

Product Specifications

Industrial 1-Port 100/1000X SFP to 1-Port 10/100/1000T 802.3bt PoE++ Media Converter

IGUP-805AT

Version 1.0

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Change History:

Revision	Date	Author	Change List
Version 1.0	2019/8/20	Simon	Initial release

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1. PRODUCT DESCRIPTION

PLANET IGUP-805AT Industrial Gigabit Media Converter combines Ethernet media conversion (from 1000BASE-X to 10/100/1000BASE-T) with **802.3bt Power over Ethernet Plus Plus (PoE++)** injector function to deliver up to **90 watts** of power output and high data transmission speed to PDs (powered devices) installed in a remote area where sufficient and reliable power input is required. Its 1000BASE-X fiber optic uplink port provides long-distance, high-speed and stable data transmission to a remote core network. The special and convenient power system of the IGUP-805AT supports dual **12~56V DC** power inputs for power redundancy and operational flexibility.

Being able to operate under the temperature ranging from **-40 to 75 degrees C** and with an **IP30** rugged case, the IGUP-805AT can be placed in almost any difficult environment.

Fiber-optic Link Capability Extends the Range of Network Deployment

The maximum distance between a PoE PSE (power sourcing equipment) and PD via Ethernet cable is 100 meters. To extend the PoE deployment range, the IGUP-805AT is integrated with fiber interface for farther distance applications. The IGUP-805AT's fiber connector type is as follows:

- One SFP slot supporting 100BASE-FX/1000BASE-X multi/single mode SFP module and transmission distance up to 120km (varying on SFP module)

With the long fiber distance support, the IGUP-805AT still sustains the transmission performance as high as 1000Mbps. It works in the high-performance Store and Forward mechanism, and also can prevent packet loss with IEEE 802.3x flow control. Furthermore, it can immediately alarm the administrators the issue from the link media and provide efficient solution to monitor the network power usage.

Plug and Play High Power Sourcing Solution

Complying with the **IEEE 802.3bt Power over Ethernet Plus Plus** technology, the IGUP-805AT provides up to **90 watts** of PoE output power, tripling that of the earlier 802.3at plus. Through, the **Legacy** function in the DIP switch design, it is also backward compatible with **802.3af/at PoE** standards to allow users to flexibly deploy standard and high powered devices simultaneously with no need of software configuration. With data and Power over Ethernet from one unit, the IGUP-805AT can reduce cable deployment and eliminate the need for dedicated electrical outlets on the wall, ceiling or any unreachable place.

Interactive Network Detection

The IGUP-805AT can support **LFPP** (Link Fault Passthrough PoE Control) function via its built-in DIP switch. It disables PoE port once it detects the fiber optic link is down. It can immediately alarm the administrators the issue from the link media and provide efficient solution to monitor the remote network.

Convenient and Reliable Power System

To facilitate the 802.3bt power PoE++ usage with the commonly-used **12~48V DC** power input for transportation and industrial-level applications, the IGUP-805AT adopts the **12~48V DC to 56V** power boost technology to solve power source issue but does not require special power supplies. Its wide-ranging voltages

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design is suitable for worldwide operability with high availability applications requiring dual or backup power inputs.

Environmentally Hardened Design for Industrial PoE Networks

The IGUP-805AT is specifically designed with durable components and strong housing case to operate reliably in electrically harsh and climatically demanding environments like plant floors or curbside traffic control cabinets. The IGUP-805AT is packaged in a compact, IP30 rugged case that allows either DIN-rail or wall mounting to have the efficient use of cabinet space. With IP30 rugged case protection and PoE design, the IGUP-805AT is ideal for service providers, campuses and public areas to deploy PoE wireless access points, IP cameras or IP phones in any places easily and efficiently with cost-effectiveness. It can also operate in wide temperature range of -40 to 75 degrees C, so it can be placed in almost any location.

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2. PRODUCT FEATURES

Physical Port

- 1-port 10/100/1000BASE-T RJ45 with IEEE 802.3bt PoE Injector function
- 1 SFP slot, supporting 1000BASE-X and 100BASE-FX transceiver dual mode

Power over Ethernet

- Complies with IEEE 802.3bt PoE++ Type-4 PSE
- Backward compatible with IEEE802.3af/at PoE+ standard
- 1 IEEE 802.3af/at/bt device powered
- Supports PoE Power up to 95 watts for PoE port
- Provides DC 55V power over RJ45 Ethernet cable to PD with Ethernet port
- Auto-detects IEEE 802.3bt equipment and protects devices from being damaged by incorrect installation
- Remote power feeding up to 100m
- IEEE 802.3af/at/bt splitter devices compatible

Layer 2 Features

- Supports auto-negotiation and 10/100Mbps half / full duplex and 1000Mbps full duplex mode on RJ45 port
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)

Hardware

- LED Indicators
 - **System:** Power 1, Power 2, Fault and PoE usage
 - **Fiber port:** LNK/ACT
 - **10/100/1000BASE-T port:** LNK/ACT, PoE-in-use
- DIP switch 1: LFPP (Link Fault Passthrough PoE Control) On/Off
- DIP switch 2: Standard (BT)/Legacy (POH) mode selection

Industrial Case and Installation

- IP30 metal case
- DIN-rail and wall-mount designs
- 12 ~ 56V DC redundant power with reverse polarity protection and connective removable terminal block for master and slave power
- Supports 6000 VDC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

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3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

Converter Controller	RTL8213MI	x 1
PoE PSE	PD69204T4I	x 1

3.2 FUNCTION SPECIFICATIONS

Model	IGUP-805AT
Hardware Specifications	
Copper Port	One 10/100/1000BASE-T
SFP Slot	One 1000BASE-SX/LX/BX SFP interface Compatible with 100BASE-FX SFP
Flow Control	Back pressure for half duplex mode IEEE 802.3x pause frame for full duplex mode
Maximum Frame Size	9K
LED	System: Power 1 (Green), Power 2 (Green), Fault Alarm (Red) PoE Usage: (Amber) IGUP-805AT: 30W/60W/90W+ (Amber) Fiber: 100/1000BASE-X: LINK/ACT (Green) TP: 10/100/1000BASE-T: LNK/ACT (Green) PoE: PoE-in-Use (Amber)
Dimensions (W x D x H)	32 x 87 x 135 mm
Weight	484 g
Power Requirements	DC 12~56V, supports reverse polarity protection
Power Consumption	System ON without loading DC 12V: 4.44W DC 48V: 3.36W Full loading with PoE DC 12V: 82W DC 48V: 98W
DIP Switch 1	LFPP On/Off
DIP Switch 2	Legacy mode On (POH)/Legacy mode off (BT)
Enclosure	IP30 metal case
Installation	DIN-rail kit and wall-mount ear

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ESD Protection	6KV DC
Cables	10/100/1000BASE-T: 2-pair UTP Cat. 3, 4, 5, 5e, 6 (maximum 100 meters) EIA/TIA-568 100-ohm STP (maximum 100 meters) 100BASE-FX/1000BASE-SX/LX: Multi-mode: 50/125µm or 62.5/125µm optical fiber Single-mode: 9/125µm optical fiber
Power Over Ethernet	
PoE Standard	IEEE 802.3bt Power over Ethernet Plus Plus
PoE Power Output	Standard (BT) mode: 90W Legacy (POH) mode: 95W
PoE Power Supply Type	End-span + Mid-span
Power Pin Assignment	Pair 1 End-span: 1/2(-), 3/6(+) Pair 2 Mid-span: 4/5(-), 7/8(+)
PoE Power Budget	95 watts@24-56V DC input 60 watts@12V DC input
PoE Mode	Standard: To provide power to the PD devices that follow the IEEE 802.3at/bt standard. Legacy: To provide power to the PD devices that do not fully follow the IEEE 802.3af/at/bt standard. Besides, the Legacy mode supports PoH
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Protocols and Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3z Gigabit Ethernet over Fiber Optic IEEE 802.3x Flow Control IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3bt Power over Ethernet Plus Plus IEEE 802.3az Energy Efficient Ethernet (EEE)
Stability Testing	IEC60068-2-32 (free fall) IEC60068-2-27 (shock) IEC60068-2-6 (vibration)
Environment	
Temperature	Operating: -40~75 degrees C Storage: -40~85 degrees C
Humidity	Operating: 5~90% (non-condensing) Storage: 5~90% (non-condensing)

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3.3 PHYSICAL SPECIFICATIONS:

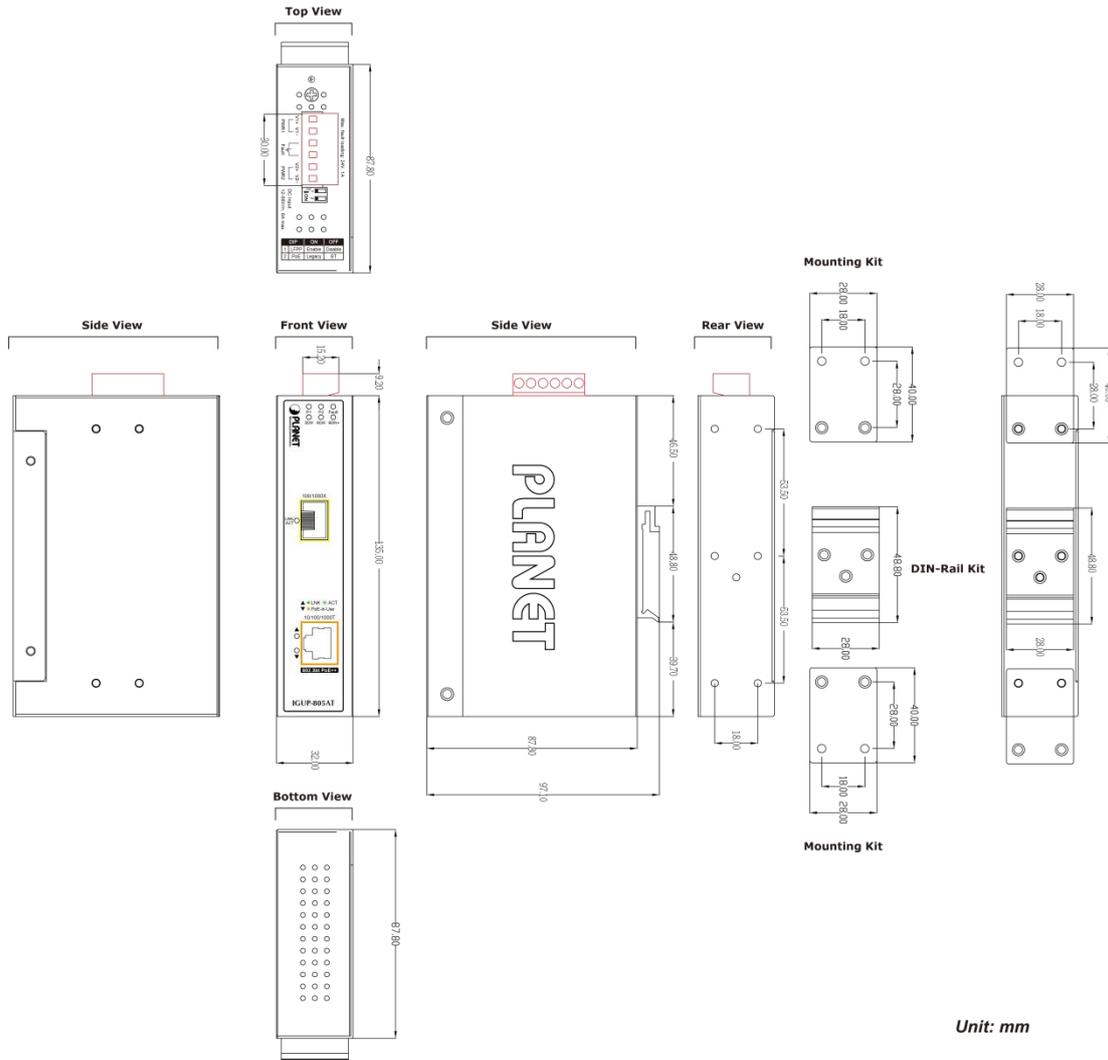
■ **Dimensions:**

32 x 87 x 135 mm (W x D x H)

■ **Weight:**

484g

■ **Diagram**



Unit: mm

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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.
Fault	Red	Lights/blinks to indicate that DC power or SFP link has failed.
PoE Usage	Amber	IGUP-805AT (30W, 60W, 90W+) Lights to indicate the system consumes over 30-/60-/90-watt PoE power budget. Blinks to indicate the system consumes less 30-/60-/90-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 PoE to remote powered device.
		Off to indicate that the port is not a PoE powered device (PD).

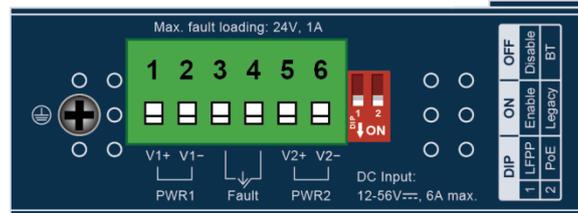
Gigabit Fiber Interface

LED	Color	Function
Fiber	Green	Lights to indicate that the fiber optic port is successfully connecting to the

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LNK/ACT	network at 100/1000Mbps.
	Blinks to indicate the fiber optic port is receiving or sending data.

Top view:



3.4 ENVIRONMENTAL SPECIFICATIONS

Operating:

- Temperature:** -40 ~75 degrees C
- Relative Humidity:** 5% ~ 90% (non-condensing)

Storage:

- Temperature:** -40 ~85 degrees C
- Relative Humidity:** 5% ~ 90% (non-condensing)

3.5 ELECTRICAL SPECIFICATIONS

Power Requirements: 12~56V DC power with reverse polarity protection

Power Consumption:

Condition Power Input	System ON	Ethernet Full Loading	Ethernet + PoE Full Loading
DC 12V	4.44W	6.24W	82W (PoE: 62W)
DC 24V	5.52W	7.2W	104.8W (PoE:90W)
DC 48V	3.36W	5.04W	98W (PoE:90W)

3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

3.7 RELIABILITY

MTBF > 100,000hrs @ 25 degrees C

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3.8 BASIC PACKAGING

- The IGUP-805AT x 1
- User's Manual x 1
- DIN-rail Kit x 1
- Wall-mounting Kit x 1
- RJ45 Dust Cap x 1
- SFP Dust Cap x 1

3.9 PACKING INFORMATION

Box Dimensions (W x D x H):	205 x 144 x 46 mm
Weight (gross weight):	584g
Carton Dimensions (W x D x H):	435 x 325 x 280 mm
Carton Weight (gross weight):	12kg
Quantity:	20pcs in one carton