



深圳市拓视盾科技有限公司

Shenzhen Tstone Technology Co.,Ltd

## SPECIFICATION FOR APPROVAL

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

PRODUCT NAME : Outdoor 6KV lighting protection high-power PoE module

PRODUCT MODEL : \_\_\_\_\_ TSD-PD3827

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

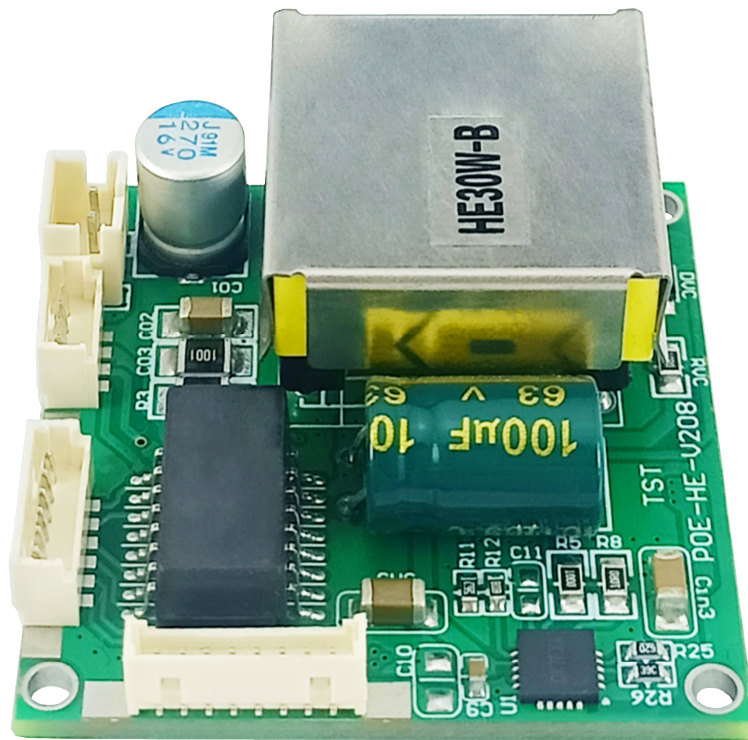
http: [www.tstpoe.com](http://www.tstpoe.com)

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



**PRODUCT: Outdoor 6KV lighting protection high-power PoE module**

**MODEL: TSD-PD3827**



## 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 P



D 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 pin 2 are connected as the positive pole, and pin 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



TSD-PD3827 module is a 30W high-power Active PoE module designed for security monitoring, audio broadcasting, building intercom and other fields of equipment. The module can continuously and stably provide 12V 2.5A DC output for the device, and the maximum output power is 30W.

The TSD-PD3827 module conforms to the IEEE802.3af/at PoE standard protocol, and can directly receive PoE signals to provide data signal transmission and DC power supply for terminal devices.

## Product Description

Interface settings of the TSD-PD3827 module:

4-pin PH1.25mm female connector, input port, supports RJ45+ and RJ78- PoE power supply, outputs 12V DC;

6-pin PH1.25mm female connector, input port, supports RJ12+ and RJ36- power supply;

2-pin PH2.0mm female connector, output port, outputs 12V DC at 2.5A;

8-pin PH1.25mm female connector, output port, outputs network signals and 12V DC at 2.5A.

Size structure: 38\*38\*16.5mm, screw hole diameter:  $\Phi=2.0\text{mm} \times 4$ , hole center distance: 34\*34mm. PCB thickness: 1.75mm. Overall layout: square structure. Maximum thickness: 16.5mm. Solder mask: bright green oil. Module design: four-layer board with double-sided design, reducing the overall board temperature, improving signal integrity, larger components concentrated on one side, increasing circuit function integration, and facilitating installation.

The TSD-PD3827 is an isolated PD module with electrical isolation and safety assurance functions using a bobbin EE19 isolation transformer with a shielding case. The circuit has the functions of overheating protection, overvoltage protection, overcurrent protection, short circuit protection and so on. The maximum output power is 30W. Transmission rate: 10/100M adaptive. Support wide voltage input DC 38-56V, default output voltage DC12V, other voltage can be customized.

The TSD-PD3827 adopts the IEEE802.3af/at PoE standard protocol, and its EMC parameters comply with the requirements of IEC 61000-4-2/3/4/5/6 standards. The product has obtained CE, FCC, RoHS and other certifications and is exported to many countries overseas.



## Product Features

- IEEE802.3af/at PoE international standard protocol with handshake recognition function
- Input: wide PoE voltage DC 38-56V
- Output: voltage DC 12V MAX2.5A
- EMC complies with IEC 61000-4-2/3/4/5/6 standards
- RJ12+ RJ36- / RJ45+ RJ78- Fully compatible
- 10/100Mbps adaptive transmission speed
- The conversion efficiency is over 85%
- 6KV surge protection
- Vertical interface, space saving, easy installation
- With overheat protection, overvoltage protection, overload protection, short-circuit protection
- 100Mbps high power network filter
- High frequency low resistance electrolytic capacitor, reduce circuit high frequency wastage and heat
- Patch solid capacitor, long life and high safety, improve module power supply stability
- International brand original electronic components, excellent precision and high performance
- Large power, high conduction and low impedance transistor, excellent reliability and temperature tolerance
- Environmental protection high temperature resistant PCB material, environmental protection lead-free process
- Pure copper pin connector to ensure safety performance
- High temperature resistant flame retardant interface socket, reduce security risks
- Isolation transformer: EE19 bobbin, with shielding case, high electrical safety
- Equipped with 80mm connecting line for easy customer connection

## Specifications

Product parameter table	
Product Name	outdoor 6KV lightning protection high-power PoE module
Product Model	TSD-PD3827
PoE Standard	IEEE802.3af/at
Input Voltage	PoE: DC38-56V



Output	voltage DC12V MAX2.5A (Other Voltage can be customized)
Conversion Efficiency	≥ 85%
PoE Pin	RJ12+ RJ36- / RJ45+ RJ78- Fully compatible
Conversion Mode	Isolated
Data Rate	10/100Mbps adaptive transmission
Transmission Distance	100 meters(Category 5e Cable (Cat5e) )
Surge Protection	6KV
Circuit Protection	Short-circuit Protection Overcurrent Protection Overvoltage Protection Overheating Protection
LED Indicator	/
Interface	PoE Input Port (6-Pin PH1.25mm terminal block) : RJ12+ RJ36- PoE Input Port (4-Pin PH1.25mm terminal block) : RJ45+ RJ78- Output Port (8-Pin PH1.25mm terminal block) : Data + DC Output Port (2-Pin PH2.0mm terminal block) : DC 12V OUT
Function	/
Material	FR-4
Color	Bright green
Accessories	80mm Connecting Line
EMC	IEC 61000-4-2/3/4/5/6
Temperature	-30~60°C For Operating -30~80°C For Storage
Humidity	RH95% MAX (Non-condensation)
Weight	N.W: 20g
Dimension	38mm*38mm*16.5mm
Package	Vacuum forming tray

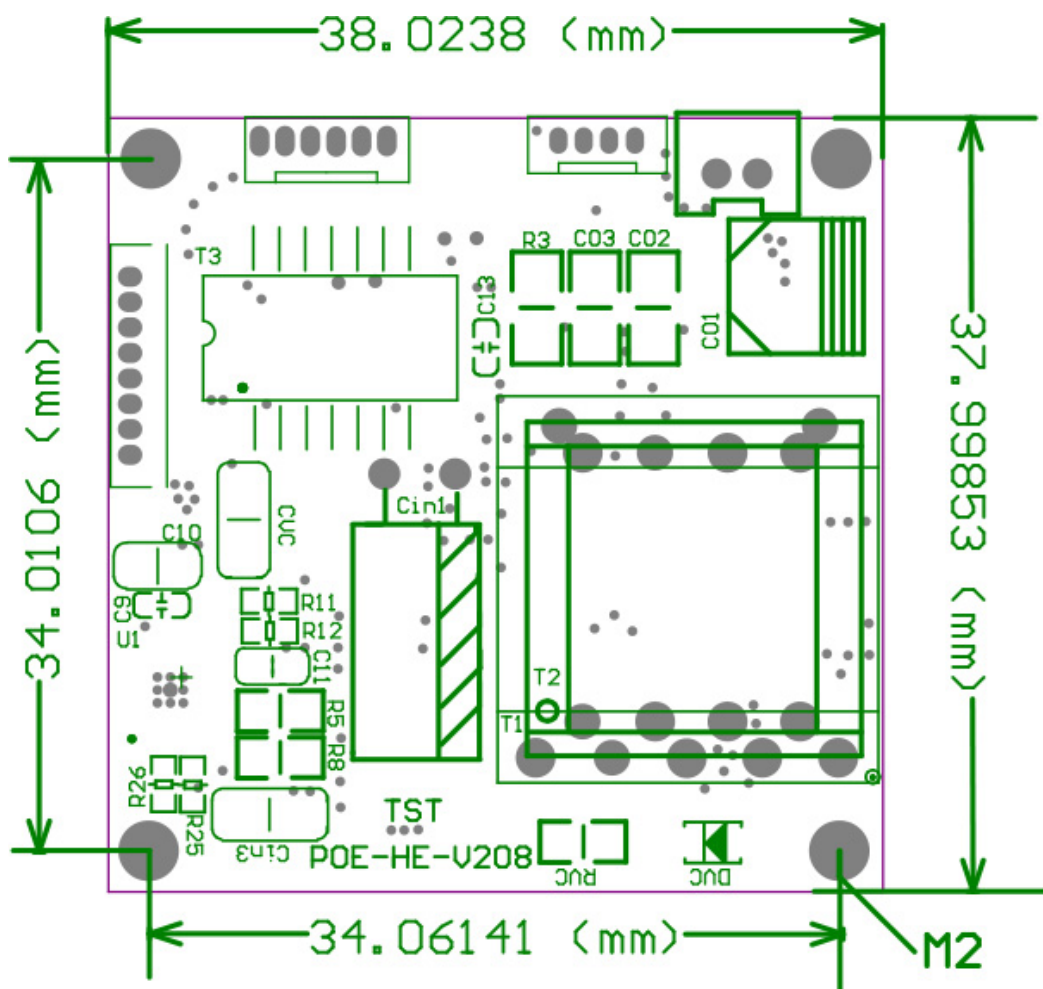
## Product Applications



TSD-PD3827 is a high-power active PoE module with a maximum output power of 30W. The module is mainly used in security monitoring, medical monitoring, building intercom and other fields.

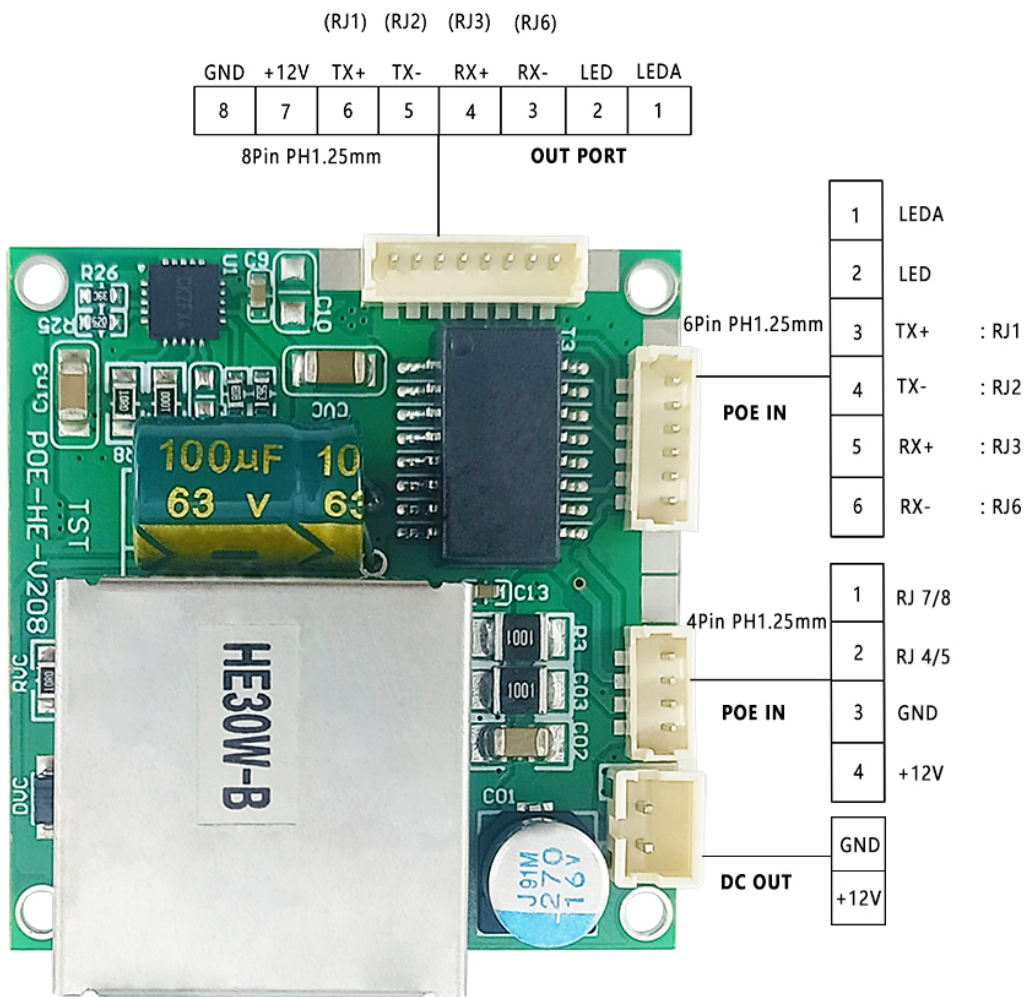
The TSD-PD3827 module has the characteristics of stable work, excellent performance and high parameter limit. In the PoE equipment application field, it has won the long-term trust and recognition of equipment manufacturers and terminal client.

## Dimensions





## Interface Definition





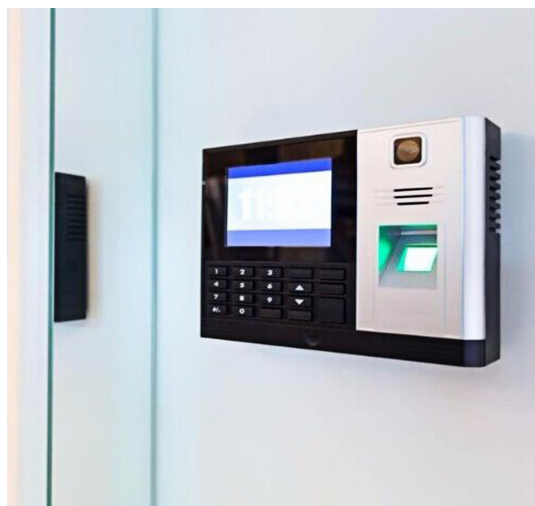
## Application Scenarios



medical monitoring



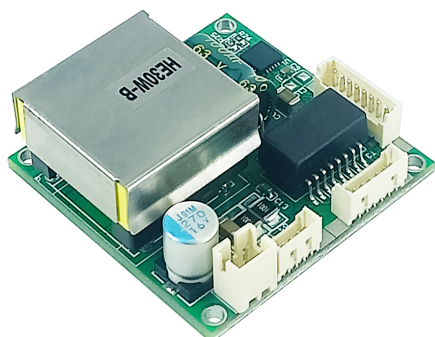
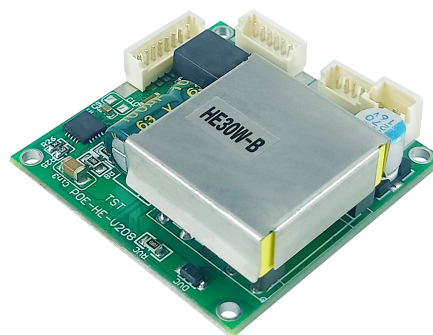
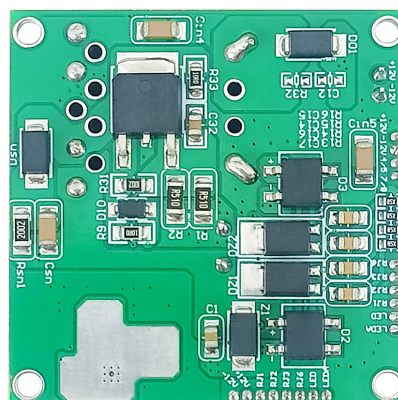
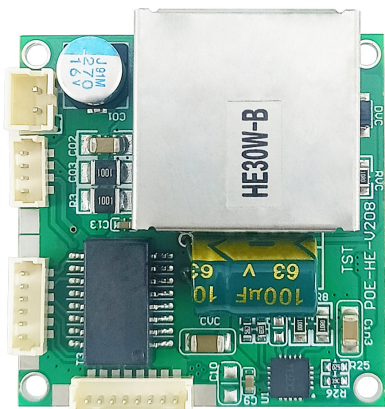
Sound broadcasting



access control system



## Product Detail





深圳市拓视盾科技有限公司  
Shenzhen Tstone Technology Co., Ltd

## Product Package



Package Size: 41\*29\*32 cm ( L\*W\*H )

MPQ: 500 PCS

N.W: 10 kg

G.W: 11.5 kg