



SPECIFICATION FOR APPROVAL

CUSTOMER : _____

PRODUCT NAME : _____ 90W Super-power PoE Module _____

PRODUCT MODEL : _____ TSD-PD7073 _____

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

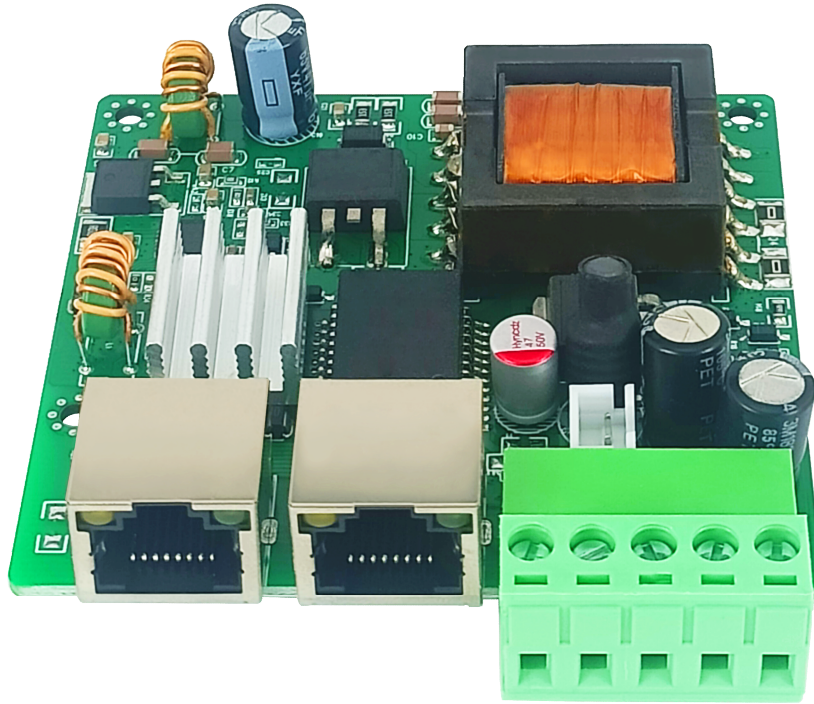
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PRODUCT: 90W Super-power PoE Module

MODEL: TSD-PD7073



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) 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-PD7073 is a super-power PoE module with a maximum output power of 90W. It can provide continuous and stable DC output of 12V/7.5A and 24V/3.5A modes for the device. TSD-PD7073 module conforms to the IEEE802.3af/at/bt PoE standard protocol.



TSD-PD7073 can be integrated into high-power terminal equipment such as large advertising screen, intelligent high-speed PTZ (Pan-Tilt-Zoom) dome and high-power audio systems, so that the equipment can support PoE power supply. The module provides data signal transmission for the equipment while ensuring its normal operation.

Product Description

TSD-PD7073 module has a PoE input port: RJ45 network port, support RJ45+, RJ78-PoE power supply. Three output outlets: 90 degree bent needle 5P PH5.08mm Phoenix terminal, output two sets of DC; 2P PH2.0mm socket: standby power outlet; RJ45 network port, data output outlet.

Size structure: 70*73*16.5mm, screw hole diameter: $\Phi=3.0\text{mm} \times 4$, hole center distance: 65mm (length), 44.5mm (width). Overall layout: square structure, maximum thickness: 16.5mm, PCB thickness: 1.6mm. Solder mask: bright green oil. Module design: four layer board single side design, components concentrated on one side, increase the circuit function integration, convenient installation.

TSD-PD7073 module supports wide voltage input DC 38-56V, default output voltage DC 12V, other voltage can be customized. The circuit has the functions of overheat protection, overvoltage protection, overcurrent protection, short circuit protection and so on. Transmission rate: 10/100M/1000M adaptive. The module adopts EFD19 skeleton isolation transformer, and the circuit has the function of isolation protection, which can ensure that users have multiple loads in common ground and normal operation.

TSD-PD7073 has obtained CE, FCC, RoHS and other certifications, the module adopts IEEE802.3af/at/bt PoE standard protocol, and EMC parameters meet the requirements of IEC 61000-4-2/3/4/5/6 standard. The product has a wide range of applications, super power to support the use of equipment in many fields.

Product Features

- IEEE802.3af/at/bt PoE international standard protocol with handshake recognition function
- Input: PoE wide voltage DC 38-56V
- Output: Voltage DC 12V MAX7.5A /24V MAX3.5A
- EMC complies with IEC 61000-4-2/3/4/5/6 standard requirements
- RJ12+ RJ36- / RJ45+ RJ78- Fully compatible



- 10M/100M/1000M adaptive transmission rate
- The conversion efficiency is more than 85%
- 4KV surge protection
- Gigabit high power network filter
- High frequency low resistance electrolytic capacitor, reduce circuit high frequency loss and heat
- Patch solid capacitor, long life to improve module power supply stability
- International famous original electronic components, high precision and high performance
- High power, high conduction and low impedance transistor, excellent reliability and temperature tolerance

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- Environmental protection high temperature resistant PCB material,
- Pure copper pin connector to ensure stable contact
- High temperature resistant flame retardant socket, reduce security risks
- EFD19 isolation transformer, improve circuit performance

Specifications

Product parameter table	
Product Name	90W super-power PoE Module
Product Model	TSD-PD7073
PoE Standard	IEEE802.3af/at/bt
Input Voltage	PoE: DC 38-56V
Output	voltage DC 12V MAX7.5A /24V MAX3.5A (Other Voltage can be customized)
Conversion Efficiency	$\geq 85\%$
PoE Pin	RJ12+ / RJ36- / RJ45+ / RJ78- Fully compatible
Conversion Mode	Isolated
Data Rate	10 /100 /1000M Adaptive Transmission
Transmission Distance	100 meters(Category 5e Cable (Cat5e))
Surge Protection	4KV
Circuit Protection	Short-circuit Protection Overcurrent Protection Overvoltage Protection Overheating Protection



LED Indicator	1 LED output power indicator 3 LED POE level indicators
Interface	PoE input port (RJ45 network port) : PoE (RJ45+ RJ78-) DC outlet (5Pin PH5.08mm Phoenix terminal) : DC 12V/24V OUT Outlet (2Pin PH2.0mm terminal block) : DC 12V/24V OUT Output port (RJ45 network port) : Data OUT
Function	/
Material	FR-4
Color	Bright green
Accessories	/
EMC	IEC 61000-4-2/3/4/5/6
Temperature	-20~60°C For Operating -30~80°C For Storage
Humidity	RH95% MAX (Non-condensation)
Weight	N.W: 75g
Dimension	70 *73 *16.5mm
Package	bubble wrap + paper box (100 *100 *30mm)

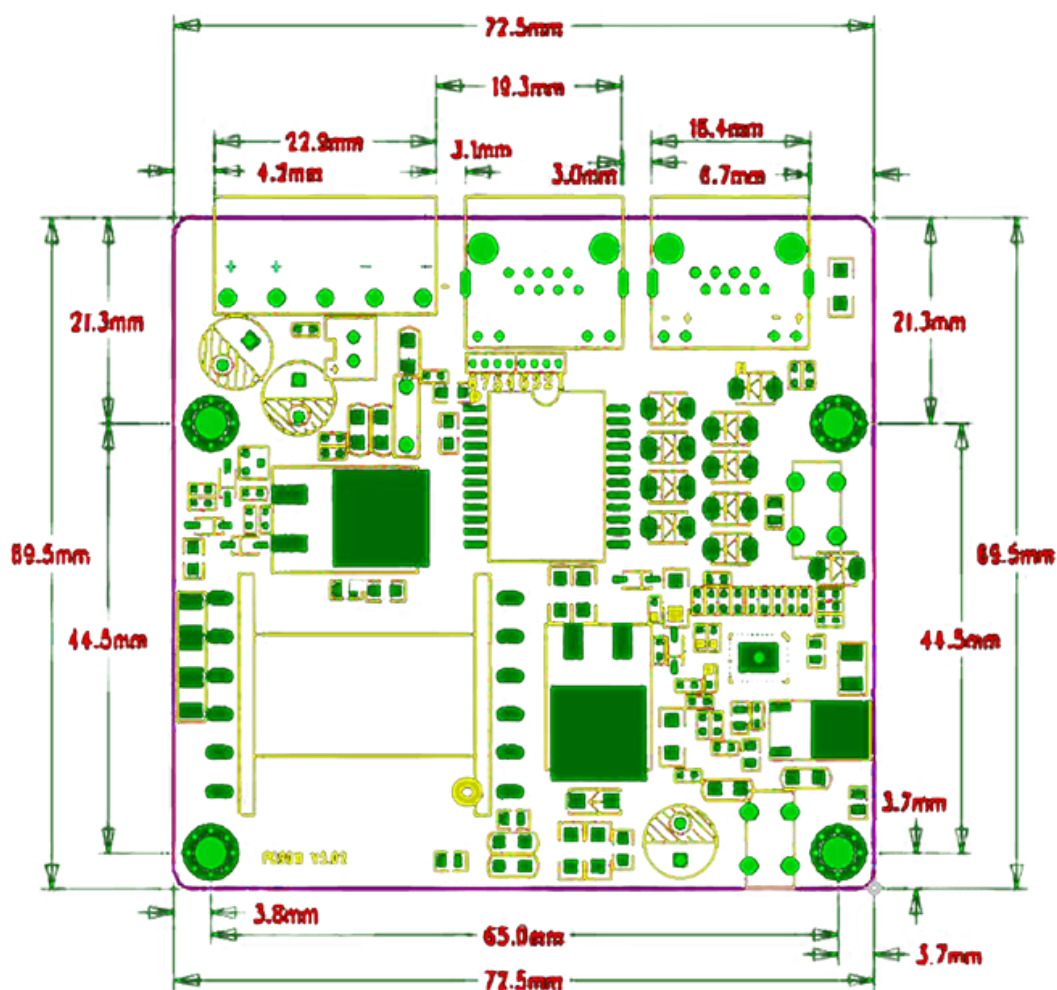
Product Applications

TSD-PD7073 is a super-power PoE module, the maximum output power is 90W, the module is mainly used in large advertising screen, intelligent high-speed PTZ (Pan-Tilt-Zoom) dome and high-power audio systems and other equipment.

The TSD-PD7073 module works stably and has excellent performance. The multi-mode voltage output is convenient for users. The super power of the module can support more high-power devices to use PoE power supply, providing users with more abundant power supply options.

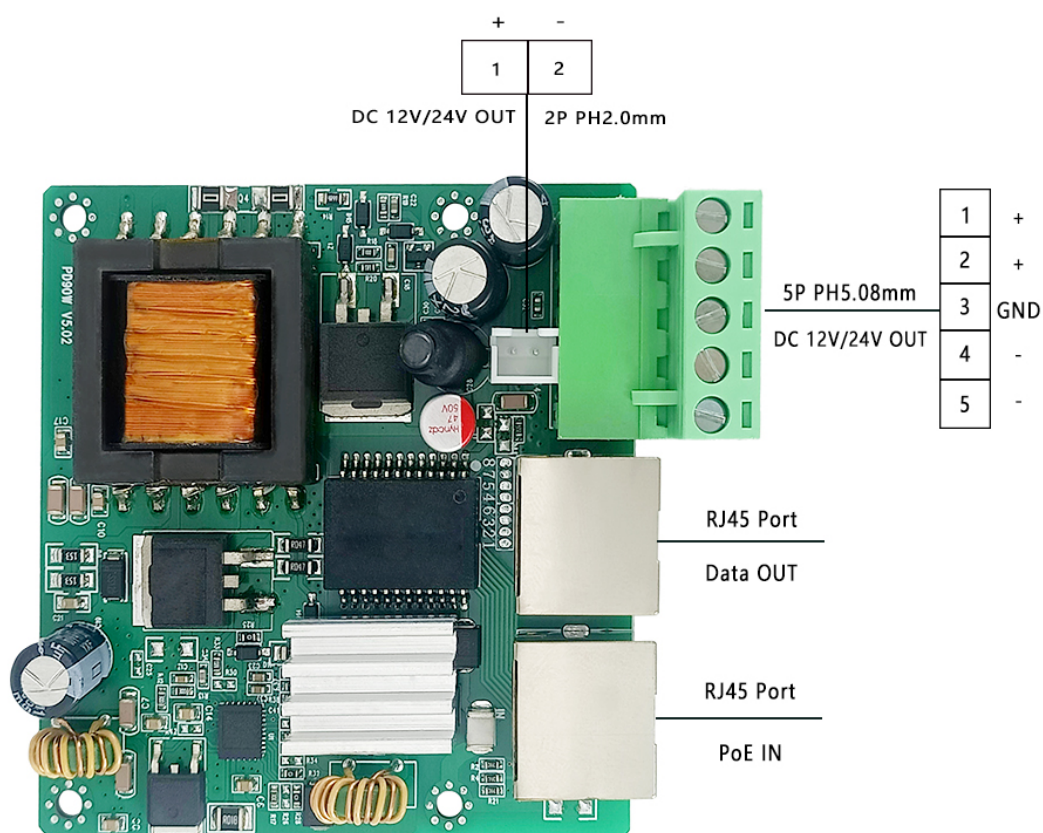


Dimensions





Interface Definition





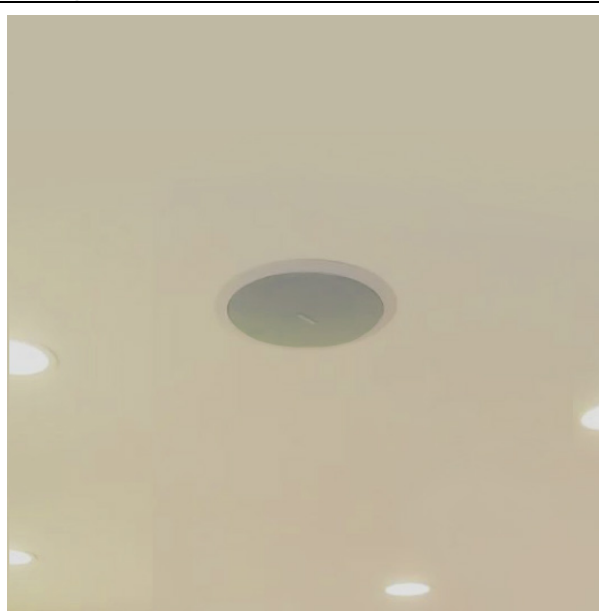
Application Scenarios



Large advertising screen



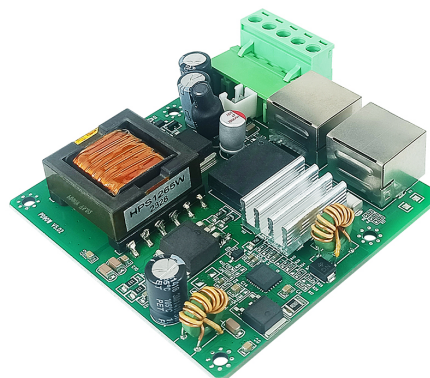
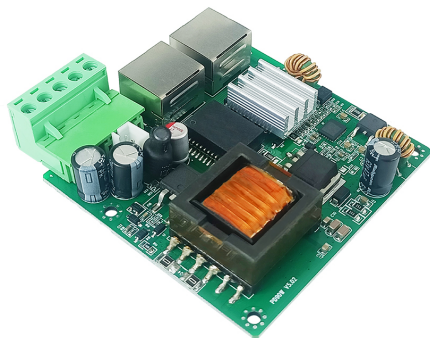
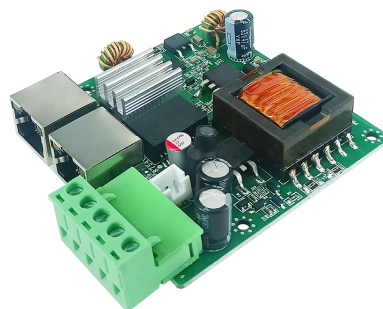
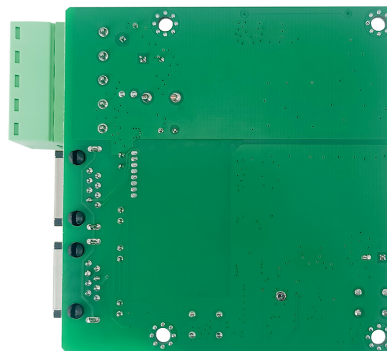
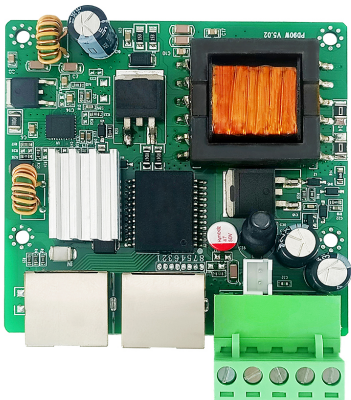
outdoor audio



Ceiling speaker



Product Detail





Product Package



Package Size:10*10*3 cm (L*W*H)

MPQ: 1 PCS

N.W: 0.075 Kg

G.W: 0.1 Kg