

# Product Specifications

## 1000BASE-X to 10/100/1000BASE-T 802.3at PoE Industrial Media Converter

**IGTP-802T**  
**IGTP-802TS**  
**IGTP-805AT**

Version 2.0

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### Change History:

Revision:	Date:	Author:	Change List
Version 2.0	2018/9/19	Marc Liao	Initial release -Supports DC 12V input
Version 1.0	2011/9/19	Marc Liao	Initial release

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<b>Reviewed By:</b>		<b>Approved By:</b>	Kent Kang

## 1. PRODUCT DESCRIPTION



PLANET IGTP-80xT Industrial Gigabit Media Converter combines Ethernet media conversion (from 1000BASE-X to 10/100/1000BASE-T) with **802.3at Power over Ethernet Plus (PoE+)** injector to deliver both up to 30 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 IGTP-80xT supports **12~48V DC** power input or **24V AC** power input 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 IGTP-80xT 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 IGTP-80xT is integrated with fiber interface for farther distance applications. The IGTP-80xT's fiber connector types are as follows:

- IGTP-802T Fiber SC connector supporting 1000BASE-SX multi-mode and transmission distance up to 550m.
- IGTP-802TS Fiber SC connector supporting 1000BASE-LX single-mode and transmission distance up to 10km.
- IGTP-805AT 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 IGTP-80xT 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 and the **LFP (Link Fault Passthrough)** function in the DIP switch design. 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 802.3at Power over Ethernet Plus** technology, the IGTP-80xT provides up to **30 watts** of PoE output power, doubling that of the earlier 802.3af. It is also backward compatible with **802.3af 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 IGTP-80xT 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 802.3at power PoE+ usage with the commonly-used **12~48V DC** power input or **24V AC** power input for transportation and industrial-level applications, the IGTP-80xT adopts the **12~48V DC to 52V** 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 IGTP-80xT 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 IGTP-80xT 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 IGTP-80xT 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 802.3af /802.3at PoE+** Injector
- 1 1000BASE-SX/LX SC fiber interface (IGTP-802T/IGTP-802TS)
- 1 SFP slot, supporting 1000BASE-X and 100BASE-FX transceiver dual mode (IGTP-805AT)

### Power over Ethernet

- Complies with IEEE 802.3at/af PoE Plus end-span PSE
- 1 IEEE 802.3at/af device powered
- Supports PoE power up to 30.8 watts per PoE port
- Provides DC 52V power over RJ45 Ethernet cable to PD with Ethernet port
- Auto-detects IEEE 802.3at/af equipment and protects devices from being damaged by incorrect installation
- Remote power feeding up to 100m
- IEEE 802.3at/af 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 and Fault LED
  - Fiber port:** LNK/ACT
  - 10/100/1000BASE-T port:** LNK/ACT, 1000, PoE-in-use
- DIP switch: LFP (Link Fault Passthrough) mode selection

### Industrial Case and Installation

- IP30 metal case
- DIN-rail and wall-mount designs
- 12 ~ 48V DC/24V AC redundant power with polarity reverse protection function 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

<b>Converter ASIC:</b>	Realtek RTL8213MI	x 1
<b>Fiber Optic Transceiver:</b>	Varies by model	

#### 3.2 FUNCTION SPECIFICATIONS

Product	IGTP-802T	IGTP-802TS	IGTP-805AT
<b>Ethernet Interface</b>			
<b>Copper</b>	10/100/1000BASE-T Ethernet TP interface. Maximum 100m distance. Auto-negotiation, auto MDI/MDI-X with PoE injector function		
<b>1000BASE-X Fiber-optic Connector Type</b>	SC	SC	SFP (LC)
<b>Fiber Cable</b>	Multi-mode: 50/125 $\mu$ m or 62.5/125 $\mu$ m optic fiber	Single-mode: 9/125 $\mu$ m optic fiber	Varying on SFP Module
<b>Fiber Cable Distance</b>	220m & 550m	10km	
<b>Fiber Optic Frequency</b>	850nm	1310nm	
<b>Launch Power</b>	Max. -4dBm Min. -9.5dBm	Max. -3dBm Min. -9.5dBm	
<b>Receive Sensitivity</b>	-13.5dBm	-14.4dBm	
<b>Maximum Input Power</b>	-18dBm	-20dBm	
<b>Power Over Ethernet</b>			
<b>PoE Standard</b>	IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus		
<b>PoE Power Output</b>	52V DC: 15.4 watts 52V DC: 30 watts		
<b>PoE Power Supply Type</b>	End-span		
<b>Power Pin Assignment</b>	1/2(+), 3/6(-)		
<b>PoE Power Budget</b>	30 watts		
<b>Hardware Specifications</b>			
<b>Speed</b>	<b>Twisted-pair:</b> 10/20Mbps for half/full duplex 100/200Mbps for half/full duplex 1000/2000Mbps for full duplex <b>Fiber Optic:</b> 200Mbps / 2000Mbps for full duplex		
<b>Flow Control</b>	Back pressure for half duplex mode IEEE 802.3x pause frame for full duplex mode		
<b>Maximum Frame Size</b>	9K		
<b>LED</b>	System: Power 1, Power 2 and Fault LED (Green) Fiber 1000BASE-X: LNK/ACT (Green) TP 10/100/1000BASE-T: LNK/ACT, 1000 (Green) PoE: Power-in-use (Orange)		
<b>Unit Input Voltage</b>	12 ~ 48V DC 24V AC		

<b>Power Consumption</b>	<b>24V:</b> 4.3 watts/14BTU, <b>48V:</b> 4.8 watts/16BTU (without PoE) <b>24V:</b> 33 watts/112BTU, <b>48V:</b> 31 watts/105BTU (with PoE)
<b>Link Fault Passthrough DIP Switch</b>	ON/OFF
<b>Enclosure</b>	IP30 metal case
<b>Installation</b>	DIN-rail kit and wall-mount ear
<b>ESD Protection</b>	6KV DC
<b>Alarm</b>	Provides one relay output for power failure Alarm relay current carry ability: 1A @ DC 24V
<b>Cables</b>	<b>10/100/1000BASE-T:</b> 2-pair UTP Cat. 3, 4, 5, 5e, 6 (maximum 100 meters) EIA/TIA-568 100-ohm STP (maximum 100 meters) <b>100BASE-FX/1000BASE-SX/LX:</b> Multi-mode: 50/125µm or 62.5/125µm optical fiber Single-mode: 9/125µm optical fiber
<b>Standards Conformance</b>	
<b>Protocols and Standards Compliance</b>	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

### 3.3 PHYSICAL SPECIFICATIONS:

■ **Dimensions:**

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

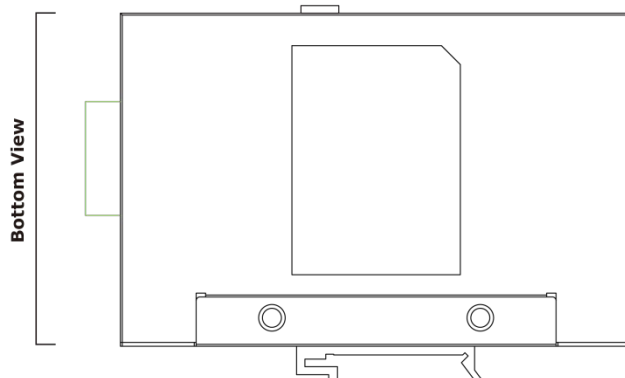
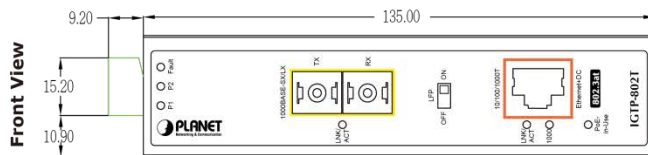
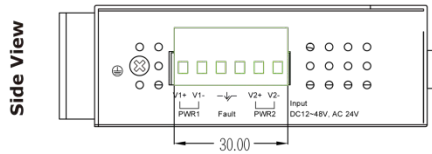
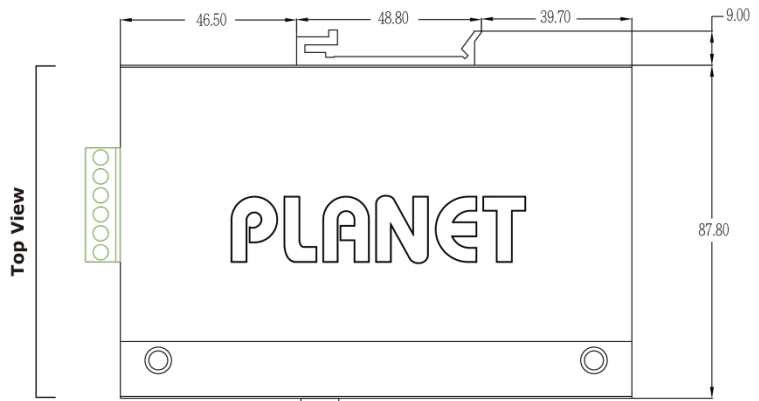
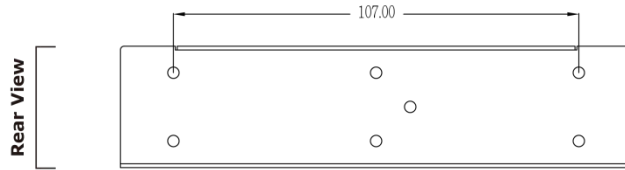
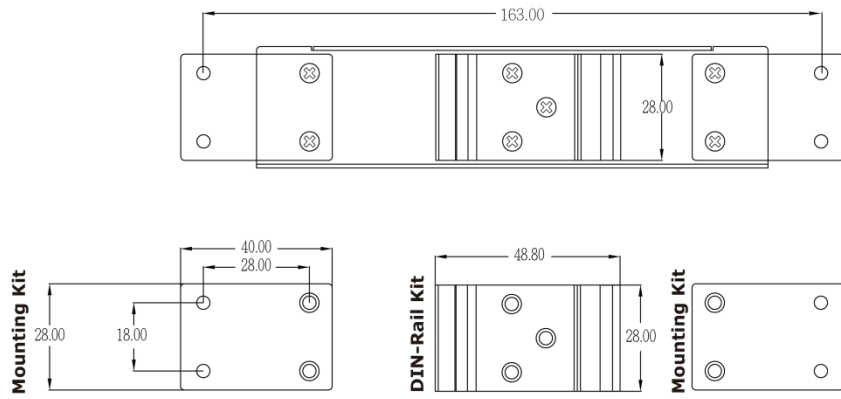
■ **Weight:**

IGTP-802T/802TS: 510g

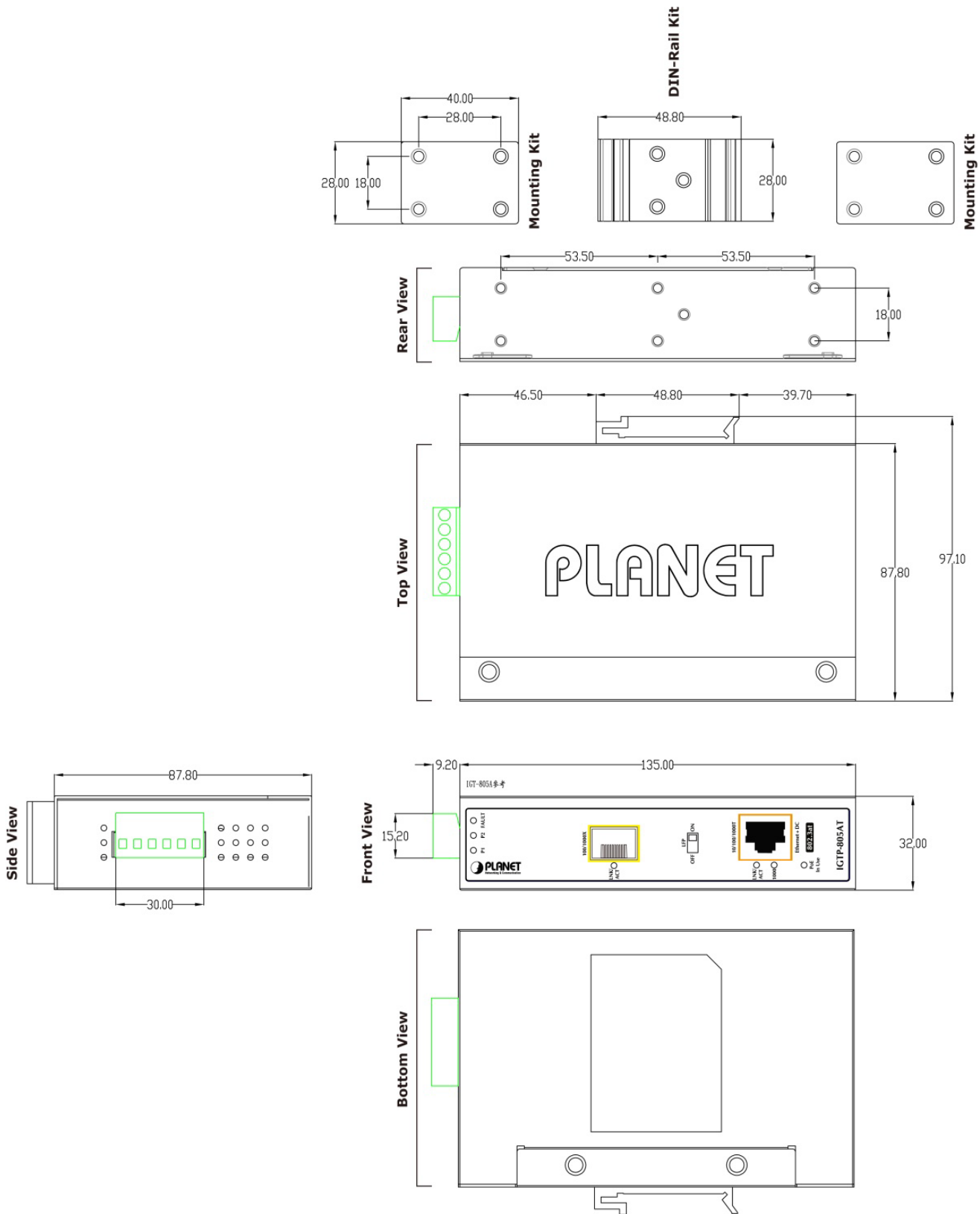
IGTP-805AT: 500g

**IGTP-802T/802TS Multi View Drawing**

*Dimensions ( unit = mm )*

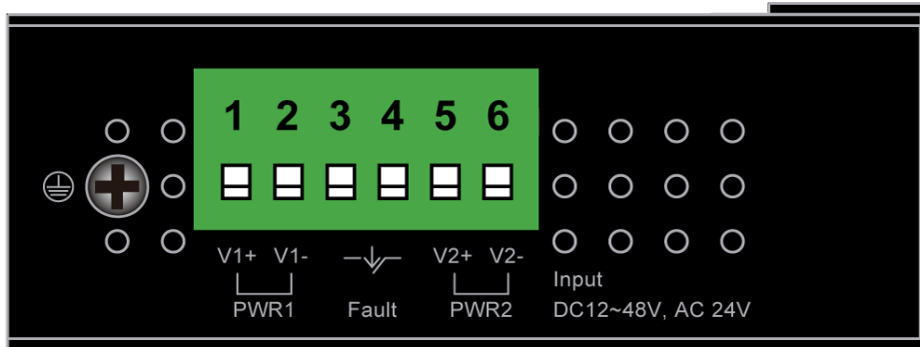


**IGTP-805AT Multi View Drawing**

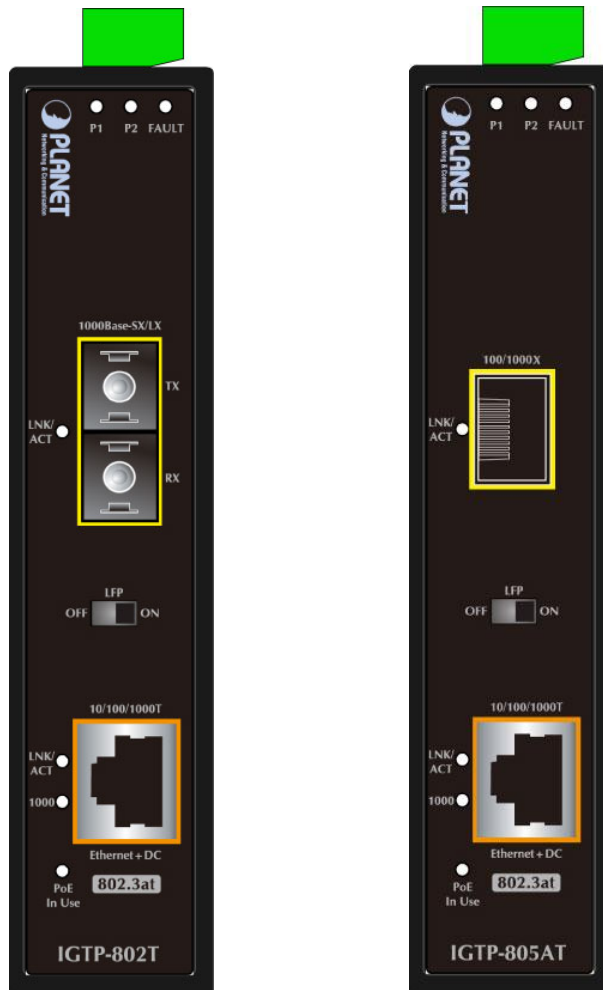




## IGTP-80xT Upper Panel



## Front Panel



**IGTP-802T/  
IGTP-802TS**

**IGTP-805AT**

## ■ LED Definition

### ■ System

LED	Color	Function
P1	Green	Lit: indicates power 1 has power.
P2	Green	Lit: indicates power 2 has power.
FAULT	Green	Lit: indicates either power 1 or power 2 has no power.

### ■ Gigabit Fiber Interface

LED	Color	Function
Fiber LNK/ACT	Green	Lit: indicates that the Fiber Optical Port is successfully connecting to the network at 1000Mbps (IGTP-802T/IGTP-802TS), and at 100Mbps/1000Mbps (IGTP-805AT). Blinks: indicates the fiber optic port is receiving or sending data.

### ■ Gigabit TP Interface

LED	Color	Function
TP LNK/ACT	Green	Lit: indicates that the Gigabit Ethernet Port is successfully connecting to the network at 10/100/1000Mbps. Blinks: indicates the Gigabit Ethernet Port is receiving or sending data.
TP 1000		Lit: indicates that the Gigabit Ethernet Port is successfully connecting to the network at 1000Mbps. OFF indicates the Gigabit Ethernet Port is successfully connecting to the network at 10/100Mbps.

### ■ PoE

LED	Color	Function
PoE-in-Use	Orange	Lit: Indicates that the port is providing DC 52V to remote powered device. Off: Indicates that the port is not providing DC 52V to remote powered device.

## 3.4 ENVIRONMENTAL SPECIFICATIONS

### Operating:

**Temperature:** -40°C ~ 75 degrees C

**Relative Humidity:** 5% ~ 90% (non-condensing)

### Storage:

**Temperature:** -40°C ~ 85 degrees C

**Relative Humidity:** 5% ~ 90% (non-condensing)

### 3.5 ELECTRICAL SPECIFICATION

**Power Requirements:**

12 ~ 48V DC/24V AC redundant power with polarity reverse protection

**Power Consumption: (Draft Values)**

LOADING DC INPUT	System on without any devices attached	Ethernet Full Loading	Ethernet + PoE Full Loading
12V	3.6 watts/12BTU	4.7 watts/16BTU	30 watts/112BTU
24V	3.6 watts/12BTU	4.3 watts/14BTU	33 watts/112BTU
48V	3.8 watts/13BTU	4.8 watts/16BTU	31 watts/105BTU

### 3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

**Stability Testing:**

- IEC60068-2-32 (Free Fall)
- IEC60068-2-27 (Shock)
- IEC60068-2-6 (Vibration)

### 3.7 RELIABILITY

MTBF > 100,000hrs @ 25 degrees C

### 3.8 BASIC PACKAGING

- IGTP-80xT 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:** 205 (W) × 144 (D) × 46 mm (H)
- Carton Dimensions:** 435 (W) × 325 (D) × 280 mm (H)
- Total Weight:** 13.1kg (gross weight)
- Carton Unit:** 20pcs in one carton