



## SPECIFICATION FOR APPROVAL

CUSTOMER : \_\_\_\_\_

PRODUCT NAME : 90W Super-power Gigabit PoE Injector

PRODUCT MODEL : PSE90G

BRAND : TST (OEM/ODM)

DATE : 2024 / 06 / 26

DRAWING			CUSTOMER APPROVE
DESIGNED	CHECKED	APPROVED	
VANNE	YOUTRONG	Mark	
DATE	2024 / 06 / 26		Please return the visa after confirmation, thank you!

Shenzhen Tstone Technology Co.,Ltd

Mobile: 13640991523

http: [www.tstpoe.com](http://www.tstpoe.com)

Add: Room 903, Building B-14C, First Industrial Zone, Baihua Community, Guangming Street, Guangming District, Shenzhen, China



## PRODUCT: 90W Super-power Gigabit PoE Injector

MODEL: PSE90G



## What Is PoE

POE (Power Over Ethernet) refers to the technology that can transmit data signals for some IP-based terminals (such as IP phones, wireless LAN access point APs, IP cameras, etc.) without any changes to the existing Ethernet Cat.5 cabling infrastructure, and can also provide DC power supply for such devices.

A complete POE system consists of two parts: Power Sourcing Equipment (PSE) and Powered Device (PD). The PSE device is the device that powers the Ethernet client device and is also the manager of the entire POE (Power-over-Ethernet) process. The PD device is the PSE load that receives the power supply, that is, the client device of the POE system. Based on the IEEE 802.3af/at standard, the two establish information about the connection status, device type, power consumption level and other aspects of the



PD of the power receiving device, and use this as the basis for PSE to supply power to the PD through Ethernet.

## The Principle of POE

The standard Category 5 cable has four twisted pairs, but only two pairs are used in 10M BASE-T and 100M BASE-T. IEEE802.3af/at allows two uses: (1) When the idle pin is used for power supply, pins 4 and 5 are connected as the positive pole, and pins 7 and 8 are connected as the negative pole. (2) Pins 1 and 2 are connected as the positive pole, and pins 3 and 6 are connected as the negative pole.

## The Advantages of POE

1. Save labor and material costs. Compared with the traditional wiring method of weak current engineering, POE only needs to install a network cable to make the IP equipment work normally. In many cases, POE is more advantageous in the places where it is difficult to deploy AC power. As the number of network devices in the system increases, the use of POE eliminates the need for local power supply for the equipment, which will greatly reduce deployment costs and simplify their manageability.
2. Easy to install and manage. Customers can autonomously and securely mix PoE devices and legacy devices within the system, and can coexist with existing Ethernet cables. PoE devices are compatible with the management system of existing network devices and can share the management platform with existing network devices.
3. Good security. The Power Sourcing Equipment (PSE) in a PoE system will only supply power to the Powered Device (PD) that needs to be powered. Only when the Device that needs to be powered is connected and the protocol is successfully identified, the power supply equipment will have a voltage output and supply power to the powered device, thus eliminating the risk of leakage and short circuit on the line.

## Product Introduction

PSE90G is a 90W super-power Gigabit POE Injector, which conforms to the IEEE802.3BT protocol and is compatible with the IEEE802.3AF/AT protocol, and the maximum output power can reach 90W.



PSE90G is a super-power single-port POE Injector, which can output 90W POE signals to power and transmit data to high-power PD devices, such as high-speed PTZ cameras, large-size advertising display screens, high-power broadcast speaker, high-power DC motors, indoor high-power lighting lamps and so on. For large-power PD devices, ordinary POE Injector and POE Switches cannot output POE signals with enough power to power them, and the price of super-power POE switches is very high. Therefore, PSE90G, as a 90W super-power POE Injector, is the perfect choice to use it to power high-power PD devices.

## Product Description

The PSE90G has a DATA+POE OUT port, a DATA IN port, and a AC port. The DATA+POE OUT port is the POE output port, which can output a maximum of 90W POE signals to power and transmit data to high-power PD devices. The DATA IN port is a data transmission port that connects the LAN or the Ethernet. PD device can transmit DATA with LAN or Ethernet through DATA IN port. The AC port connects to the AC socket through the AC cable to start the POE Injector into the working state. The PSE90G is designed with a power indicator to show its power connection status.

The PSE90G supports wall mount and desktop installation. It has two wall hanging screw holes at the bottom, which can be installed on the wall or in the cabinet. The shell material of PSE90G is made of hard metal to enhance its installation robustness and heat dissipation. At the same time, the two sides of the PSE90G are designed with cooling grates to help its motherboard heat dissipation and ventilation, and reduce the motherboard temperature. Rectangular metal shell, with matte black exterior design makes the whole product appear more beautiful and stable.

The PSE90G complies with the IEEE802.3bt international POE standard protocol and is compatible with the IEEE802.3af/at protocol. Its maximum output power can reach 90W (IEEE802.3bt), while supporting 30W (IEEE802.3at) and 15.4W (IEEE802.3af) output, can be compatible with all levels of PD devices and power them according to their levels. Its data transmission rate is gigabit, and it supports adaptive transmission of 10M/100M/1000M. It supports a wide voltage input AC100-240V 50/60HZ, compatible with the mains voltage and frequency of all countries in the world. Its conversion efficiency is more than 90%, the POE signal transmission distance is more than 100 meters, and the POE power supply pin adopts RJ1245+RJ3678- eight-core full power supply mode.



PSE90G's mainboard adopts an isolated design scheme, and takes into account the design concept of heat dissipation and high temperature resistance. The main board has protection functions such as lightning strike, short circuit, overload and high temperature, while integrating the design idea of anti-electric shock and anti-electric leakage to ensure the safety of product use. EMC parameters can meet IEC 61000-4-2 /3/4/5/6 standards. Products have obtained CE, FC, Rohs and other certifications, selling well in more than 100 countries and regions around the world.

## Product Features

- IEEE802.3af/at/bt POE international standard protocol and handshake recognition function
- Wide input voltage AC100-240V 50/60HZ
- Output: 48V1.85A 90W, other voltages can be customized
- 10M/100M/1000M adaptive transmission speed
- RJ1245+ RJ3678- Power supply pin
- Wall mounting, desktop mounting and other installation methods
- There are cooling grates on both sides for easy heat dissipation
- Small size, less space, easy to install
- 6KV surge protection
- With overheat protection, overvoltage protection, overload protection, short circuit protection
- Anti-electric shock and anti-electric leakage design, safer to use
- The conversion efficiency is over 90%
- EMC complies with IEC 61000-4-2/3/4/5/6 standards
- Hard metal material shell, easy to enhance its installation robustness and heat dissipation

## Specifications

Items	Specifications
Product Name	90W super-power Gigabit POE Injector
Product Model	PSE90G
PoE Standard	IEEE802.3af/at/bt
Input Voltage	AC100-240V 50/60HZ
Output	POE 48V1.85A 90W



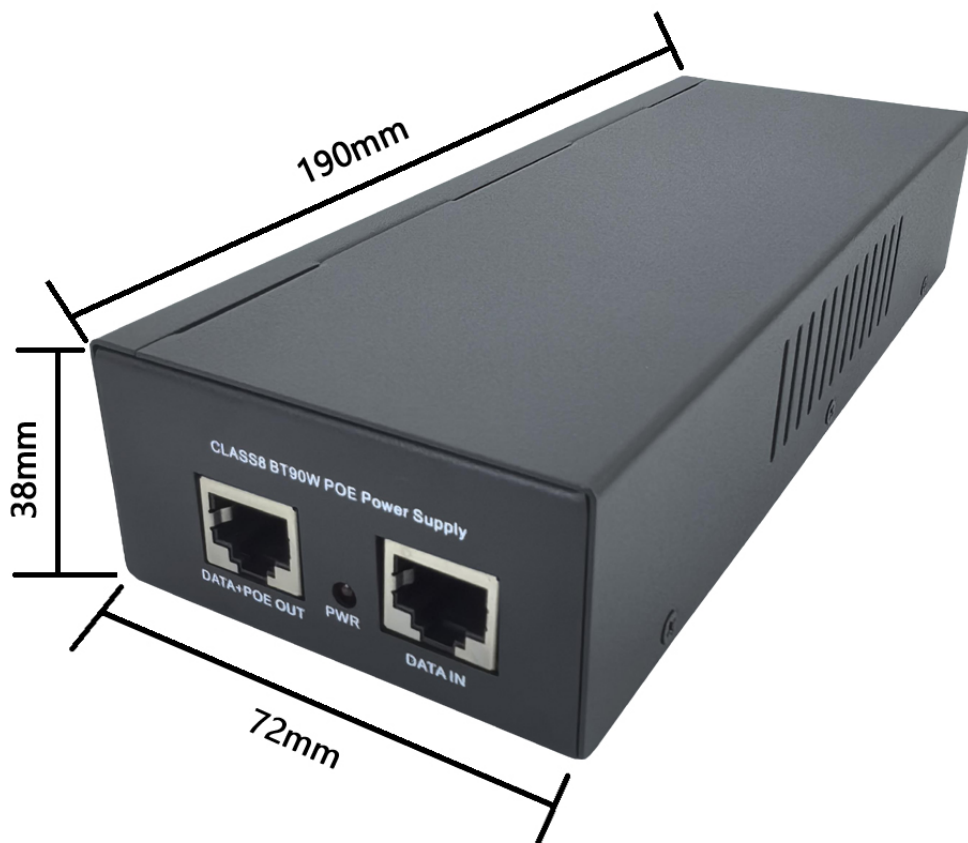
	(Other Voltage can be customized)
Conversion Efficiency	$\geq 90\%$
PoE Pin	RJ1245+ RJ3678-
Conversion Mode	Isolated
Data Rate	10M/100M/1000M Adaptive
Transmission Distance	100 meters
Surge Protection	6KV
Circuit Protection	Short-circuit Protection Overcurrent Protection Overvoltage Protection Overheating Protection Anti-electric shock Protection Anti-electric leakage Protection
LED Indicator	1*Power Indicator
Interface	1*DATA+POE OUT Port 1*DATA IN Port 1* AC Port
Material	Hard metal
Color	Matte black
Accessories	1*AC cable
EMC	IEC 61000-4-2/3/4/5/6
Temperature	-20~80°C For Operating -30~100°C For Storage
Humidity	RH95% MAX (Non-condensation)
Weight	N.W: 374g G.W: 586g
Dimension	Product Dimension: 190mm*72mm*38mm Packing Dimension: 215mm*142mm*52mm
Package	Kraft Carton



## Product Applications

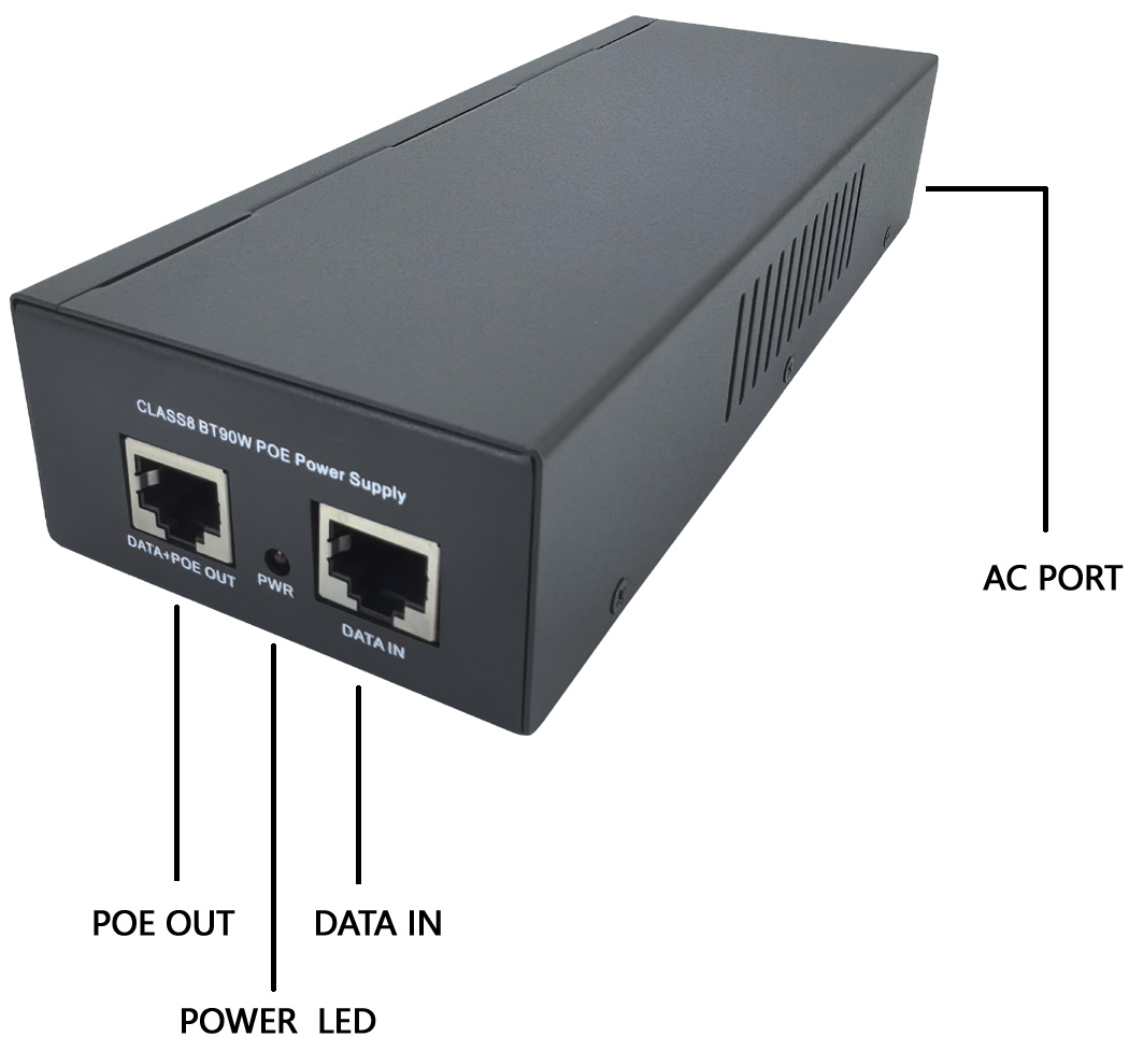
The PSE90G is an ultra-high power single-port POE Injector designed specifically for high power PD devices and compatible with low power PD devices. It is widely used in high-power CCTV, high-power audio broadcasting system, large-size display, indoor lighting and other industries. The product has been introduced to the market for many years, and has performed well in the field of high-power POE applications, and has been widely favored and praised by global customers.

### Dimensions



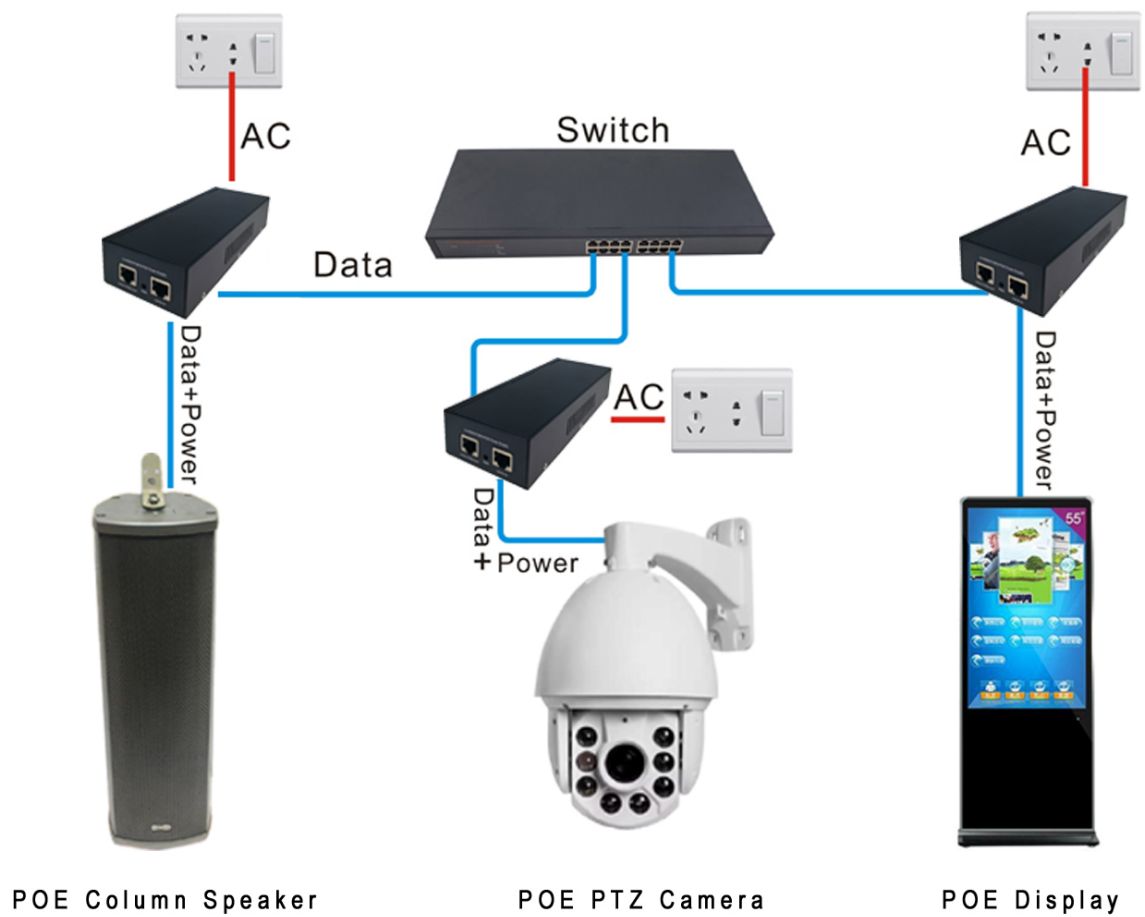


## Interface Definition



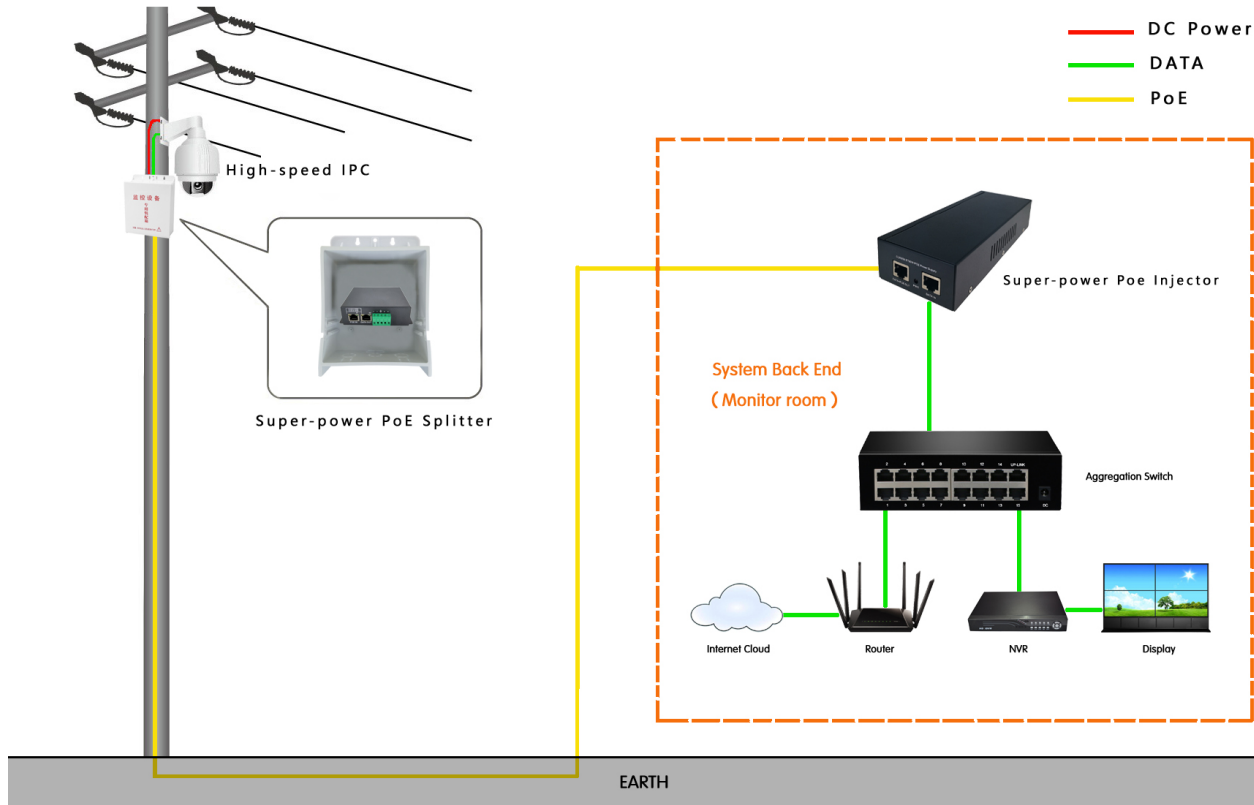


### Application topology





Topology of the super power POE application system





## Application Scenarios



Broadcasting Speaker



AD Display



CCTV



## Product Detail





## Product Package



Package Size: 215mm\*142mm\*52mm(L\*W\*H)

Package List	
Items	Quantity
PoE Injector	1
AC Cable	1
Operation Manual	1