PROCET
PoE System

120W Gigabit PoE Injector

Technical Manual

PT-PSE109GRMN

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www.procetpoe.com

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Declaration

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Document History

Version	Date	Notes
v1.0	2026/08/14	First Version Release

For Whom

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

1 Product Introduction

1.1 Product Positioning

PT-PSE109GRMN is a single port PoE Injector. It provides 55Vdc, 2.2A power for remote PDs over full 4 pairs output with 6KV (10/700us) surge protection. It supports data speed of 10/100/1000Mpbs. It works for 120W PoE PDs, such as wireless APs, base stations, Microwave radios,Network cameras, and other high power Ethernet terminals.

Enclosed in a high impact metal case with four mounting holes. PT-PSE109GRMN is designed for indoor use. It works with 100-240Vac input. It will directly power PDs without detecting.

The effective distance is 100 meters over Cat6 cables. It equipped high quality high power supply inside, which can provide sustained and stable power for your device.

1.2 Product Features

Wide input voltage: Supports input within the full voltage range of 100-240Vac.

Robust Surge Protection: Offers 6kV common-mode surge protection for PoE ports; differential-mode protection is 1kV for AC ports and 1.5kV for PoE ports, enhancing durability against voltage spikes.

High Power Supply: Passive PoE output, with a maximum output power of 120W, capable of driving high-power devices.

User-Friendly: Automatically detects and identifies powered devices, matches the required output power, plug-and-play with no configuration needed.

Wall-Mount Installation: Equipped with two mounting holes for easy installation during project deployment.

Compact Size: The compact design allows for easy installation on WLAN access points and IP cameras.

Protection Features: Over-current, over-voltage, over-temperature, and short-circuit protection.

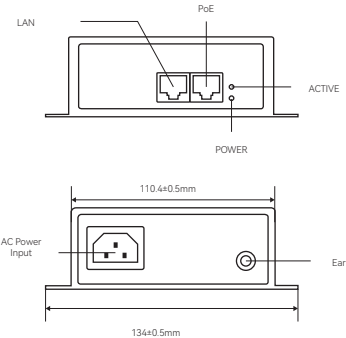
Safety: Low-power devices receive only the power they require. Automatically detects and protects non-standard Ethernet terminals.

Limited Power Source: LPS.

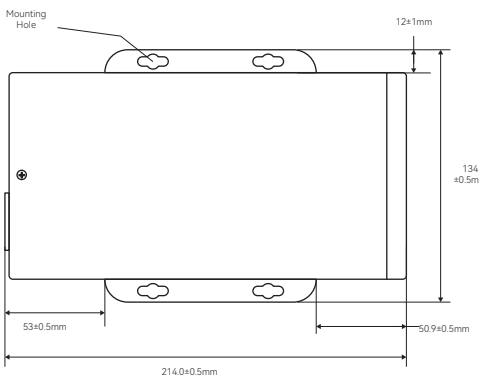
Certifications: Complies with CE, FCC certifications.

1.3 Product Appearance

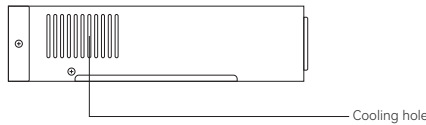
- Front View



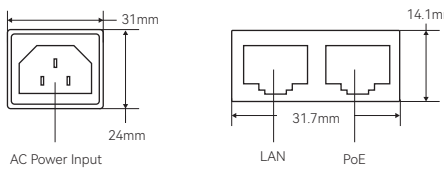
- Top View



- Front View



- Ports



Port Indicator Lights (including all product indication states), with status descriptions as follows:

Item	Status	Description
Power Indicator	Solid Green	The device is powered on and can operate normally.
	Off	The device is not powered on or the power - on fails.
ACTIVE Indicator	Solid Green	PoE power supply.
	Off	The port is not connected to the device or the connection fails.

2 Product Specifications

2.1 Electrical Parameters

Item	PT-PSE109GRMN
Ports	AC Input *1 PoE*1 LAN*1
PoE Std.	Passive
Input	100-240Vac 3.0A 50/60Hz
PoE Out.	55Vdc 2.2A
Power Pins	4/5(+),7/8(-) and 3/6(+),1/2(-)
AC Surge Protection	Line-Earth 1.2/50us (8/20us): 2KV Line-Line 1.2/50us (8/20us): 1KV
PoE Surge Protection	Protected line: 1,2,3,4,5,6,7,8 Common mode surge protection(10/700us): 6KV Differential mode surge protection (10/700us): 1.5KV
Data Rate	10/100/1000Mbps

2.2 PoE Characteristics

Item	PT-PSE109GRMN
PoE Std.	Passive
PoE Out.	55Vdc 2.2A
Power Pins	4/5(+),7/8(-) and 3/6(+),1/2(-)
Data Rate	10/100/1000Mbps
Network Protocol	IEEE802.3 10Base-T Ethernet IEEE802.3u 100Base-Tx Fast Ethernet IEEE802.3ab Gigabit Ethernet

2.3 Physical Characteristics

Item	PT-PSE109GRMN
Enclosure	Black Metal Case
Installation	Wall-Mounted Installation
Size	214.0mm * 134.0mm * 41.0mm
Weight	1140g
IP Rate	IP20

2.4 Environmental Parameters

Item	PT-PSE109GRMN
Op. Temp	0℃ to 40℃
Op. Humid.	20%-80%，non - condensing
Op. Altitude	Below 5000 meters
Stor. Temp.	-20℃ to 70℃
Stor. Humid.	10%-90%，non - condensing

2.5 Compliance Certifications

Safety Standard: IEC 60950-22 (Information Technology Equipment Safety)

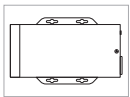
EMC Standards: CE、FCC（Electromagnetic Compatibility）

Environmental Standard: RoHS（Restriction of Hazardous Substances）

3 Installation Preparation

3.1 Items Required for Installation

When installing the device, the following items are required. These items are assembled in the product packaging box.



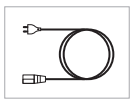
PT-PSE109GRMN



Operating Manual



Ground lug Wire&2.5 Screw

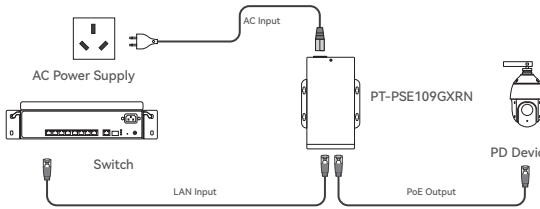


AC Power Cord

3.2 Equipment Inspection

Before installing the device, please connect the device to the power supply first to check whether it can operate normally.

Connect the power supply using the AC port, connect the LAN port to a switch to provide a network. When using standard PoE power - supply, connect the PoE port to a PD device that supports the PoE power - supply function, such as a PoE - enabled camera, as shown in below.



Notice:

- Do not install the device while it is powered on.
- Please make sure to read the user manual carefully before using the device and operate it according to the instructions.
- Do not place the device on an unstable surface such as a shaky box or table, as it may fall and become seriously damaged.
- Ensure that there is sufficient space (at least 5 cm) around the device to allow for proper heat dissipation.
- Do not place heavy objects on top of the device.

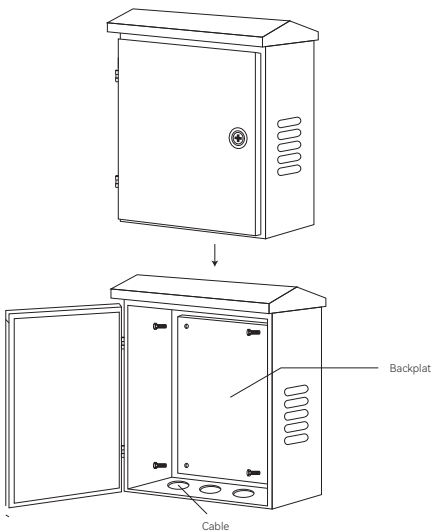
4 Product Installation

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

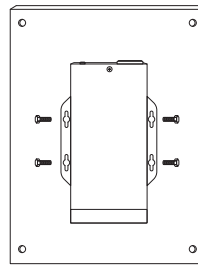
4.1 Installation in waterproof case

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 below pic.



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



(2) Reinstall the backplate into the waterproof case.

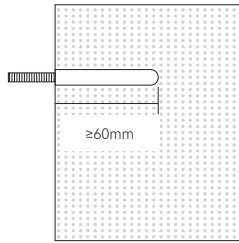
4.2 Wall-mounted Installation

(1) Mark the screw hole positions with marking pens.
(2) Drill 8mm diameter round holes at the marked screw hole locations. Then, use a rubber mallet to tap one end of the expansion bolts into the holes firmly.

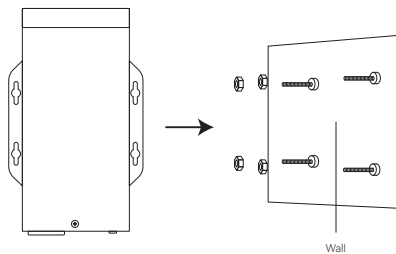
Caution in drilling process:
Keep the drill bit perpendicular to the wall surface, hold the drill handle tightly with both hands, maintain a steady direction to avoid shaking and damaging the wall or causing the hole to tilt.

If the wall is too hard and smooth for the drillbit to locate, use a center punch to make an indentation at the hole position to help guide the drillbit.

The depth of each hole should be consistent.



(3) Pass the protruding screws through the product's mounting holes and tighten them down with nuts. As showed in below pic.



4.3 Connection

After installation is done, the next step is the connection. The following precautions should be taken when connecting the Ethernet cable:

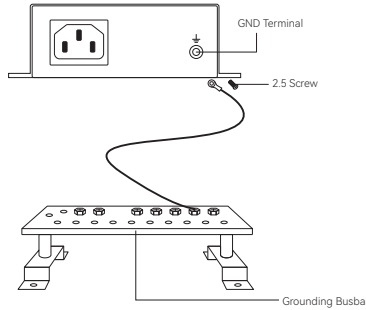
① Lay the cable according to the design requirements. The cable should be laid firmly and neatly, with no crossing, twisting, or cracking.
② Do not lay the cable together with high-voltage pipelines, fire pipelines, or building lightning protection systems to avoid interference from strong electricity or magnetism.
③ Use PVC pipes, iron pipes, Prilka pipes, or cable trays for cable laying. The cable trays should be placed against the wall, with neat and be autiful routing. Soft hoses or elbow joints should be used at turning points. The cable trays should be secured with cable ties, hangers, and angle steels at a spacing of 1 to 1.5 meters. If a metal cable tray is used, it should be grounded at both ends.
④ For outdoor horizontal wiring, pleaseuse a slot every 6 meters under the PVC pipe as a drain to prevent water accumulation inside the pipe.
⑤ The wall penetration for the Ethernet cable should be sealed with waterproof and flame-retardant materials.

Caution:
Waterproof Ethernet cables should be with a protective sheath. CAT5e/6 cables are recommended.

4.4 Grounding Installation

PT-PSE109GRMN has the following grounding solutions for reference during construction:

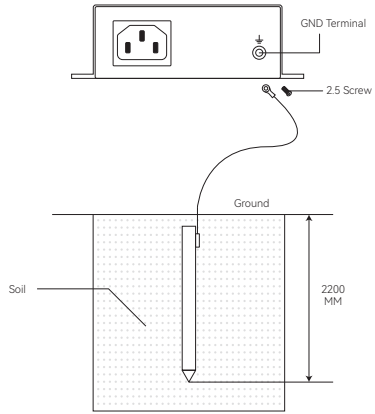
If the installation is in the computer room, it can be connected to the dedicated grounding busbar in the room. The grounding busbar is a connecting conductor between the grounding bodies of the building, such as flat iron, flat steel, nanomaterial conductors, copper-clad steel, etc. Pls refer to the below figure .



For the safety of personnel and equipment in an environment without dedicated grounding equipment, a simple grounding device can be constructed as follows:

(1) Prepare a 6mm 2 grounding wire or a braided soft copper wire.
(2) Prepare a copper tube or angleiron, or other metal tube, bury it underground to a depth of one meter or more as a grounding electrode.
(3) Use the grounding wire to connect the external grounding terminal of the product to the metal tube. (or angle iron)

Caution:
Use a galvanized metal pipe buried underground at a depth of one meter or more, such as a water orsew age pipe , as an emergency grounding if no other grounding environment is available.



4.5 Inspection

Inspect the installed equipment before putting it into operation:

- Make sure the PD can be powered by 44-57Vdc PoE.
- Make sure the Ethernet cable connection is correct.

Make sure all connections are correct, and turn on the power, inspect all the indicators.

Caution:
For outdoor installation, use weatherproof ethernet cables and seal the cable exit point in the enclosure.

If this product exceeds the service life or fails to work properly after maintenance, it should not be discarded at will. Please refer to the enterprise that has the qualification of disposing of waste electrical and electronic products for disposal. For the correct method, please refer to the national or local regulations on disposing of waste electrical and electronic products.