PROCET
PoE System

PoE Extender

Data sheet

PT-PEX01G-OT
PT-PEX25GB-OT
PT-PEX02GB-OT

06/2025,A001483011-23

www.procetpoe.com

Contents

Declaration

Copyright Notice

This product complies with environmental protection design standards. Please do not dispose of this product as household waste. Users are advised to separate this product from domestic waste at the time of disposal. Proper waste classification will contribute to the conservation of natural resources and the reduction of environmental pollution.

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Document History

Version	Date	Notes
v1.0	2025/04/14	First Version Release
v2.0	2025/06/23	Updated Version Release

For Whom

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

Model Comparison Chart

Item	PT-PEX01G-OT	PT-PEX25GB-OT	PT-PEX02GB-OT
PoE Standard	IEEE802.3af Power over Ethernet IEEE802.3at Power over Ethernet IEEE802.3bt Power over Ethernet		
Data Rates	100/1000Mbps	100/1000/2500Mbps	100/1000Mbps
Input	44~57Vdc 1.72A		
Power Pins	4/5(+),7/8(-) 3/6(+),1/2(-)		
Ports	PoE Input * 1 PoE Output * 1		PoE Input * 1 PoE Output * 2
Cascading Capability	100 meters per level, up to 500 meters with 4-level cascading		
Protection Rate	IP67		
Dimensions	209mmx53mmx37.5mm		194mmx101mmx41mm

1. Product Introduction

1.1 Product Positioning

The industrial-grade PoE network extender designed specifically for harsh outdoor environments. Ideal for security surveillance systems, outdoor network deployments, and similar scenarios, it ensures stable long-distance PoE power supply and data transmission.

1.2 Product Features

Environmental Adaptability: Constructed with an aluminum alloy housing that provides electromagnetic shielding and corrosion resistance. The surface is treated with white electrostatic powder coating, compliant with IEC 60950-22 standards. Supports wide temperature operation from -40℃ to +65℃, and offers IP67 protection against dust, rain, and harsh weather conditions.

Transmission Performance: Enables 200 meters of power and data transmission per level via CAT5e/CAT6 cables. Supports up to 500 meters with 4-level cascading (PT-PEX02GB-OT supports up to 400 meters with 3-level cascading per single port). The PT-PEX25G-OT model supports high-speed 2.5Gbps transmission, meeting the demands of high-definition video and large data transfers.

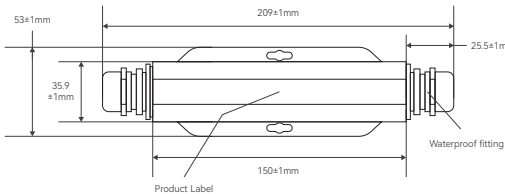
Safety Protection: Built-in 6kV (10/700μs) surge protection, 6kV contact / 8kV air electrostatic discharge protection, and overcurrent protection mechanisms to ensure device and link safety.

Flexible Networking: The PT-PEX02GB-OT is equipped with 2 PoE output ports, allowing simultaneous connection of two terminal devices (e.g., IP cameras, wireless APs), simplifying outdoor cabling.

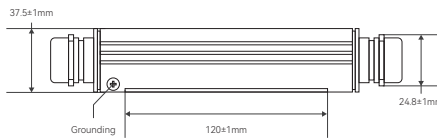
1.3 Product Appearance

Single-port models（PT-PEX01G-OT & PT-PEX25GB-OT）:

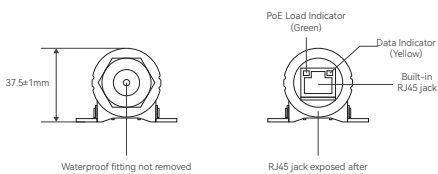
- Top View



- Side View

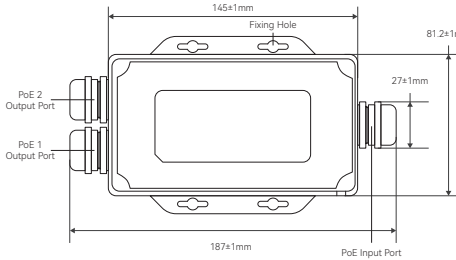


- Front View

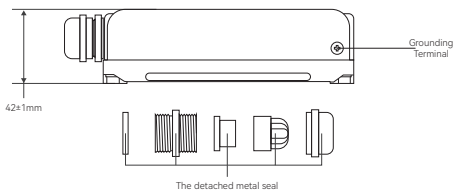


Dural-port model（PT-PEX02GB-OT）：

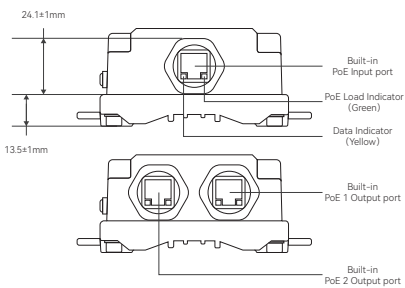
- Top View



- Side View

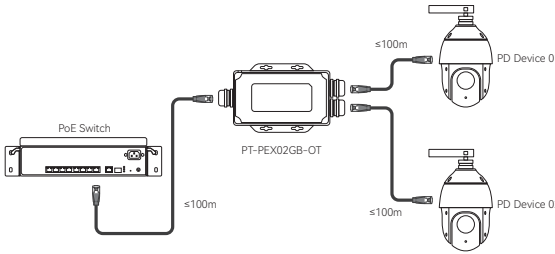


- Front View



1.4 Product Connection Diagram

Taking the PT-PEX02GB-OT as an example.



PoE Port Indicators Description:

Name	Status	Description
PoE Input Indicator	Solid Green	Power is normal, port is connected
	Green Off	PD device is powered off/not connected /no power
	Solid Yellow	Data is connected
	Blinking Yellow	Data is being transmitted
PoE Output Indicator	Solid Yellow	Power is normal, port is connected
	Yellow Off	PD device is powered off/not connected /no power
	Solid Green	Data is connected
	Blinking Green	Data is being transmitted

2 Product Specifications

2.1 Electrical Parameters

Item	PT-PEX01G-OT	PT-PEX25GB-OT	PT-PEX02GB-OT
PoE Output Interface	1*100/1000Base-T RJ45(with waterproof connector)	1*100/1000/2.5GBase-T RJ45(with waterproof connector)	2*100/1000Base-T RJ45(with waterproof connector)
PoE Standard	IEEE802.3af Power over Ethernet IEEE802.3at Power over Ethernet IEEE802.3bt Power over Ethernet		
Input Voltage	44~57Vdc		
Input Power	Max 95W		
Output Power	55Vdc 1.30A, 72W(Max)		55Vdc 0.82A(Max) Single port Max 50W , total 90W
IPC	<2W	<2.5W	<2W
Data Rate	100/1000Mbps	100/1000/2500Mbps	100/1000Mbps
Surge Protection	Protected Lines: 1,2,3,4,5,6,7,8 Common Mode Protection(10/700us): 6KV Differential Mode Protection(10/700us): 1.5KV Clamping Voltage（Line-to-Ground）: 300V Clamping Voltage（Line-to-Line）: 10V Insertion Loss（10MHz/100MHz）: -1db Return Loss（10MHz/100MHz）: -20db Response Time: 5ns		
ESD Protection	6kV contact discharge; 8kV air discharge, Standard: IEC61000-4-2		

2.2 Switching Characteristics

Item	PT-PEX01G-OT	PT-PEX25GB-OT	PT-PEX02GB-OT
Switching Mode	Store-and-forward		

Item	PT-PEX01G-OT	PT-PEX25GB-OT	PT-PEX02GB-OT
Trans. Distance	Extends 100m per extender Up to 4 cascaded levels, max distance 500m		Extends 100m per extender Single-port cascading support up to 3 levels, max distance 400m
Network Protocols	IEEE802.3 Ethernet IEEE802.3u Fast Ethernet IEEE802.3ab Gigabit Ethernet IEEE802.3i/IEEE802.3u /IEEE802.3ab /IEEE802.3z	IEEE802.3 Ethernet IEEE802.3u Fast Ethernet IEEE802.3ab Gigabit Ethernet IEEE802.3i/IEEE802.3u /IEEE802.3ab /IEEE802.3z IEEE802.3bz	IEEE802.3 Ethernet IEEE802.3u Fast Ethernet IEEE802.3ab Gigabit Ethernet IEEE802.3i/IEEE802.3u /IEEE802.3ab /IEEE802.3z
Mac Address Table	2k	-	2k
SC	4Gbps	-	4Gbps
PF Rate	2.98Mpps	-	2.98Mpps
Flow Control	Full-duplex and half-duplex operation with IEEE 802.3x flow control and backpressure	-	Full-duplex and half-duplex operation with IEEE 802.3x flow control and backpressure
Jumbo Frame	9216B	-	9216B

2.3 Physical Characteristics

Item	PT-PEX01G-OT	PT-PEX25GB-OT	PT-PEX02GB-OT
Enclosure	Material: Aluminum alloy(metal sealing + waterproof)		
Installation	Pole-mount（ϕ70~110mm）/ Wall-mount（expansion screws）		
Protection	IP67（dust-proof & waterproof）		
Dimensions	209mm X 53mm X 37.5mm		194mmx101mmx41mm
Weight	410g		532g

2.4 Environmental Parameters

Item	PT-PEX01G-OT	PT-PEX25GB-OT	PT-PEX02GB-OT
Op Temp	-40℃ — 65℃		
Op Humid	5%-95%，non-condensing		
Op Alt	Up to 5000m		
Stor Temp	-40℃ — 85℃		
Stor Humid	10%-90%，non-condensing		

2.5 Compliance Certifications

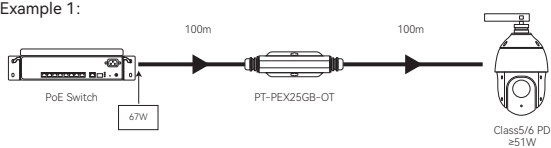
Safety Standard: IEC 60950-22 (Information Technology Equipment Safety)

EMC Standards: CE、FCC（Electromagnetic Compatibility）

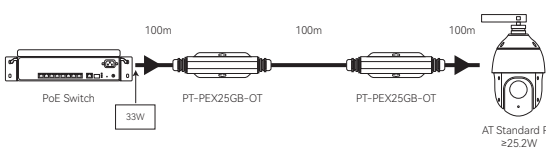
Environmental Standard: RoHS（Restriction of Hazardous Substances）

3. Reliable Connectivity

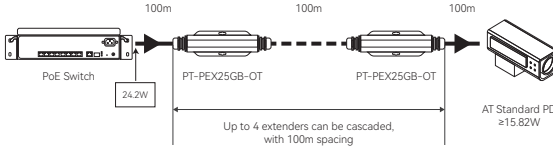
Example 1:



Example 2:



Example 3:



3.1 Multi-Stage PoE Extension Capability

Example of voltage/power attenuation under different distances and PoE standards (PT-PEX25G-OT):

200m CAT5e (BT Standard PD)

Distance	Voltage(V)	Power（W）
PoE Switch@0m	55	67
PD Device@200m	42	51

300m CAT5e (AT Standard PD)

Distance	Voltage(V)	Power（W）
PoE Switch@0m	55	33
PD Device@300m	42	25.2

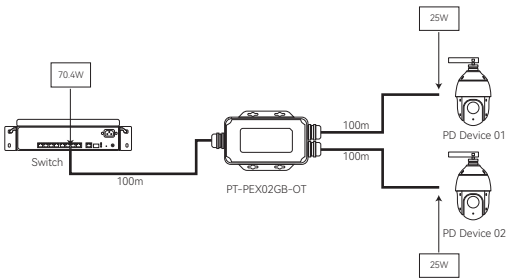
500m CAT5e (AF Standard PD)

Distance	Voltage(V)	Power（W）
PoE Switch@0m	55	24.2
PD Device@500m	42	15.82

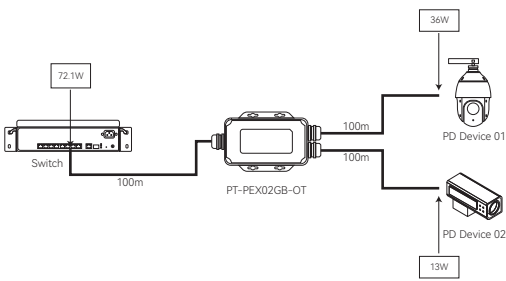
Note：The data shown in the tables above are for reference only. Actual performance may vary depending on the environment.

3.2 PT-PEX02GB-OT Cascading

Example 1:



Example 2:



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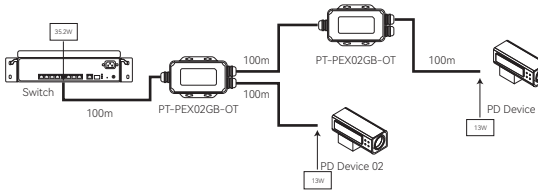

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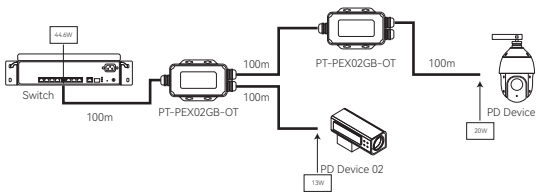
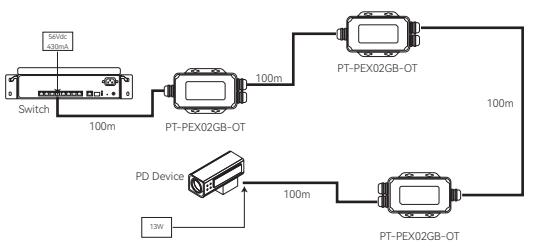


Example 5:

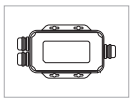


4. Installation Guide

4.1 Installation Preparation

Package Contents

Open the PT-PEX-OT series package box carefully. The package should contain the following items:



PT-PEX02GB-OT

Operating Manual

Ground lug Wire

Tools and Materials

Basic tools: Screwdriver, electric drill, network cable stripper

Networking materials: CAT5e/CAT6 Ethernet cables (Category 5e or above supports Gigabit/2.5G speeds), cable ducts, expansion screws / stainless steel mounting straps (for pole installation)

Testing equipment: PoE switch, PD device (e.g., IP camera, wireless AP)

Mounting accessories: Expansion screws / stainless steel mounting straps / nylon cable ties (depending on the installation scenario)

Before installing the device, connect it to a power source to ensure it is functioning properly. When using standard PoE power, the other end of the Ethernet cable connected to the PD device should be connected to a PoE-capable device, such as a PoE-enabled Ethernet switch.

After powering on the device, it will automatically initialize. During this process, the system indicator LED will remain steadily on at first, then flash for 2 seconds once initialization is complete. When the LED stays steadily on again, the device is operating normally. For detailed information on the LED indicators, please refer to Section 1.4 System LED Status Description.

4.2 Installation Steps

Step 1: Determine Installation Location

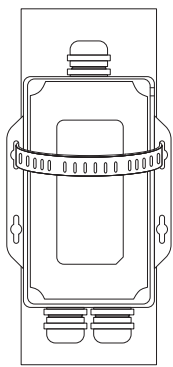
Prioritize the midpoint between the PoE switch and PD device.
Single-stage transmission distance ≤ 100m; inter-stage distance ≤ 100m for cascading.

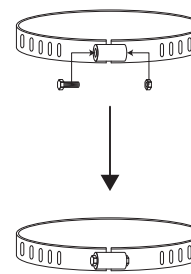
Choose a location with convenient grounding access.

For outdoor installation, avoid direct sunlight and water accumulation areas.

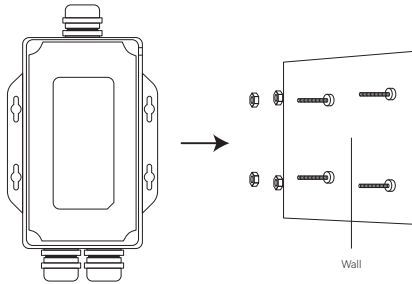
Step 2: Secure the Device

Pole Mounting: Use stainless steel clamps to fix the device on vertical poles with a diameter of 70–110mm, and tighten the fixing screws.





Wall Mounting: Mark the hole positions on the wall, drill holes, insert expansion screws, and secure the device.

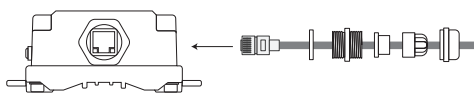


Step 3: Wiring and Grounding

RJ45 Port Connection

Remove the metal seal and insert the waterproof rubber gasket in order（default size: 12mm，suitable for 8-12mm network cables）.

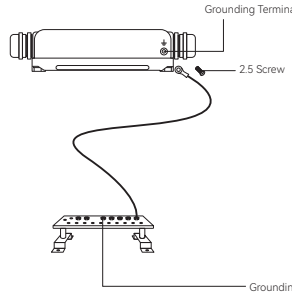
Crimp the RJ45 connector（T568B standard recommended），ensure the waterproof gasket fits tightly with the port, and securely tighten the locking nut.



Grounding

Use a 2.5mm² yellow-green grounding wire to connect the device's grounding terminal to the grounding busbar. The grounding resistance should be ≤4Ω.

If no dedicated grounding body is available, connect to a galvanized metal pipeline (buried at least 1 meter deep) as an emergency grounding method.



Note:
No suitable grounding environment is available, an emergency grounding method can be used by connecting to a galvanized metal pipe buried more than one meter underground, such as a water or sewage pipe.

Step 4: Power-On Testing

Connect the PoE switch (input port) to the PD device (output port); the device will initialize automatically.

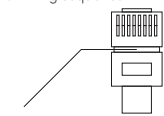
LED indicator status: Green steady on (normal power supply), Yellow steady on/blinking (data connection/transmission).

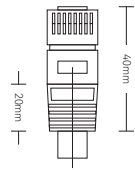
Note:
Ensure the locking nut is firmly tightened to the main body of the cable connector, and that the sealing gasket is tightly compressed.

5 Accessory Information

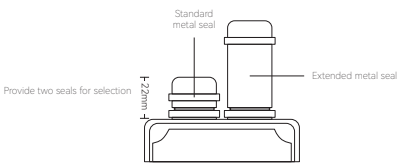
5.1 Metal Sealing Fitting

This product does not support the use of mechanized network cables. If you need to use mechanized cables, you may order an extended metal sealing fitting. It is recommended to crimp the RJ45 connector using the T568B standard wiring sequence





Mechanized cable

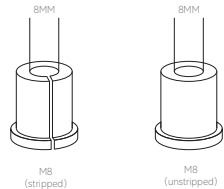


Optional Waterproof Connectors

	Name	Specification	Descr.
01	Eco-friendly metal Waterproof connector	M22; Waterproof rubber gasket M8	Traditional Version
02	Eco-friendly metal Waterproof connector	M22 (extended version, 40mm); Waterproof rubber gasket M8	Cust. Version

5.2 Waterproof Rubber Gasket

There are two types of waterproof gaskets:
The uncut type is suitable for pre-threading manually through the RJ45 head on site. The pre-slit type is more convenient to use. (The inner diameter of the waterproof gasket is either 8mm or 12mm; the default is 12mm unless otherwise specified when ordering.)



Note:
1.Only use the waterproof cable connector provided in the PT-PEXxxxx-OT series packaging, and follow the installation procedures mentioned above.

2.If the waterproof connector is lost or damaged, please contact your local distributor where the product was purchased.

3.Do not use any waterproof cable connectors that were not purchased from PROCET or are not the same size as those of the PT-PEXxxxx-OT series products, as this may reduce the protection performance of the device.