# Industrial 100/1000X to 10/100/1000T 802.3bt PoE++

# Media Converter series

# IGUP-1205AT/IGUP-2205AT

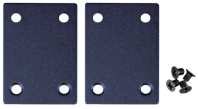
# User's Manual

# Table of Contents

# 1. Package Contents

Thank you for purchasing PLANET compact industrial 100/1000X to 10/100/1000T 802.3bt PoE++ Media Converter series, IGUP-1205AT and IGUP-2205AT. In the following sections, the term **"Industrial PoE++ Media Converter"** means the IGUP-1205AT or IGUP-2205AT.

Open the box of the Industrial PoE++ Media Converter and carefully unpack it. The box should contain the following items:

| Industrial PoE++ Media Converter x 1 | QR code sheet x 1 | Wall-mount Kit x 1 |
|---|---|---|
|  |  |  |
| **DIN-rail Kit x 1** | **RJ45 Dust Cap (1205AT x 1/2205AT x 2)** | **SFP Dust Cap x 2** |
|  |  |  |

If any of these are missing or damaged, please contact your dealer immediately; if possible, retain the carton including the original packing material, and use them again to repack the product in case there is a need to return it to us for repair.

## 2. Product Specifications

| Model | IGUP-1205AT | IGUP-2205AT |
|---|---|---|
| Hardware Specifications | | |
| Copper Port | 1 x 10/100/1000BASE-T | 2 x 10/100/1000BASE-T |
| SFP Slot | 2 x 1000BASE-SX/LX/BX SFP interface<br>Compatible with 100BASE-FX SFP | |
| Flow Control | Back pressure for half duplex mode<br>IEEE 802.3x pause frame for full duplex mode | |
| Maximum Frame Size | 9K | |
| LED | ■ System:<br>PWR1 (Green), PWR2 (Green), Alarm (Red)<br>■ PoE Usage:<br>1205AT: 30W/60W/90W (Amber)<br>2205AT: 60W/120W/180W (Amber)<br>■ Fiber:<br>100BASE-X: LNK/ACT (Amber)<br>1000BASE-X: LINK/ACT (Green)<br>■ TP:<br>10/100/1000BASE-T: LNK/ACT (Green)<br>PoE-in-Use (Amber) | |
| Dimensions<br>(W x D x H) | 56 x 87.8 x 135 mm | |
| Weight | 612g | 630g |
| Power Requirements | 12-56V DC, supports reverse polarity protection | |
| Power Consumption | System ON without loading<br>12V DC: 2.64W<br>56V DC: 2.8W<br>Full loading with PoE<br>12V DC: 79.56W<br>56V DC: 100.24W | System ON without loading<br>12V DC: 4.2W<br>56V DC: 2.8W<br>Full loading with PoE<br>12V DC: 79.44W<br>56V DC: 187.6W |
| DIP Switch | Standard/Legacy mode | |

| | | |
|---|---|---|
| Enclosure | IP30 metal case | |
| Installation | DIN-rail kit and wall-mount ear | |
| ESD Protection | 6KV DC | |
| Cables | 10/100/1000BASE-T:<br>2-pair UTP Cat. 3, 4, 5, 5e, 6 (maximum 100 meters)<br>EIA/TIA-568 100-ohm STP (maximum 100 meters)<br>100BASE-FX/1000BASE-SX/LX:<br>Multi-mode: 50/125μm or 62.5/125μm optical fiber<br>Single-mode: 9/125μm optical fiber | |
| Power Over Ethernet | | |
| PoE Standard | IEEE 802.3bt Power over Ethernet Plus Plus<br>Backward compatible with IEEE 802.3at PoE+ | |
| PoE Power Output | Standard (BT) mode: 90W<br>Legacy (PoH) mode: 95W | |
| PoE Power Supply Type | End-span + Mid-span | |
| Power Pin Assignment | End-span: 1/2 (-), 3/6 (+);<br>Mid-span: 4/5 (+), 7/8 (-) | |
| PoE Power Budget | 95 watts | 190 watts |
| Standards Conformance | | |
| Regulatory Compliance | FCC Part 15 Class A, CE | |
| Protocols and Standards Compliance | IEEE 802.3 Ethernet<br>IEEE 802.3u Fast Ethernet<br>IEEE 802.3ab Gigabit Ethernet<br>IEEE 802.3z Gigabit Ethernet over Fiber Optic<br>IEEE 802.3x Flow Control<br>IEEE 802.3af Power over Ethernet<br>IEEE 802.3at Power over Ethernet Plus<br>IEEE 802.3bt Power over Ethernet Plus Plus<br>IEEE 802.3az Energy Efficient Ethernet (EEE) | |

| | |
|---|---|
| Stability Testing | IEC60068-2-32 (free fall)<br>IEC60068-2-27 (shock)<br>IEC60068-2-6 (vibration) |
| Environment | |
| Temperature | Operating: -40~75 degrees C<br>Storage: -40~85 degrees C |
| Humidity | Operating: 5~90% (non-condensing)<br>Storage: 5~90% (non-condensing) |

# 3. Hardware Introduction

## 3.1 Three-View Diagram

The three-view diagram of the Industrial **PoE++** Media Converter consists of Ethernet interfaces and one **removable 6-pin terminal block**. The LED indicators are also located on the front panel.

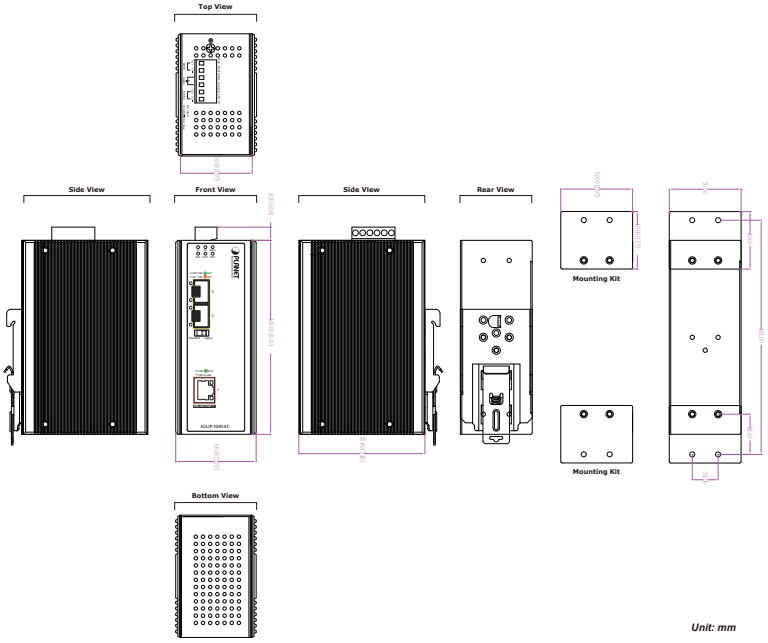



**Figure 1:** IGUP-1205AT Three-View Diagram

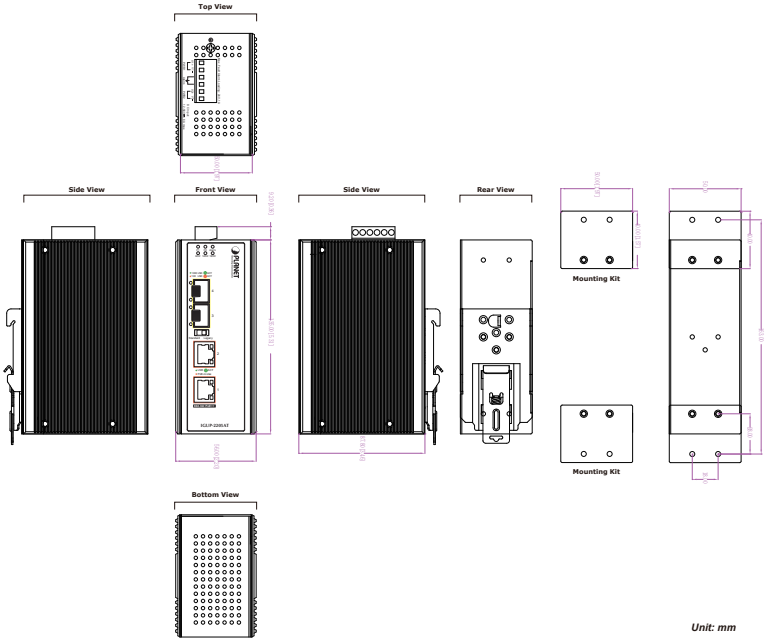



**Figure 2:** IGUP-2205AT Three-View Diagram

## ■ Front View

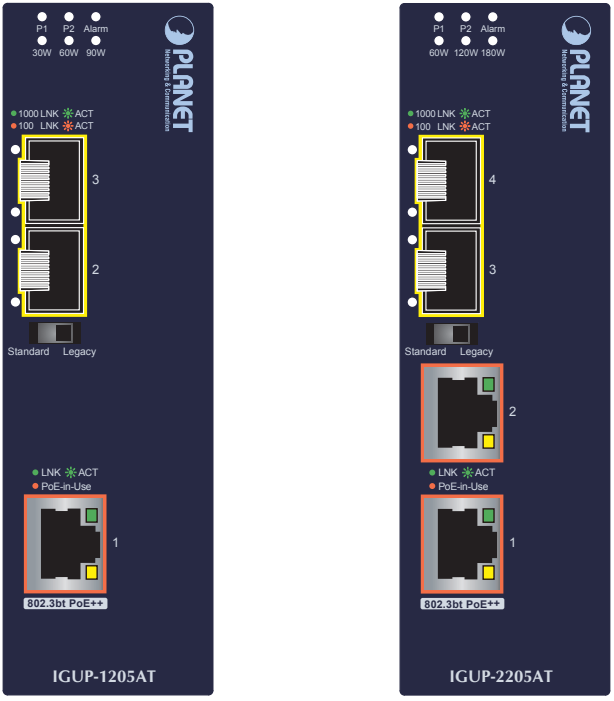



**Figure 3:** IGUP-1205AT/IGUP-2205AT Front View

## 3.2 LED Definition:

### ■ System

| LED | Color | Function |
|---|---|---|
| P1 | Green | Lights to indicate DC power input 1 has power. |
| P2 | Green | Lights to indicate DC power input 2 has power. |
| Alarm | Red | Lights to indicate that DC power has failed. |
| PoE Usage | Amber | **IGUP-1205AT (30W, 60W, 90W)**<br>Lights to indicate the system consumes over 30-/60-/90-watt PoE power budget.<br>Blinks to indicate the system consumes less than 30-/60-/90-watt PoE power budget.<br>**IGUP-2205AT (60W, 120W, 180W)**<br>Lights to indicate the system consumes over 60-/120-/180-watt PoE power budget.<br>Blinks to indicate the system consumes less than 60-/120-/180-watt PoE power budget. |

### ■ Gigabit TP Interface

| LED | Color | Function |
|---|---|---|
| TP LNK/ACT | Green | Lights to indicate that the copper port is successfully connecting to the network at 10/100/1000Mbps. |
| | | Blinks to indicate the copper port is receiving or sending data. |
| PoE-in-Use | Amber | Lights to indicate that the port is providing inline power to remote powered device. |
| | | Off to indicate that the port is not providing inline power to remote powered device. |

## ■ Gigabit Fiber Interface

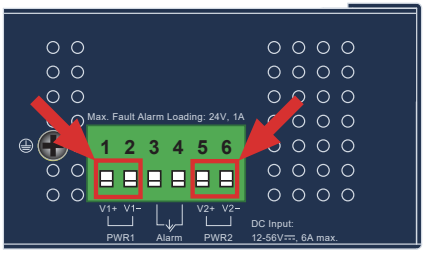
| LED | Color | Function |
|---|---|---|
| Fiber LNK/ACT | Green | Lights to indicate that the fiber optic port is successfully connecting to the network at 1000Mbps. |
| | | Blinks to indicate the fiber optic port is receiving or sending data. |
| | Amber | Lights to indicate that the fiber optic port is successfully connecting to the network at 100Mbps. |
| | | Blinks to indicate the fiber optic port is receiving or sending data. |

## 3.3 Wiring the Power Inputs

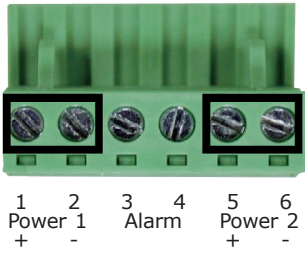
The 6-contact terminal block connector on the top panel of Industrial PoE++ Media Converter is used for two 12-56V DC redundant power inputs. Please follow the steps below to insert the power wire.

| | |
|---|---|
| Caution | When performing any of the procedures like inserting the wires or tightening the wire-clamp screws, make sure the power is OFF to prevent from getting an electric shock. |

1. Insert positive and negative DC power wires into contacts 1 and 2 for POWER 1, or 5 and 6 for Power 2.



2. Tighten the wire-clamp screws for preventing the wires from loosening.




Note

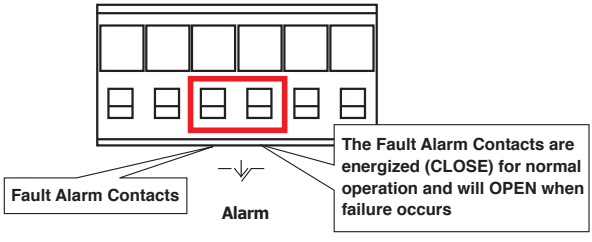
1. The wire gauge for the terminal block should be in the range between 12 and 24 AWG.
2. The DC power input range is 12-56V DC.

Caution

PWR1 and PWR2 must provide exactly the **same DC voltage** for power load balance while operating with dual power input.

## 3.4 Wiring the Alarm Contact

The alarm contacts are in the middle of the terminal block connector as the picture shows below. Inserting the wires, the Industrial Ethernet Extender will detect the fault status of the power failure and then forms an open circuit. The following illustration shows an application example for wiring the fault alarm contacts.



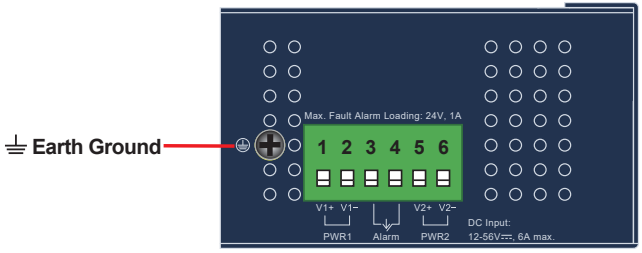

Insert the wires into the fault alarm contacts

Note

1. The wire gauge for the terminal block should be in the range between 12 and 24 AWG.
2. Alarm relay circuit accepts up to 24V, max. 1A currents.

## 3.5 Grounding the Device

Users **MUST** complete grounding wired with the device; otherwise, a sudden lightning could cause fatal damage to the device. EMD (Lightning) DAMAGE IS NOT COVERED UNDER WARRANTY.



# 4. Hardware Installation

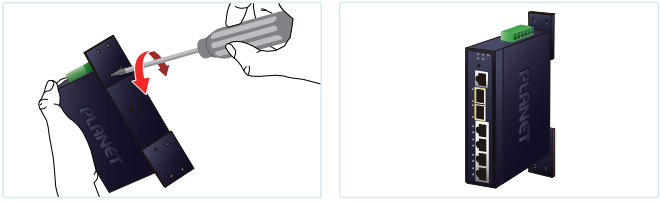
This section describes the functionalities of the Industrial PoE++ Media Converter's components and guides you to installing it on the DIN rail and wall. Please read this chapter completely before continuing.

Note

This following picture tells the user how to install the device, and the device is not IGUP-1205AT or IGUP-2205AT.

## 4.1 DIN-rail Mounting Installation


## 4.2 Wall-mount Plate Mounting



Caution

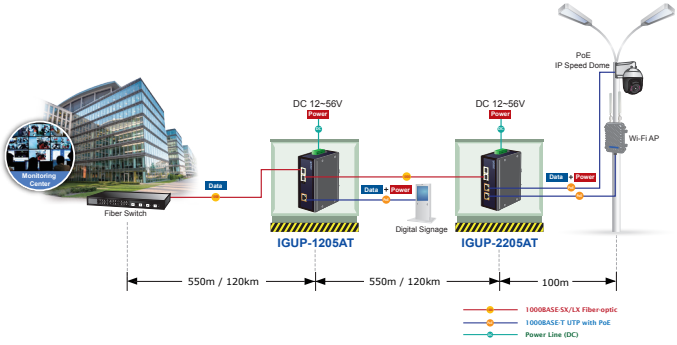
You must use the screws supplied with the wall-mounting brackets. Damage caused to the parts by using incorrect screws would invalidate your warranty.

# 5. Fiber and PoE Installation

The IGUP-1205AT/IGUP-2205AT is flexible enough to extend the distance from 550m to 120km. It depends on the 1000BASE-X or 100BASE-FX SFP transceivers. The SFP transceivers are hot-pluggable and hot-swappable. You can plug in and out the transceiver to/from any SFP port without having to power down the Industrial 802.3bt PoE++ Media Converter.

If there is any IEEE 802.3af/IEEE 802.3at/IEEE 802.3bt devices needed to power on, the IGUP-1205AT/IGUP-2205AT can provide you a way to supply power for this Ethernet device conveniently and easily.

The IGUP-1205AT/IGUP-2205AT needs 12-56V DC input and it injects the DC power into the pin of the twisted-pair cable (Pins 1, 2, 3 and 6).



## *Customer Support*

Thank you for purchasing PLANET products. You can browse our online FAQ resource on PLANET web site first to check if it could solve your issue. If you need more support information, please contact PLANET support team.

PLANET online FAQs:
http://www.planet.com.tw/en/support/faq.php

Support team mail address:
support@planet.com.tw