

Quick Installation Guide

INJ-IG02-PH

INJ-IG02-PHE

Industrial Grade Gigabit Ethernet PoE Injector



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CTC Union Technologies Co., Ltd.

Far Eastern Vienna Technology Center

(Neihu Technology Park)

8F, No. 60 Zhouzi St.,

Neihu, Taipei 114, Taiwan

T +886-2-26591021

F +886-2-26590237

E sales@ctcu.com

H www.ctcu.com



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WARNING:

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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause harmful interference in which case the user will be required to correct the interference at his own expense. NOTICE: (1) The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. (2) Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

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.

Table of Contents

| | |
|---|-----------|
| Introduction | 5 |
| Package List | 5 |
| Features | 5 |
| Specifications | 6 |
| ETHERNET INTERFACE..... | 6 |
| POWER | 6 |
| MECHANICAL..... | 6 |
| ENVIRONMENTAL..... | 6 |
| CERTIFICATIONS | 7 |
| MTBF (MIL-HDBK-217) | 7 |
| Panels | 8 |
| Connectors | 9 |
| RJ-45 ETHERNET PORT PINOUTS | 9 |
| RJ-45 ETHERNET & POE PIN ASSIGNMENTS..... | 9 |
| Power Connection..... | 10 |
| LED Indicators..... | 10 |
| Installation | 11 |
| Application..... | 11 |

Introduction

INJ-IG02-PH(E) is an industrial grade, single port, gigabit Ethernet PoE (Power over Ethernet) injector that can pass electrical power safely, along with data, on Ethernet cabling. Unlike standard PoE compliant devices, INJ-IG02-PH(E) can feed PoE power when the device is powered up and provide up to 60W through non-standard use of all 4 pairs of category 5 cable.

Housed in a rugged DIN rail or wall mountable enclosure, this product is designed for harsh environments, such as industrial networking, intelligent transportation systems (ITS) and is also suitable for many military and utility market applications where environmental conditions exceed commercial product specifications. Standard operating temperature range models (-10°C to 60°C) and wide operating temperature range models (-40°C to 75°C) fulfill the special needs of industrial automation applications.

Package List

- INJ-IG02-PH(E) device
- Terminal block
- Din Rail with screws

Features

- Provide one-port PoE
- Provide power up to 30W (2 pair mode) and 60W (4 pair mode)
- 48VDC (44VDC~57VDC) input power
- Smart LED indication
- Support current-overloading protection for PoE application
- Industrial grade EMS, EMI, EN61000-6-2, EN61000-6-4
- Wide operating temperature range -40°C~75°C (INJ-IG02-PHE)
- IP30 rugged metal housing

Specifications

Ethernet Interface

- Standards: IEEE 802.3, 802.3u, 802.3ab
- Data input: Cat. 5e (or above) RJ-45 (shielded) 10/100/1000M x 1
- Data + PoE output: Cat. 5e (or above) RJ-45 (shielded) 10/100/1000M x 1

Power

- 48VDC (44VDC~57VDC) input power
- Reverse polarity protection: Yes
- Overload protection: Yes
- Connector: terminal block
- PoE Power Output: 30W (2 pair), 60W (4 pair)
- Power Consumption:

| PoE Mode | In 30W Mode (2 Pair) | In 60W Mode (4 Pair) |
|--|-------------------------|-------------------------|
| Power Consumption | | |
| Input Power Consumption (Input 48VDC) | 31.2W | 61W |
| Output Power | 30W | 60W |

Mechanical

- Water & Dust Proof: IP30 Protection
- Dimensions: 70 mm (D) x 30 mm (W) x 103 mm (H)
- Mounting: DIN-Rail, Wall Mount (Optional)
- Weight: 210 g

Environmental

- Operating Temperature: -10°C~60°C (INJ-IG02-PH); -40°C~75°C (INJ-IG02-PHE)
- Storage Temperature: -40°C~85°C
- Humidity: 5%~95% (Non-condensing)

Certifications

- EMC: CE
- EMI (Electromagnetic Interference): FCC Part 15 Subpart B Class A, CE
- Railway Traffic: EN50121-4
- Immunity for Heavy Industrial Environment: EN61000-6-2
- Emission for Heavy Industrial Environment: EN61000-6-4
- EMS (Electromagnetic Susceptibility) Protection Level:
 - EN61000-4-2 (ESD) Level 3, Criteria B
 - EN61000-4-3 (RS) Level 3, Criteria A
 - EN61000-4-4 (Burst) Level 3, Criteria A
 - EN61000-4-5 (Surge) Level 3, Criteria B
 - EN61000-4-6 (CS) Level 3, Criteria A
 - EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A
- Shock: IEC 60068-2-27
- Freefall: IEC 60068-2-32
- Vibration: IEC 60068-2-6

MTBF (MIL-HDBK-217)

- 463,016 Hours

Panels

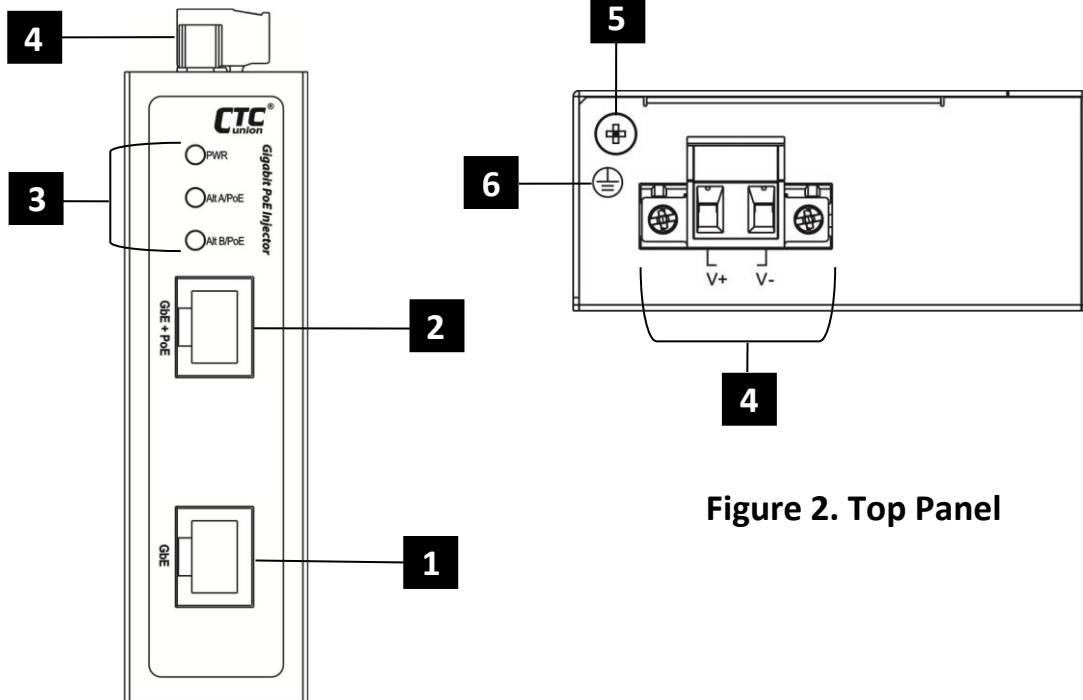


Figure 1. Front Panel

Figure 2. Top Panel

| No. | Description |
|-----|---------------------------------|
| 1 | Gigabit Ethernet LAN port |
| 2 | Gigabit Ethernet & PoE LAN port |
| 3 | LED indicators |
| 4 | Terminal block |
| 5 | Grounding connection |
| 6 | Grounding sign |

Connectors

INJ-IG02-PH(E) has two standard shielded RJ-45 connectors for Ethernet cable connections. The connector labeled GbE (Data input) will connect to Ethernet switch, while the connector labeled GbE+PoE (Data + PoE output) will connect to PoE PD device such as IP Camera, Access Point, IP Phone, Digital Signage or any other PoE power device.

WARNING: “GbE+PoE” port will always provide power when the device is powered up. This port is used to connect to PoE PD device. **DO NOT connect this port to any non-PoE PD devices;** otherwise, this may cause damages to this device or result in short circuit.

RJ-45 Ethernet Port Pinouts

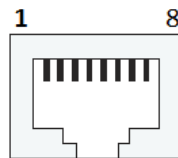


Figure 3. RJ-45 Ethernet Port Pinouts

RJ-45 Ethernet & PoE Pin Assignments

| Pin No. | RJ-45 Ethernet | | PoE Output | | |
|---------|----------------|------------|---------------|---------------|--------|
| | 100Base-TX | 1000Base-T | 2 Pair/ Alt A | 2 Pair/ Alt B | 4 Pair |
| 1 | RX+ | TRD 0+ | V+ | | V+ |
| 2 | RX- | TRD 0- | V+ | | V+ |
| 3 | TX+ | TRD 1+ | V- | | V- |
| 4 | - | TRD 2+ | | V+ | V+ |
| 5 | - | TRD 2- | | V+ | V+ |
| 6 | TX- | TRD 1- | V- | | V- |
| 7 | - | TRD 3+ | | V- | V- |
| 8 | - | TRD 3- | | V- | V- |

Power Connection

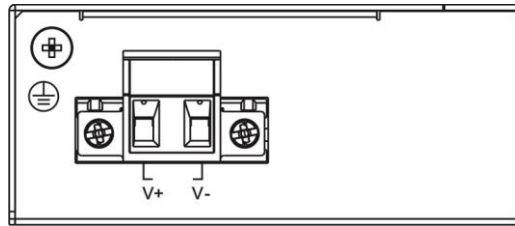


Figure 4. Terminal Block

INJ-IG02-PH(E) is powered up by an external power supply (44VDC~57VDC). To connect to the power supply, insert V+ and V- wire into power contacts. Then, tighten the wire-clamp screws to prevent power wires from loosening. If the power supply is connected correctly, then the PWR LED on the front panel will light in green.

LED Indicators

| LED | Color | Description |
|-----------|-------|---|
| PWR | Green | Lit if power is connected and active. |
| | Off | Power is not connected. |
| Alt A/PoE | Green | Feed PoE power normally (1&2, 3&6 wire pairs). |
| | Off | Power is not connected or under abnormal condition. |
| Alt B/PoE | Green | Feed PoE power normally (4&5, 7&8 wire pairs). |
| | Off | Power is not connected or under abnormal condition. |

Installation

The injector comes with both wall mount and DIN rail hardware brackets. When installing the DIN rail bracket, be sure to correctly align the orientation pin.

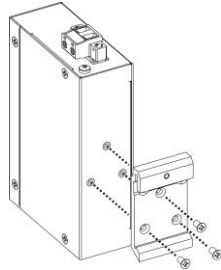


Figure 5. DIN Rail

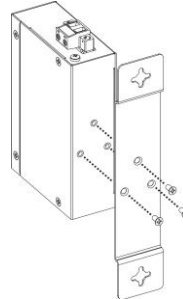


Figure 6. Wall Mounting

The injector with DIN Rail bracket has a steel spring in the upper rail of the bracket. This spring is compressed for mounting and un-mounting by applying downward force.

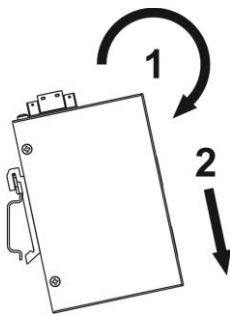


Figure 7. Mounting

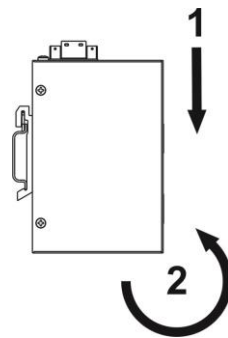


Figure 8. Un-mounting

Application

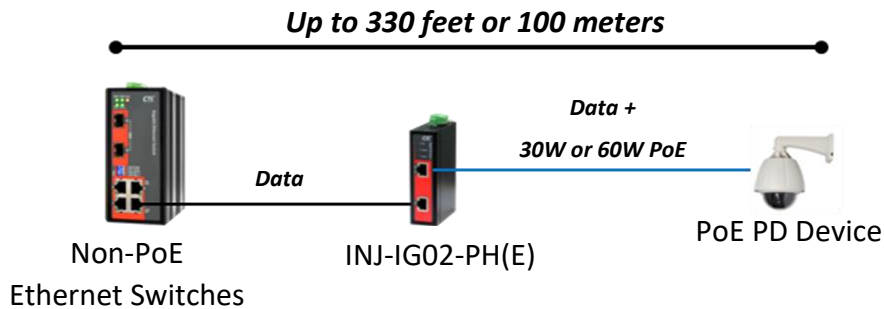


Figure 9. Injector Application

