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Product Specifications

Industrial 2-Port 100/1000X SFP to 1-Port 10/100/1000T 802.3bt PoE++ Media Converter

IGUP-1205AT

Version 1.0

Change History:

Revision	Date	Author	Change List
Version 1.0	2019/7/19	Simon	Initial release

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Reviewed By:	Jonas Yang	**Approved By:**	Kent Kang

1. PRODUCT DESCRIPTION

PLANET IGUP-1205AT 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-1205AT 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-1205AT 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-1205AT is integrated with fiber interface for farther distance applications. The IGUP-1205AT's fiber connector type is as follows:

■ Two SFP slots 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-1205AT 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.
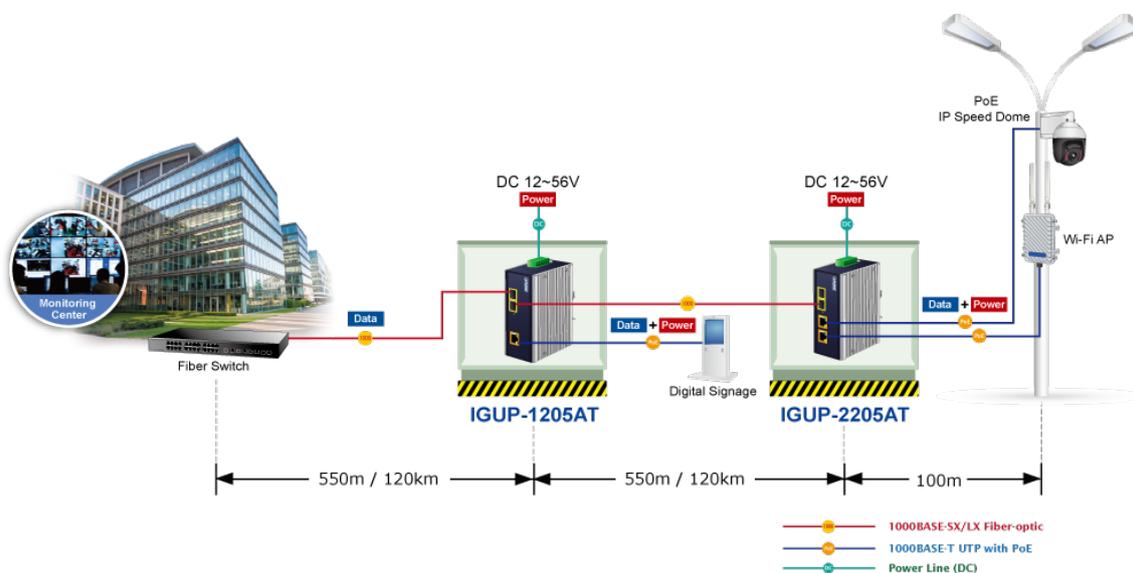
Plug and Play High Power Sourcing Solution

Complying with the **IEEE 802.3bt Power over Ethernet Plus Plus** technology, the IGUP-1205AT provides up to **90 watts** of PoE output power, tripling that of the earlier 802.3at. 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-1205AT can reduce cable deployment and eliminate the need for dedicated electrical outlets on the wall, ceiling or any unreachable place.

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-1205AT 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 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-1205AT 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-1205AT 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-1205AT 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.

2. PRODUCT FEATURES

Physical Port

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

Power over Ethernet

- Complies with IEEE 802.3af/at/bt PoE Plus end-span PSE
- 1 IEEE 802.3af/at/bt device powered
- Supports PoE Power up to 90 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: Standard/Legacy PoE 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

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

Converter Controller	RTL8370MBI-CG	x 1
PoE PSE	PD69204T4ILQ-TR-LE	x 1

3.2 FUNCTION SPECIFICATIONS

Model	IGUP-1205AT
Hardware Specifications	
Copper Port	1 x 10/100/1000BASE-T
SFP Slot	2 x 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)
	Fiber:
	   100BASE-X: LNK/ACT (Amber)
	   1000BASE-X: LINK/ACT (Green)
	TP:
	   10/100/1000BASE-T: LNK/ACT (Green)
	   PoE: PoE-in-Use (Amber)

Dimensions (W x D x H)	55 x 85 x 135 mm
Weight	612 g
Power Requirements	DC 12~56V, supports reverse polarity protection

Power Consumption	System ON without loading
	   DC 12V: 4.56W
	   DC 48V: 5.28W
	Full loading with PoE
	   DC 12V: 46.6W
	   DC 48V: 100.3W

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:
	    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 mode: 90W Legacy (POH) mode: 95W
PoE Power Supply Type	End-span / Mid-span
Power Pin Assignment	End-span: 1/2 (+), 3/6 (-); Mid-span: 4/5 (+), 7/8 (-)
PoE Power Budget	95 watts
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)

3.3 PHYSICAL SPECIFICATIONS:

■ **Dimensions:**

  55 x 85 x 135 mm (W x D x H)

■ **Weight:**

  612g

■ **Diagram**

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Top View

Side View Front View Side View Rear View Mounting Kit

DIN-Rail Kit

IGUP-1205AT

Mounting Kit

Bottom View

Unit: mm

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LED Definition:

IGUP-1205AT
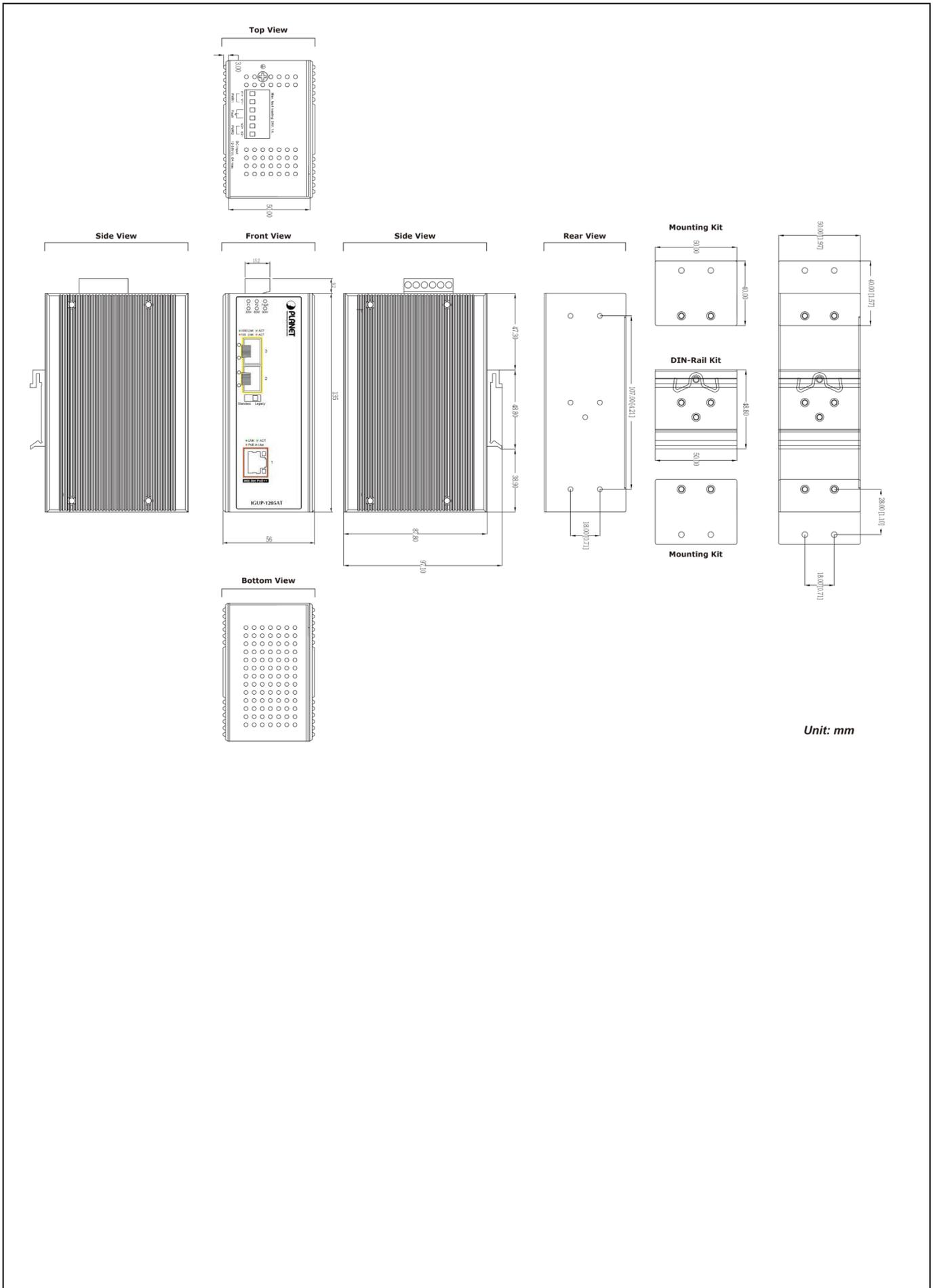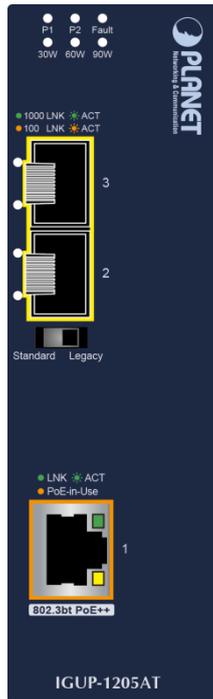
■ System

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 to indicate that DC power has failed.
PoE Usage	Amber	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 DC 55V to remote powered device.
		Off to indicate that the port is not providing DC 55V 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.

Top view:
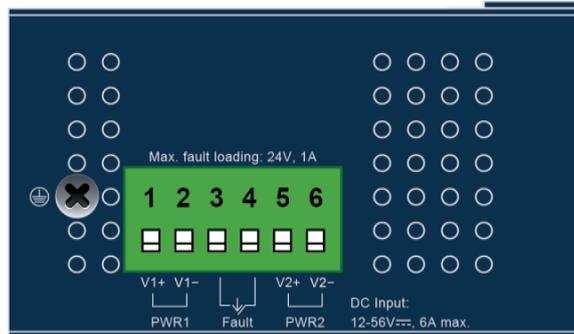
3.4 ENVIRONMENTAL SPECIFICATIONS

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	4.56W	6.6W	46.6W (PD: 30W)
DC 24V	5.28W	6.96W	103.2W (PD:80W)
DC 48V	5.28W	6.72W	100.3W (PD:80W)

3.6 REGULATORY COMPLIANCE

   FCC Part 15 Class A, CE

3.7 RELIABILITY

MTBF > 100,000hrs @ 25 degrees C

3.8 BASIC PACKAGING

- The IGUP-1205AT   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 2

3.9 PACKING INFORMATION

Box Dimensions (W x D x H):	202 × 140 × 94 mm
Weight (gross weight):	967g
Carton Dimensions (W x D x H):	600 × 239 × 332 mm
Carton Weight (gross weight):	12.1kg
Quantity:	12pcs in one carton