missing or damaged, contact a Moxa customer service representative for assistance.

- Moxa PoE Injector INJ-24
- Quick installation guide (printed)
- Warranty card

Features

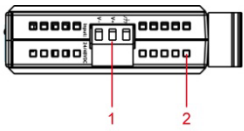
High Performance Network Switching Technology

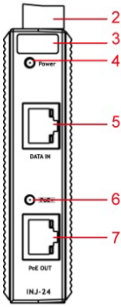
- 10/100/1000BaseT(X)
- Provides up to 30 watts per PoE port
- Active circuit protection
- Auto disconnection for over voltage or under voltage
- Power consumption detection and classification
- Industrial-grade reliability

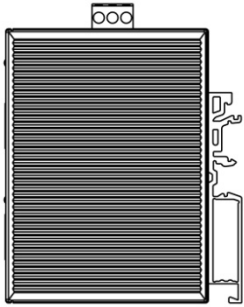
Rugged Design

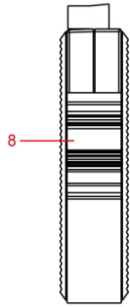
- Operating temperature range from 0 to 60°C, or extended operating temperature from -40 to 75°C for "T" models
- IP30, rugged high-strength case
- DIN-Rail or panel mounting ability

Panel Layout



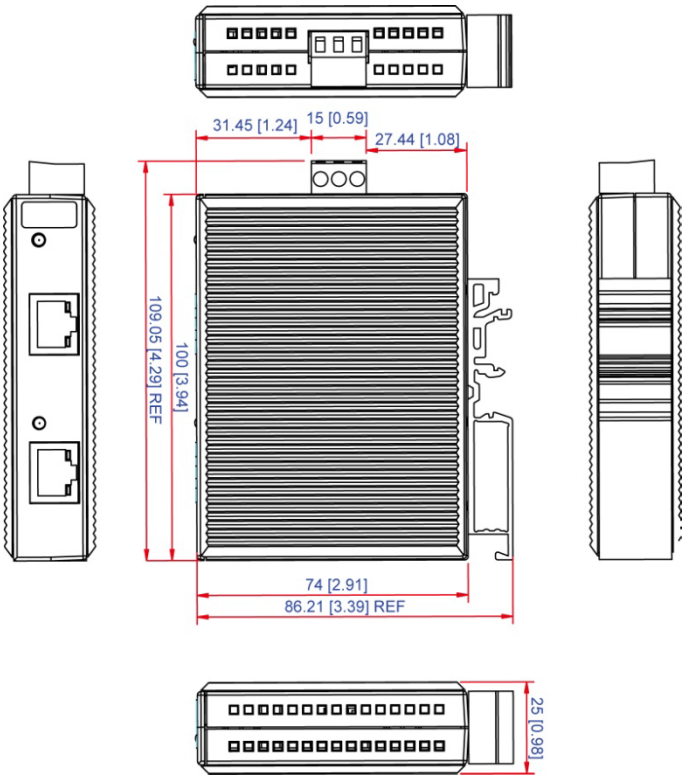






1. Heat dissipation orifices
2. Terminal block for power input and grounding
3. Moxa Logo
4. Power LED
5. Data input port
6. PoE LED
7. PoE output port
8. DIN-Rail

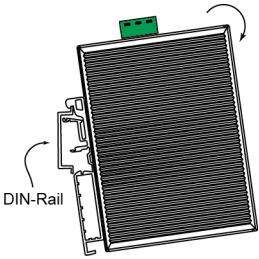
Mounting Dimensions (unit = mm)



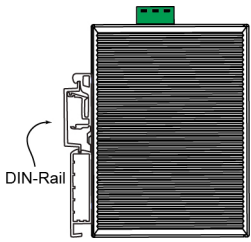
DIN-Rail Mounting

The plastic DIN-Rail attachment plate should already be fixed to the back panel of INJ-24 when you take it out of the box. If you need to reattach the DIN-Rail attachment plate, make sure the stiff metal spring is situated towards the top, as shown in the figures below.

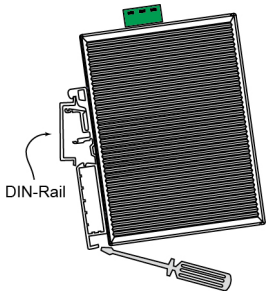
STEP 1:
Insert the top of the DIN-Rail into the slot.



STEP 2:
The DIN-Rail attachment unit will snap into place as shown below.

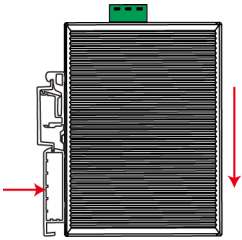


To remove the INJ-24 from the DIN-Rail, insert a flat-blade screw driver horizontally into the DIN-Rail kit under the INJ-24, and then pull it upwards and release INJ-24 towards you away from the DIN-Rail.

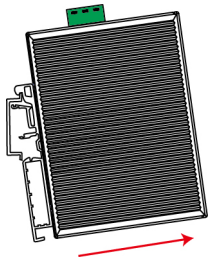


You may also take the following steps to remove the INJ-24 from the DIN-Rail.

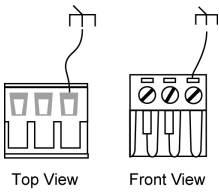
STEP 1:
Press the middle of the flat side of the mounting kit as indicated. Pull the INJ-24 downwards.



STEP 2:
Release it towards you and away from the DIN-Rail.



Grounding the INJ-24



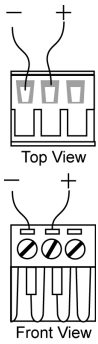
Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the right most contact of the 3-contact terminal block to the grounding surface prior to connecting devices.

ATTENTION

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

Wiring the INJ-24's Power Inputs

The two left-most contacts of the 3-contact terminal block connector on the INJ-24's top panel are used for 24 VDC inputs. Top and front views of one of the terminal block connectors are shown here.



STEP 1:
Insert the negative/positive DC wires into the V-/V+ terminals.

STEP 2:
To keep the DC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

STEP 3:
Insert the plastic terminal block connector prongs into the terminal block receptor, which is located on INJ-24's top panel.

LED Indicators

Several LED indicators are located on the ING-24's front panel. The function of each LED is described in the table below.

LED	Color	State	Description
Power	AMBER	On	Power is being supplied
		Off	Power is not being supplied
PoE	AMBER	On	Power is being supplied to a Powered Device (PD)
		Blinking, 1.5 Hz	No PoE power output
		Blinking, 10 Hz	PoE failure: 1. PoE standard detection failure 2. PoE current overload

Specifications

Technology	
Standards	IEEE802.3, 802.3u, 802.3ab, 802.3af, 802.3at
Interface	
RJ45 Ports	10/100/1000BaseT(X) speed
LED Indicators	Power, PoE
PoE	
Total Power Budget	30 W
PoE Output Voltage	50 @ 24/48 VDC (with full PoE loading)
PoE Output Power	15.4 W for 802.3af, 30 W for 802.3at
PoE Output Current	350 mA for 802.3af, 600 mA for 802.3at
Overload Current Protection at Port	Present
PoE Pinout	Mode B: Pair 4, 5 (V+); Pair 7, 8 (V-)

Power	
Input Voltage	24/48 VDC (22 to 57 VDC), single input
Input Current	1.4 A @ 24 VDC (with full PoE loading) 0.7 A @ 48 VDC (with full PoE loading)
Power Consumption	Max. 3.6 W (with 1 PD connected, excluding PD's consumption)
Inrush Current	26.3 A @ 48 VDC
Electrical Isolation	2250 VDC to chassis for 60 s
Heat Dissipation	12.3 BTU/h
Overload Current Protection at Input	Present
Reverse Polarity Protection	Present
Connection	1 removable 3-contact terminal block
Mechanical	
Housing	IP30 protection, plastic case
Dimensions	25 × 100 × 86.2 mm (0.98 × 3.93 × 3.39 in)
Weight	115 g
Installation	DIN-Rail
Environmental Limits	
Operating Temperature	Standard Models: 0 to 60°C (32 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Regulatory Approvals	
Safety	UL 508, EN 62368-1
EMC	EN 55032/35
EMI	FCC Part 15, CISPR 32 class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-31
Vibration	IEC 60068-2-6
Warranty	
Time Period	5 years
Details	www.moxa.com/warranty

Patent
http://www.moxa.com/doc/operations/Moxa_Patent_Marking.pdf