



SPECIFICATION FOR APPROVAL

CUSTOMER :

PRODUCT NAME: DC 48V 30W output Gigabit PoE Combiner

PRODUCT MODEL: TSD-C030G

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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MODEL: TSD-CO30G



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



The TSD-CO30G combiner supports the IEEE 802.3af/at PoE standard and offers a maximum output power of 30W. It integrates data and power signals and outputs a single PoE signal.

The TSD-CO30G is primarily used in remote outdoor environments, such as fish ponds, mines, and orchards. In these remote locations, where only solar power can provide a DC 12-24V power source, the combiner can provide simultaneous data and power transmission for devices.

Product Description

The TSD-CO30G combiner inputs network and electrical signals and outputs a PoE signal. The DC connector accepts 6-36V DC power and data signals. RJ45 port 1 accepts data signals. A PWR LED indicates the combiner's operating status. RJ45 port 2 outputs PoE signals. A PoE LED indicates the PoE port's output status.

Dimensions: 71*58*25mm (with mounting brackets). Mounting bracket dimensions: 54*10*1mm (L*W*H). DC connector dimensions: 5.5*2.1mm. Housing color: matte black. Housing material: hard metal housing. Overall structure: rectangular with mounting brackets on both sides.

The TSD-CO30G combiner accepts 6-36V DC power and data signals, outputs 48V 0.65A, and has a maximum output power of 30W. Transmission rates: 10/100/1000Mbps auto-sensing. Power connectors: RJ12+, RJ36-. The TSD-CO30G's EMC parameters comply with IEC 61000-4-2/3/4/5/6 standards and are CE, FCC, and RoHS certified. Internal circuitry includes overheating, overvoltage, overcurrent, and short-circuit protection.

The TSD-CO30G combiner simultaneously transmits data and power signals over the network cable, achieving "one-wire dual-use," effectively reducing deployment costs and simplifying device installation and management. It can be flexibly applied in a variety of scenarios, providing a PoE power supply solution for user devices.

Product Features

- Input: DC 6V~36V + Data
- Output: DC 48V 0.65A



- PoE Protocol: IEEE802.3af/at PoE International Standard
- IEC Specifications: IEC 61000-4-2/3/4/5/6
- Certifications: CE, FC, RoHS
- Maximum Output Power: 30W
- Power Connectors: RJ12+, RJ36-
- Transmission Rate: 10/100/1000Mbps Auto-sensing
- DC Receptacle Size: 5.5*2.1mm
- Color and Material: Matte black hard metal housing
- Protection Features: Overheat protection, short circuit protection, overvoltage protection, overload protection
- 4KV surge protection
- Internationally OEM electronic components, high precision and high performance
- High-power, high-conductance, low-impedance transistors, excellent reliability and temperature tolerance
- Eco-friendly, high-temperature-resistant PCB material, environmentally friendly lead-free process
- Pure copper pin connectors to ensure stable contact

Specifications

Product parameter table	
Product Name	DC 48V 30W output Gigabit PoE combiner
Product Model	TSD-CO30G
PoE Standard	IEEE802.3af/at
Input Voltage	DC 6V~36V
Output	DC 48V 0.65A 30W
Conversion Efficiency	≥ 85%
PoE Pin	PoE: RJ12+ RJ36- powered
Conversion Mode	/
Data Rate	10/100/1000Mbps adaptive transmission



Transmission Distance	100 meters(Category 5e Cable (Cat5e))
Surge Protection	4KV
Circuit Protection	Overheat protection, overvoltage protection Overcurrent protection, short circuit protection
LED Indicator	PWR LED, PoE LED
Interface	INPUT Port(DC female socket) : DC IN LAN Port (RJ45Jack) : Data IN PoE Port (RJ45 Jack) : PoE OUT
Function	/
Material	Hard metal shell
Color	Matte black
Accessories	/
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: 79g
Dimension	71*58*25 mm (L*W*H)
Package	EPE foam + Cartons (93*82*32mm(L*W*H))

Product Applications

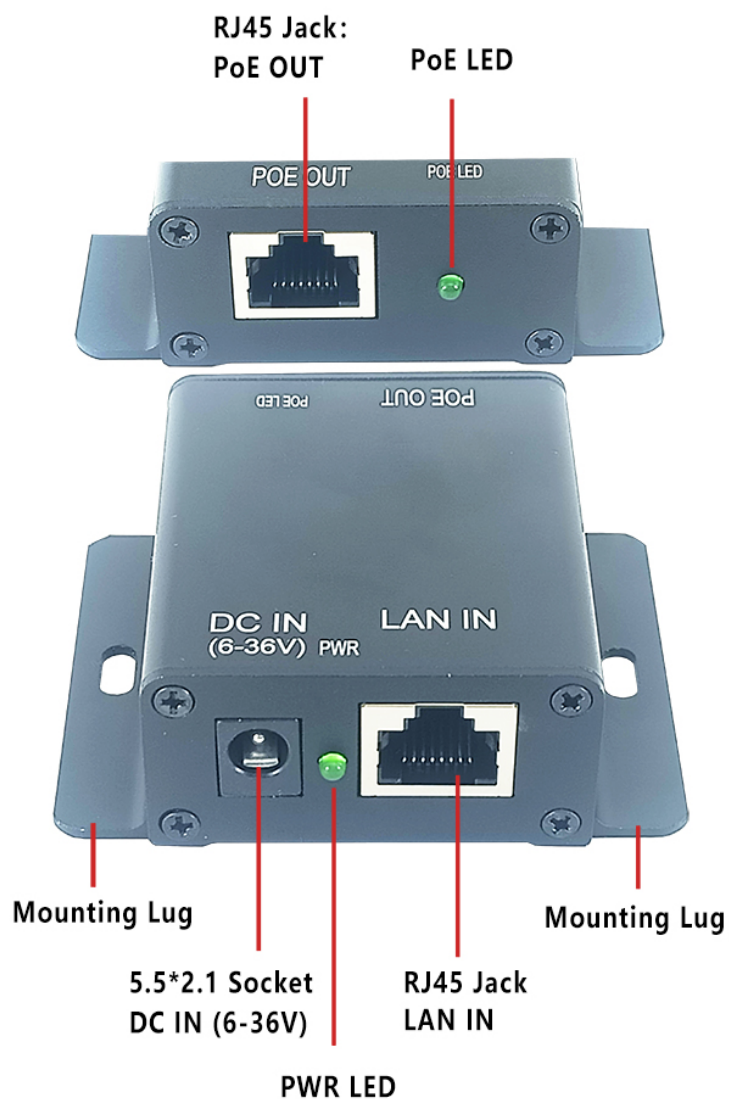
The TSD-CO30G combiner provides network transmission and power supply for remote PoE devices or those powered by solar power outdoors. It can be used in wireless access points, PoE cameras, outdoor bridges, and other outdoor weak current equipment. The flexible use of the TSD-CO30G can expand network coverage, reduce device wiring complexity, and effectively save users money.



Dimensions

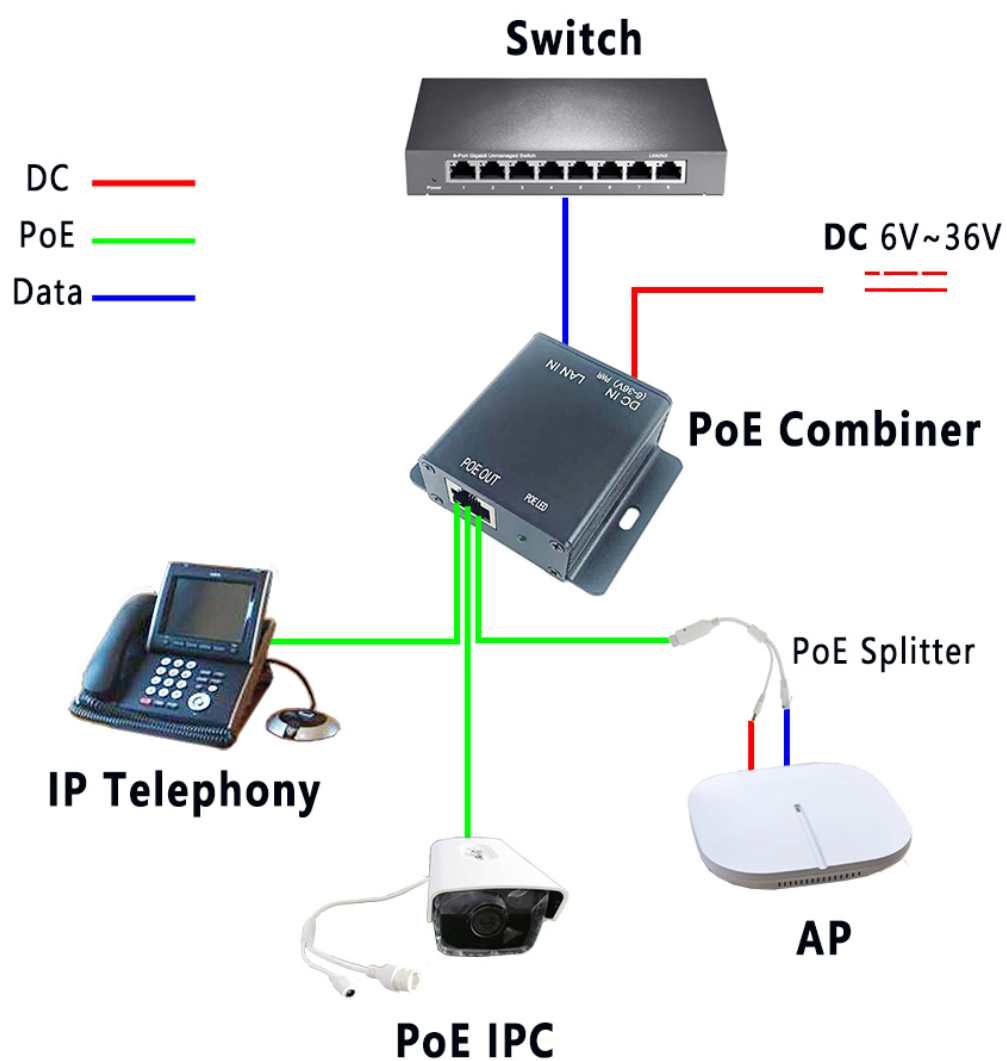


Interface Definition





Product installation application topology diagram

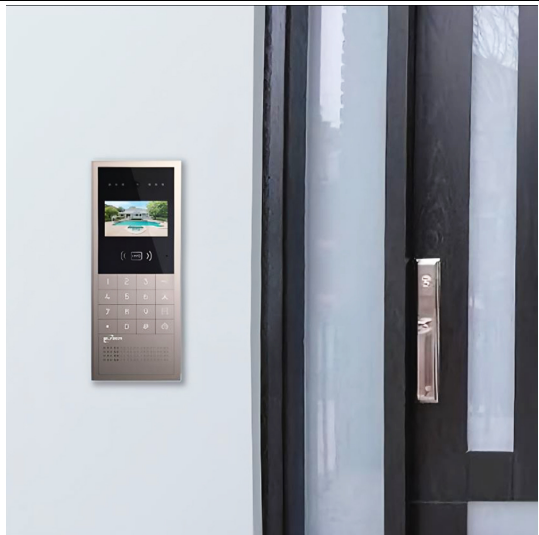




Application Scenarios



PoE infrared radiation device



PoE Smart Access Control System



PoE Solar Monitoring System



Product Detail





Product Package



Package Size : 93*72*32 mm (L*W*H)

MPQ : 1 PCS

N.W : 79 g

G.W : 98 g