SPECIFICATION FOR APPROVAL

CUSTOMER : _____

PRODUCT NAME : 4KV Surge Protection 18W 100Mbps PoE Module

PRODUCT MODEL : TSD-PD3806

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!

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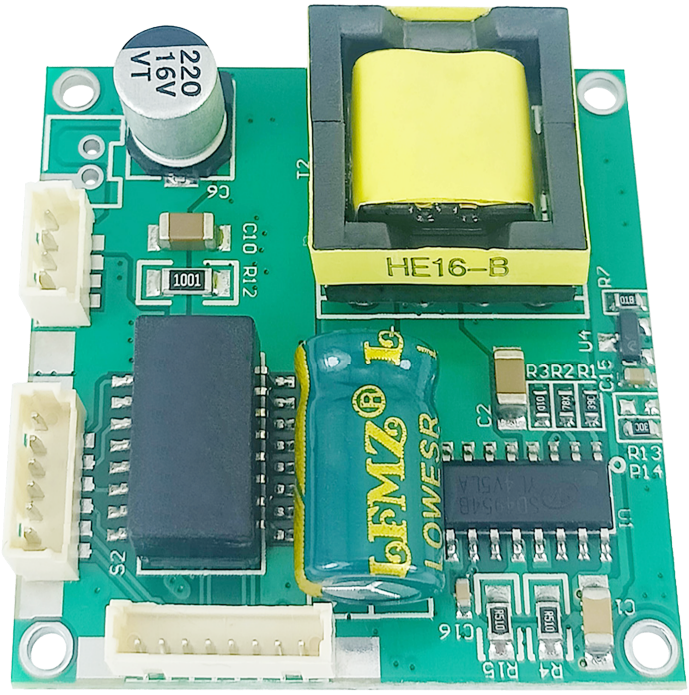


What Is PoE

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 t he 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 th e entire PoE (Power-over-Ethernet) process. The PD device is the PSE load that receives the power suppl y, 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 l0M BASE-T and 100M BASE-T. IEEE80 2.3af/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) Pin 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-PD3806 conforms to IEEE802.3af PoE standard protocol, the maximum output power is 18W, is a PD module through the Ethernet cable network for audio broadcasting, security monitoring and other equipment to provide DC power supply, can provide DC 12V 1.5A output for the device continuously and stably.

The use of TSD-PD3806 makes the network equipment have PoE function, only one Ethernet cable can receive power and data signals at the same time, saving wiring costs.

Product Description

Interface configuration of TSD-PD3806: 6-pin PH1.25mm female connector: input port, supports RJ12+, RJ36-, power supply. 4-pin PH1.25mm female connector: input port, DC 12V input, supports RJ45+, RJ78- PoE power supply. 8-pin PH1.25mm female connector: output port, DC 12V + data output. 2-pin PH2.0 mm female connector (backup socket): output port, DC 12V 1.5A output.

Size and structure: 38*38*14.65mm, center distance of holes: 34*34mm, screw hole diameter: Φ=2.0mm*4, PCB thickness: 1.6mm. Maximum thickness: 14.65mm. Overall layout: square structure, double-layer PCB. Surface coated with bright green oil. The module adopts a double-sided design, which helps reduce signal interference and improve signal integrity.

The TSD-PD3806 complies with the IEEE 802.3af PoE standard protocol, with an adaptive transmission rate of 10/100Mbps. The maximum output power is 18W. It supports a wide voltage input range of DC 38-56V, with the default output voltage being DC 12V. Other voltages can be customized.

The TSD-PD3806 is a PD module with isolation function. Its EMC parameters can meet the requirements of IEC 61000-4-2/3/4/5/6 standards. The circuit has protection functions such as lightning strike prevention, short circuit prevention, overload prevention, and high temperature prevention. The product has obtained certifications such as CE, FCC, and RoHS, and is popular in over 100 countries and regions around the world.

Product Features

- ●IEEE802.3af PoE international standard protocol
- ●Input: wide PoE voltage DC38-56V
- ●Output: voltage DC12V MAX1.5A
- ●10/100Mbps adaptive transmission speed
- ●RJ12+ RJ36- / RJ45+ RJ78- Fully compatible
- ●Vertical interface, flexible installation
- ●4KV surge protection

●Anti lightning, anti short circuit, anti overload, anti high temperature

●The conversion efficiency is over 85%

●EMC complies with IEC 61000-4-2/3/4/5/6 standards

●International brand original high-precision electronic components, stable performance

●100 Mbps high frequency PoE filter, stable transmission of data

●High frequency low resistance electrolytic capacitor, effectively reduce the circuit high frequency los s and heating

●High power, high conduction and low impedance transistor, stable performance and low heat

●High temperature resistant PCB environmental protection material, lead-free environmental protection process

●Pure copper pin connector, good contact stability

●Beige high temperature flame retardant interface socket, safe and reliable quality

●EFD15 high frequency frame isolation transformer, strong reliability, high adaptability

●Equipped with 80mm connecting line, convenient for users to connect

Specifications

Product parameter table	
Product Name	4KV Surge Protection 18W 100Mbps PoE Module
Product Model	TSD-PD3806
PoE Standard	IEEE802.3af
Input Voltage	PoE: DC38-56V
Output	voltage DC 12V MAX1.5A (Other Voltage can be customized)
Conversion Efficiency	≧85%
PoE Pin	PoE: RJ12+ RJ36- / RJ45+ RJ78- Fully compatible
Conversion Mode	Isolated
Data Rate	10/100Mbps Adaptive transmission speed
Transmission Distance	100 meters(Category 5e Cable (Cat5e))
Surge Protection	4KV

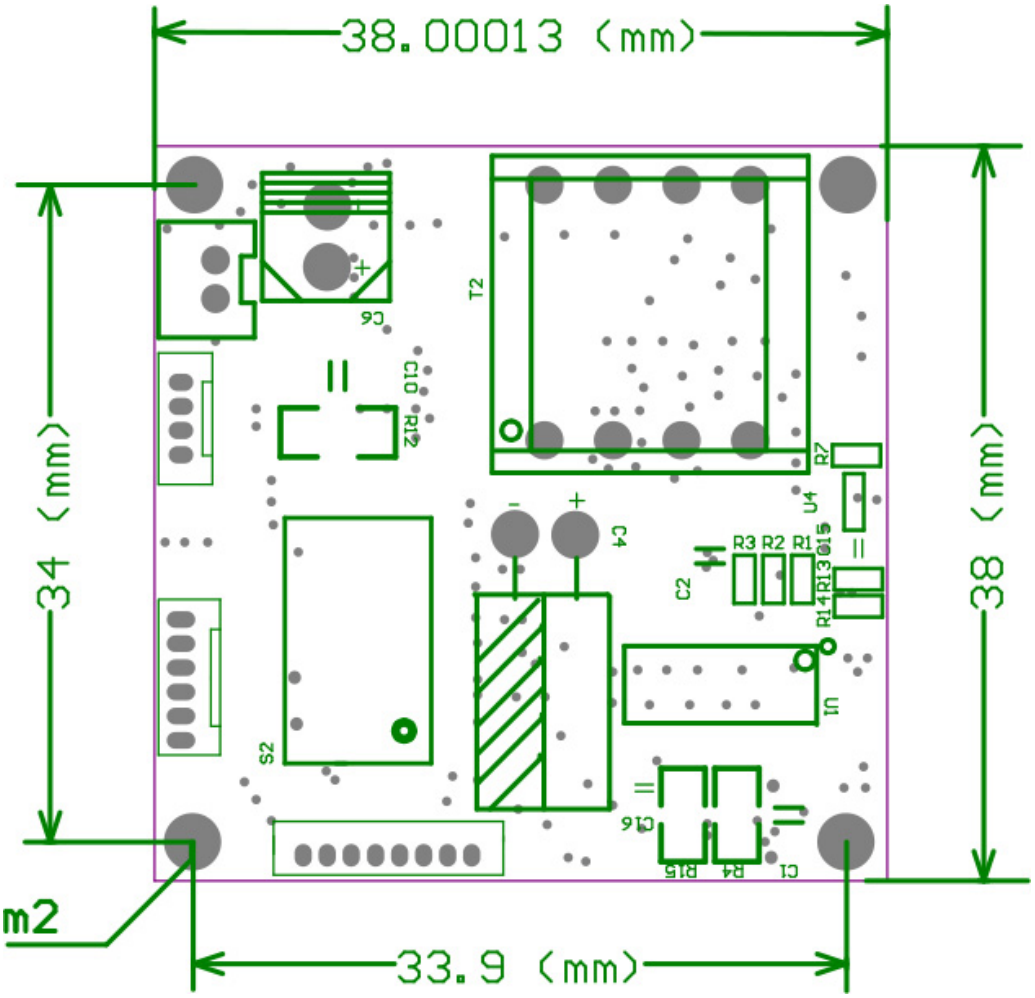
Circuit Protection	Short-circuit Protection over-current Protection Overvoltage Protection overheating Protection
LED Indicator	/
Interface	Output Port (8-Pin PH1.25mm terminal block) : Data +DC Output Port (2-Pin PH2.0mm terminal block) : DC 12V PoE Input Port (6-Pin PH1.25mm terminal block) : RJ12+ RJ36- PoE Input Port (4-Pin PH1.25mm terminal block) : RJ45+ RJ78-
Function	/
Material	FR-4
Color	Bright green
Accessories	80mm Connecting Line
EMC	IEC 61000-4-2/3/4/5/6
Temperature	-30～60℃ For Operating -30～80℃ For Storage
Humidity	RH95% MAX (Non-condensation)
Weight	N.W: 15g
Dimension	38mm*38mm*14.65mm
Package	Vacuum forming tray

Product Applications

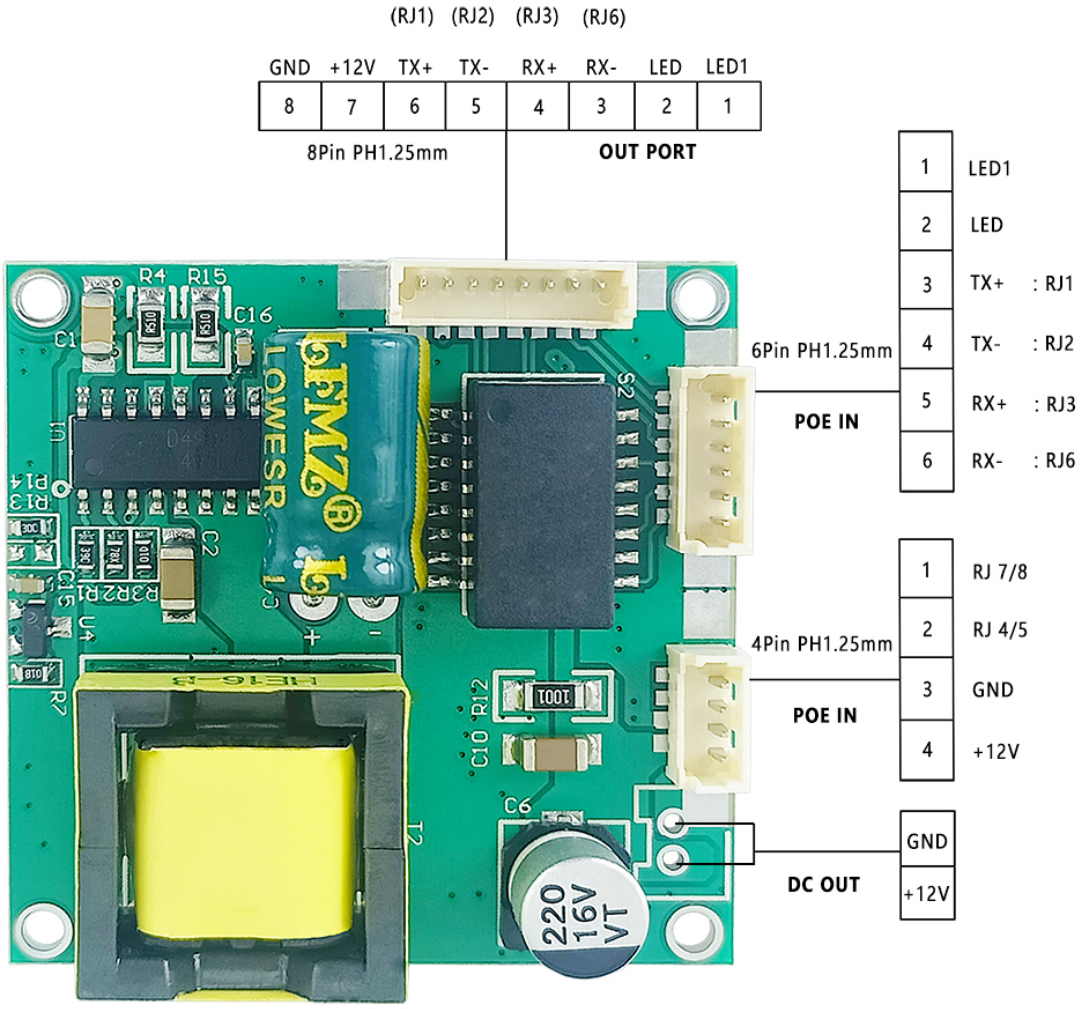
The maximum output power of TSD-PD3806 is 18W. It is an active PoE module designed for security monitoring, wireless coverage, network audio broadcasting and other IP equipment.

The integration of TSD-PD3806 module in security monitoring, audio broadcasting and other equipment can effectively improve the safety and management efficiency of equipment. Its stable work, excellent performance and flexible deployment have won the praise of equipment manufacturers and terminal users.

Dimensions


38.00013 (mm)
34 (mm)
38 (mm)
33.9 (mm)
m2
T2
C6
C10
R12
C4
C2
R3
R2
R1
R7
U4
S2
U1
C16
R15
R4
C1

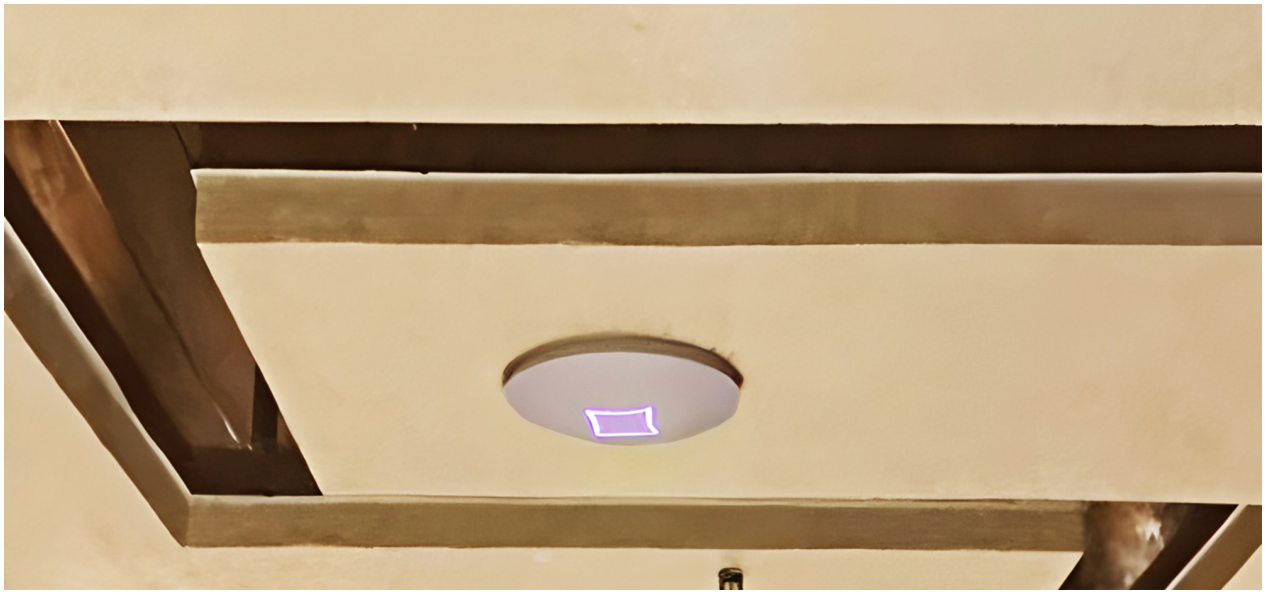
Interface Definition



Application Scenarios

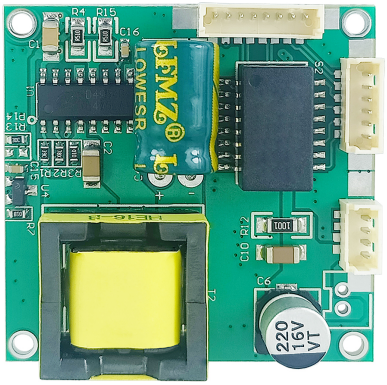
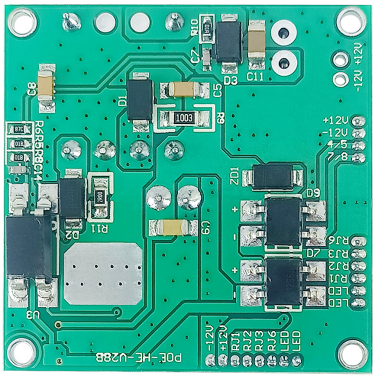
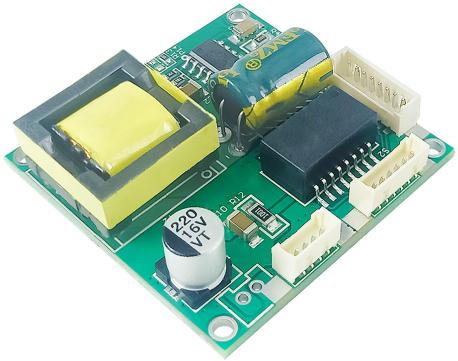
Intelligent Building Intercom System

security and protection monitoring



wireless coverage

Product Detail

Product Package

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

MPQ: 500 PCS

N.W: 7.5 kg

G.W: 8.7 kg