PT-PIS4PB1-E Series

Quick Installation Guide

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PROCET
PoE System

Declaration

Overview

The installation Guide for PT-PIS4PB1-E and mainly introduces the hardware specification, installation methods, and precautions of the installation. There may be differences in the appearance and configuration from other models. All product images in this manual are for illustration purposes only and may differ from the actual product.

This manual includes the following chapters:

1. Product Introduction. Including the basic functions and specification of PT-PIS4PB1-E, as well as the product appearance and applications introduction.

2. Installation Introduction. Introducing the preparation work and precautions before installing the product.

3. Product Installation. Two methods of product installation.

For Whom

This manual is intended for:
Network Engineers
Network Administrators
Field Technicians

List of differences

Model	PoE Standard	Input	Output	Power Pins	Managed	Port
PT-PIS4PB1S-E	IEEE802.3af/at/bt	12-59Vdc 10A(Max)	55Vdc 1.6A(Max) per port, Total 3.60W	4,5(+)/7,8(-) 3,6(+)/1,2(-)	N	DC*1 +SFP*1 + PoE*4 + Grounding*1
PT-PIS4PB1T-E					N	DC*1 + LAN*1 + PoE*4 + Grounding*1
PT-PIS4PB1S-E-M					Y	DC*1 +SFP*1 + PoE*4 + Grounding*1
PT-PIS4PB1T-E-M					Y	DC*1 + LAN*1 + PoE*4 + Grounding*1

Table of Contents

1. Introduction

1.1 Introduction

- All four PoE ports support IEEE802.3af/at/bt standard, with a maximum power output of 90W per port.

- Designed for a wide temperature range, the product can operate in environments ranging from -40℃ to 75℃, making it suitable for outdoor use. It can start up at full load at -40℃.

- Users can choose between fiber uplink or Ethernet uplink options based on their needs, making the product adaptable to various working environments.

- It supports DC power input, with a maximum total output power of up to 360W.

- The product adopts the Marvell switch solution.

- This product features full gigabit ports, and the RJ45 port is compatible with 10/100/1000Mbps speeds.

- The PoE ports provide high surge protection, with a common mode rating of 4KV and a differential mode rating of 1.5KV, ensuring safe and stable power delivery.

- It meets the EN55032 3m EMC testing standard, offering strong electromagnetic immunity.

- The product supports DIN-rail mounting, suitable for diverse commercial and industrial environments.

- Models with an "M" in the P/N have network management functionalities, users can manage the switch through a web interface.

- PoE ports can be configured with scheduled power on/off plans via network management settings.

⚠️ Notice:
Supply power to the input terminal according to the specified pins, otherwise, it may be damaged.

1.2 Appearance

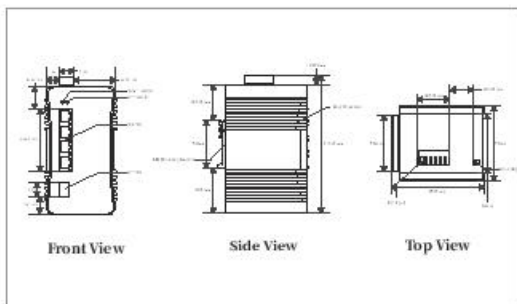PT-PIS4PB1S-E Product Dimensions Diagram as Figure 1-1;

Front View   **Side View**   **Top View**

Figure 1-1 Product Dimensions Diagram

PT-PIS4PB1T-E Product Dimensions Diagram as Figure 1-2;

Front View **Side View** **Top View**
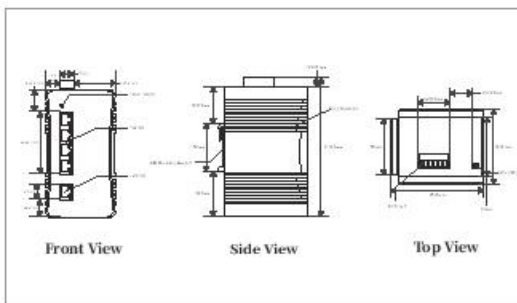
Figure 1-2   Product Dimensions Diagram

PT-PIS4PB1S-E-M Product Dimensions Diagram as Figure 1-3;

Front View **Side View** **Top View**
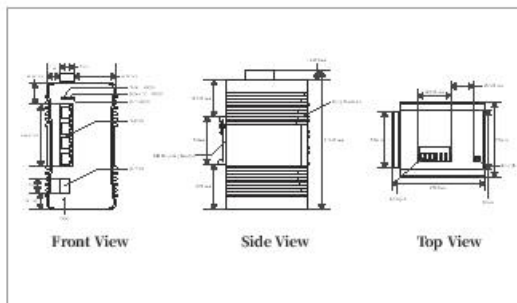
Figure 1-3   Product Dimensions Diagram

PT-PIS4PB1T-E-M Product Dimensions Diagram as Figure 1-4;

Front View   **Side View**   **Top View**
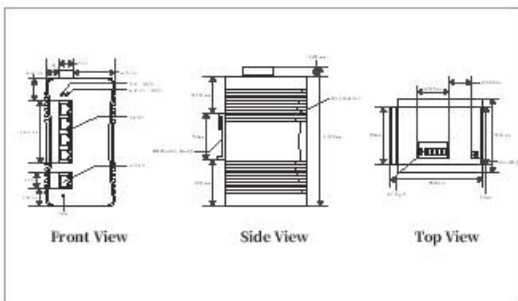
Figure 1-4   Product Dimensions Diagram

LED Indicator Chart:

Items	Status	Descriptions
Power Indicator	Solid Green Light	The equipment is powered
	Light Off	The equipment is powered off / not plugged in / no power
PoE Data Indicator	Solid Yellow Light	Data available, but no transfer / no activity
	Flashing Yellow Light	Data is being transferred
	Light Off	Data not available or failed connection
PoE Load Indicator	Solid Green Light	Power output is active/Work Normally
	Flashing Green Light	Detecting 802.3af/at/bt PD
	Light Off	PoE output is not active

Items	Status	Descriptions
LAN Indicator	Solid Yellow Light	Data available, but no transfer / no activity
	Flashing Yellow Light	Data is being transferred
	Light Off	Data not available or failed connection
SFP Indicator	Solid Green Light	Data available, but no transfer / no activity
	Flashing Green Light	Data is being transferred
	Light Off	Data not available or failed connection
Network Management Indicator	Flashing Green Light Slowly	The system is operating normally
	Flashing Green Light Rapidly	The system is resetting
	Light Off/Solid Light	The system is initializing

1.3 Specification

Items	Descriptions
Interface	PoE*4 SFP/LAN*1 DC*1 Grounding*1
PoE Standard	IEEE802.3af/at/bt
Power Pins	4,5(+)/7,8(-) 3,6(+)/1,2(-)
Data Rates	RJ45 Ports: 10/100/1000Mbps, SFP: 1000Mbps
Network Protocol	IEEE802.3i/IEEE802.3u/IEEE802.3ab/IEEE802.3z
Input	12~55Vdc 10A(Max)
Output	55Vdc 1.64A(Max) per port, Total 360W
Forwarding Mode	Store-and-Forward
Packet Forwarding Rate	7×1.488Mpps
Backplane Bandwidth	14Gbps
MAC Address Capacity	10K
PoE Surge Protection	Common mode: 4KV Differential mode: 1.5KV

Items	Descriptions
Operating Temp.	-40℃ to 75℃
Operating Humidity	5%-95%, non-condensation
Operating Altitude	Up to 5000 meters
Storage Temp.	-40℃ to 80℃
Storage Humidity	10%-90%, non-condensation
IP Rated	IP40
Dimensions & N.W	76mm X 95mm X 146mm 1204g
Overcurrent protection	Overcurrent protection for each PoE port, exceeding the current limit of 1.65A will shut down the port power

The network management parameters (only for Models with an "M" in the P/N) are as follows:

Items	Descriptions
VLAN	Supports 4096 VLAN IDs
	Supports 802.1Q VLAN
	Supports VLANs based on port across any combination of multiple chips
MAC Address Table	Compliant with IEEE 802.1d standard
	Supports automatic MAC address learning
QoS	Supports high-speed, non-blocking QoS architecture for four traffic classes
	Each port can choose Strict, Weighted, Mix QoS

1.4 Network Management

1.4.1 Login

After connecting the device, enter the device's IP address in the browser's address bar to log in (for the first login, use the default IP address: 192.168.31.192). The following page will be displayed. Enter the username and password (default username: **admin**; default password: **123456**) to access the device's interface.

Note: The IP address of the computer used for login must be in the same subnet as the device, i.e., 192.168.31.*.

1.4.2 HomePage

It includes an overview of port status display, system information, total power, used power, and unused power statistics.

1.4.3 Functional Modules

① VLAN Configuration
Includes 802.1Q VLAN, Port VLAN, and MTU VLAN.

② PoE Settings
Includes global settings, port information, and more.

③ Switch Management
Includes port management, MAC search, and related functions.

④ Monitoring
Includes port statistics, cable diagnostics, port monitoring, and more.

⑤ Quality of Service (QoS)
Includes bandwidth configuration, storm suppression, and similar features.

⑥ Scheduled Tasks
Configure scheduled tasks to set trigger conditions, schedule power on/off, set priorities, and define power threshold limits.

⑦ System Management
Includes system overview, system settings, user management, logs, and more.

⚠ Notice:
For detailed instructions, please refer to the complete user guide.

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2. Installation Preparation

2.1 Package contents

Open the box of the PT-PIS4PB1-E Series and carefully unpack it, the box should contain the following items:

PT-PIS4PB1-E Series   Operating Manual   Ground lug Wire&3.0 Screw

2.2 Inspection

Before installing the device, please feed it with a power source to check proper function first.

Connect the SFP/LAN port to the data source/uplink for network access.

Connect the PoE port to the PoE-powered device(PD). Such as the IP Cameras or Wireless APs to check the PoE function. As shown in Figure 2-1.

> ⚠ Notice:
> Please use PoE powered device(PD) that complies with IEEE 802.3af/at/bt/PoE++ to connect this product.
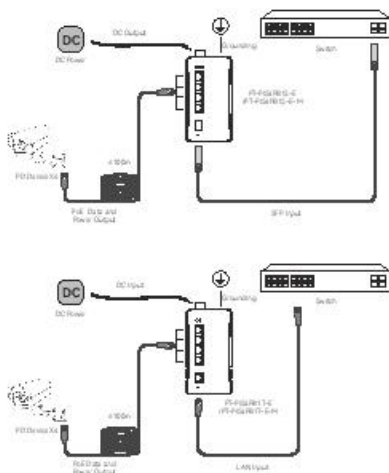
Figure 2-1   Diagram of Connected Equipment

Notice:

1. Connect the DC power cable with positive and negative wires to the DC terminal block of the unit.

2. For SFP slot, connect a fiber cable with SFP optical module at 1G from data source, such as a fiber switch into the units SFP slot for fiber data uplink. (The optical module is not included in the package). You can choose either single-mode or multi-mode SFP transceiver.

3. For LAN port, connect a CAT5e/6 cable from your Data source, such as a router/switch into the unit's LAN port, for Ethernet uplink.

4. Connect a CAT5e/6 cable with the RJ45 connector into the RJ45 socket labeled PoE. On the other end of the CAT5e/6 cable, connect to your PoE-powered Device (such as IP Camera, etc). The total Ethernet cable length can not exceed 100 meters.

5. This device must be grounded. If outdoor use is required, please use a waterproof enclosure.

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3. Installation

This product is safe to use for waterproof case installation and wall-mounted installation.

3.1 Installation in waterproof case

If it is placed in an outdoor environment, please install the device in a waterproof case with a height of 45cm if possible.

(1) Install the waterproof case first, and keep the case open. As showed in 3-1.
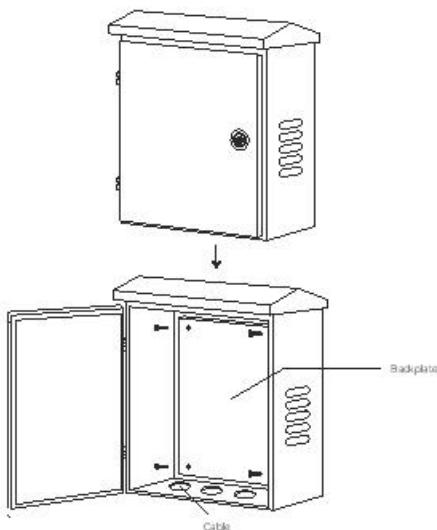

Figure 3-1   Waterproof scheme

(2) Remove the metal backplate from the waterproof case and fix the product on the backplate with screws. As showed in 3-2.
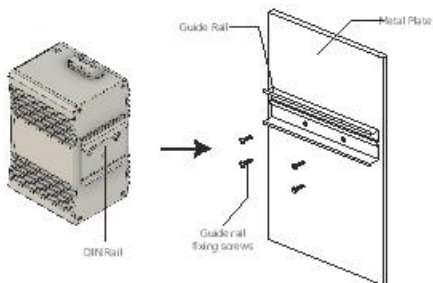

Figure 3-2   Installation on backplate

(3) Reinstall the backplate into the waterproof case.

Notice:
To ensure better lightning protection for outdoor PDs(IP camera, Wireless AP), it is recommended to choose PROCET Ethernet surge protectors.

The grounding solutions summarized from numerous installation processes of the PROCET PoE switch PT-PIS4PB1-E Series product are as follows, and are intended solely for reference during the grounding installation of this product:

If this product is installed in a computer room, it can be connected to the dedicated grounding busbar in the room. The grounding busbar is a connecting conductor between grounding bodies in the building, and currently available materials include flat iron, flat steel, nanomaterial conductors, copper-clad steel, etc. The grounding wire connects the equipment to the grounding busbar, as shown in Figure 3-6;
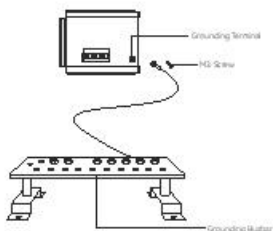

Figure 3-6   Grounding Busbar Installation

In environments without dedicated grounding equipment, for the safety of personnel and equipment, we can construct a simple grounding system (as shown in Figure 3-7):

(1) Prepare a 6mm² grounding wire or braided flexible copper wire.

(2) Prepare a copper tube, angle iron, or other metal tube and bury it below one meter underground to serve as the earth electrode.

(3) Use the grounding wire to connect the grounding terminal on the exterior of the product to the metal tube (or angle iron).
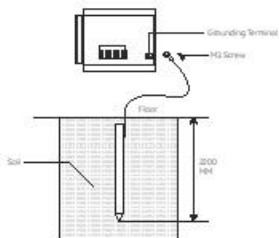
Figure 3-7   Diagram of Simple Grounding Installation

Qualification Card

PASS