3onedata
Make network communication more reliable

IPS3110 Series

Industrial PoE Switch

User manual

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【Summarize】

IPS3110 series are industrial grade, unmanaged Ethernet switches. The switches provide 8 Fast Ethernet ports and 2 ports combo Gigabit SFP slots or 10/100/1000Base-T(X) ports, which 4 ports Ethernet supports PoE function (IEEE 802.3af/at). The switches are classified as power source equipment (PSE), and when used in this way, the switches enable centralization of the power supply, providing up to 30 watts of power per port and reducing the effort needed for installing power. The switches can be used to power IEEE802.3af/at standard devices (PD), eliminating the need for additional wiring.

It support CE, FCC standard, adopt industry standard design, IP40 protection, rugged high-strength metal case, power supply input (48VDC). The -40～75℃ working temperature, can meet all kinds of Industrial environment requirement, providing reliable and economic solution for your industrial Ethernet network.

【Packing list】

The industrial PoE switch is shipped with the following items. If any of these items are missing or damaged, please contact your customer service representative for assistance.

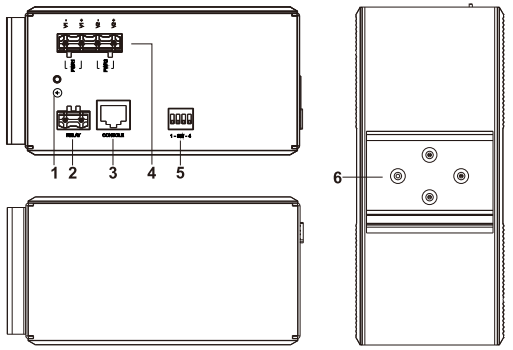
- Industrial PoE switch × 1
- User manual × 1
- DIN-Rail mounting kit × 1
- Warranty card × 1

【Feature】

- Support IEEE802.3, IEEE802.3u, IEEE 802.3x, IEEE802.3af/at, store and forward
- Supports 8 10/100Base-T(X) PoE ports
- Support IEEE802.3af standard, full-port(PoE) full 15.4W power supply
- Support IEEE802.3at standard, single-port maximum 30W power supply
- Ethernet port support 10/100M self-adaption
- DC48V power input, reverse connection protection
- Industrial grade design, -40-75℃ work temperature
- IP40 protection grade, DIN rail mounted

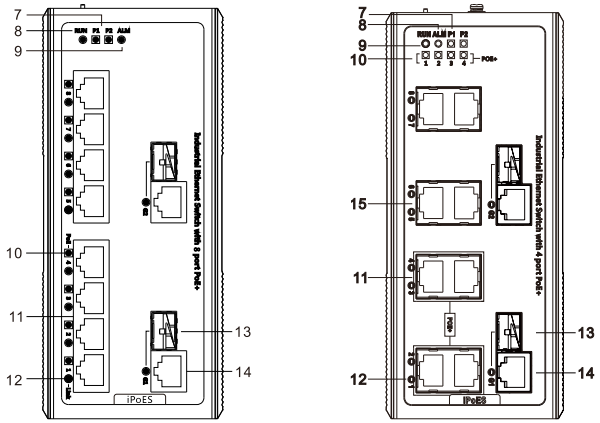
【Panel layout】

Vertical view and bottom view **Rear view**



Front view

IPS3110-2GC-8POE **IPS3110-2GC-4T-4POE**

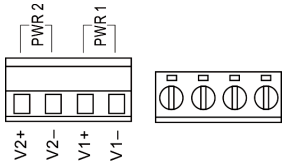


1. Ground screw
2. Terminal block for relay output
3. Console port
4. Terminal block for power input (PWR1, PWR2)
5. DIP switches
6. DIN-Rail mounting kit
7. Power input P1(P2) LED
8. Relay alarm indicator
9. System running indicator

10. PoE port Link/ACT indicator
11. 10/100M Base-T(x) PoE port
12. Ethernet port Link/ACT indicator
13. Gigabit SFP port of the combo port
14. Gigabit copper port of the combo port

10/100M Base-T(x) port

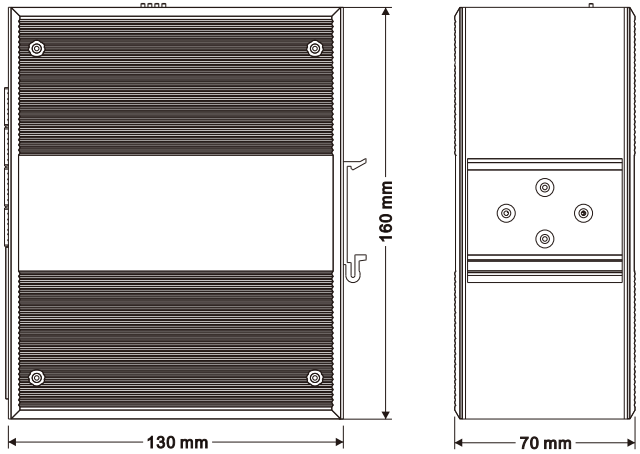
【Power supply input】



The product top panel provided 4 bit power supply input terminal block, support DC input. DC power supply input supported redundancy function, provided PWR1 and PWR2 power input, can use for single, and can connect 2 separately power supply system, use 1 pair terminal block connect the device at the same time. If one of the power systems broke, the device can work un-interruptible. Built-in overcorrect protection, Reverse connection protection. Voltage input range is 48VDC (terminal block defined as: V1-、V1+、V2-、V2+). The power supports reverse connection protection.

【Dimension】

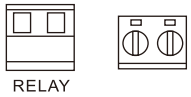
Unit (mm)



【DIP Switch】

Top panel provided 4 bits DIP switch to do function configure (ON to enable effective). 1 is flow control. 2 is force mode (RJ45 10M), but optic fiber port speed unchanged. 3 is alarm function for power and port status. 4 is reserved. Please power off and power on when you change the status of DIP switch.

【Relay connection】

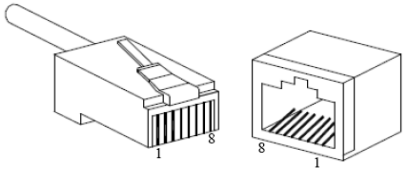


Relay access terminals in the top panel of the device. Between the two terminal relay, as a closed circuit state in normal non alarm state, when there is power alarm information to the open state. The two terminal block connector are used to detect power failure. The two wires attached to the Fault contacts form an open circuit when the device has lost power supply from one of the DC power inputs. The user can connect the relay to the lamp indicate or buzzer alarm to remind the relevant staff.

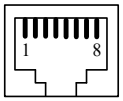
【Communication connector】

10/100BaseT(X) Ethernet port

The pinout of RJ45 port display as below, connect by UTP or STP. The connect distance is no more than 100m. 100Mbps is used 120Ω of UTP 5; 10Mbps is used 120Ω of UTP 3, 4, 5.



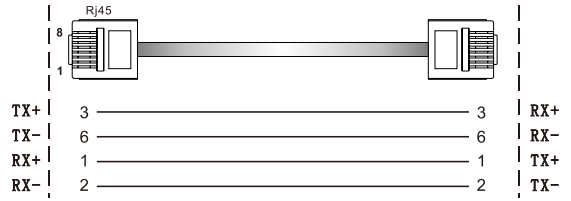
RJ 45 port support automatic MDI/MDI-X operation. That can connect the PC, Server, Converter and HUB. Pin 1, 2, 3, 4, 5, 6, 7, 8 Corresponding connections in MDI. 1→3, 2→6, 3→1, 4→7, 5→8, 6→2, 7→4, 8→5, are used as cross wiring in the MDI-X port of Converter and HUB. In MDI/MDI-X, 100/1000Base-TX PIN defines is as follows:



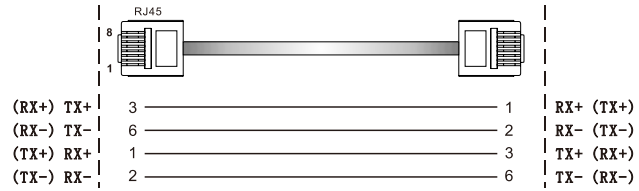
PIN	MDI	MDI-X
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4, 5, 7, 8	-	-

Note：10Base-T/100Base-TX, “TX±”transmit data±, “RX±”receive data±, “—”not use.

10/100Base-T(X) MDI (straight-through cable)



10/100Base-T(X) MDI-X (Cross over cable)



MDI/MDI-X auto connection makes switch easy to use for customers without considering the type of network cable.

【POE interface】

Power over Ethernet (PoE) means that power sourcing equipment (PSE) supplies power to powered devices (PD) such as IP telephone, wireless LAN access point, and web camera from Ethernet interfaces through twisted pair cables. These converters or switches are classified as power source equipment (PSE), and when used in this way provide up to 30 watts to IEEE802.3at compliant powered devices (PDs),

eliminating the need for additional wiring. In compliance with IEEE 802.3af/at, and a globally uniform power interface is adopted. It can be applied to IP telephones, wireless LAN access points, portable chargers, card readers, web cameras, and data collectors.

【LED Indicator】

LED indictor light on the front panel of product, the function of each LED is described in the table as below.

System indication LED		
LED	**State**	**Description**
P (1~2)	ON	Power is being supplied to power input PWR input
	OFF	Power is not being supplied to power input PWR input
ALM	ON	When the alarm is enabled, power or the port's link is inactive.
	OFF	Power and the port's link is active, the alarm is disabled.
RUN	ON/OFF	System is not running well
	Blinking	System is running well
Link/ACT (1~8)	ON	Port connection is active
	OFF	Port connection is not active
	Blinking	Data transmitted
POE (1~4/8)	ON	The PoE device is connected by IEEE802.3af/at standard
	OFF	No PoE power output or no PoE connected PoE devices

【Installation】

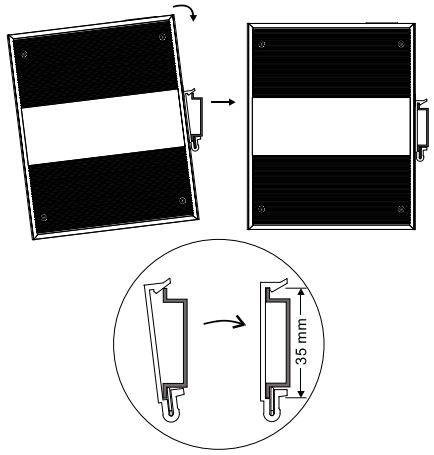
Before installation, confirm that the work environment meet the installation require, including the power needs and abundant space. Whether it is close to the connection equipment and other equipment are prepared or not.

1. Avoid in the sunshine, keep away from the heat fountainhead or the area where in intense EMI.
2. Examine the cables and plugs that installation requirements.
3. Examine whether the cables be seemly or not (less than 100m) according to reasonable scheme.
4. Power: 44~57VDC power input
5. Environment: Working temperature: -40～75℃
   Storage Temperature: -40～85℃
   Relative humidity: 5%～95%

DIN Rail Installation

In order to use in industrial environments expediently, the product adopt 35mm DIN-Rail installation, the installation steps as below:

1. Examine the DIN-Rail attachment
2. Examine DIN Rail whether be firm and the position is suitability or not.
3. Insert the top of the DIN-Rail into the slot just below the stiff metal spring.
4. The DIN-Rail attachment unit will snap into place as shown below.



Wiring Requirements

Cable laying need to meet the following requirements:

1. It is needed to check whether the type, quantity and specification of cable match the requirement before cable laying;
2. It is needed to check the cable is damaged or not, factory records and quality assurance booklet before cable laying;
3. The required cable specification, quantity, direction and laying position need to match construction requirements, and cable length depends on actual position;
4. All the cable cannot have break-down and terminal in the middle;
5. Cables should be straight in the hallways and turning;
6. Cable should be straight in the groove, and cannot beyond the groove in case of holding back the inlet and outlet holes. Cables should be banded and fixed when they are out of the groove;
7. User cable should be separated from the power lines. Cables, power lines and grounding lines cannot be overlapped and mixed when they are in the same groove road. When cable is too long, it cannot hold down other cable, but structure in the middle of alignment rack;
8. Pigtail cannot be tied and swerved as less as possible. Swerving radius cannot be too small (small swerving causes terrible loss of link). Its banding should be moderate, not too tight, and should be separated from other cables;
9. It should have corresponding simple signal at both sides of the cable for maintaining.

【Specification】

Technology

Standard: IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3z/ab

Flow control: IEEE802.3x flow control, back press flow control

POE Standard: IEEE802.3af/at

Exchange attribute

100M forward speed: 148810pps

Transmit mode: store and forward

MAC address table: 8K

Bandwidth: 7.6G

Memory: 1M

Interface

Fast Ethernet Port: 10Base-T/100Base-TX auto speed control, Half/full duplex and MDI/MDI-X auto detect

Alarm port: 2 bit 7.62mm terminal block

1 channel relay alarm output

Current load capacity 1A@24VDC

POE Pin-out: 1/2(+), 3/6(-)

Transfer distance

Twisted cable: 100M (standard CAT5/CAT5e cable)

LED indicator

Interface Link/Act indicator: Link (1~8)

Power supply indicator: P1, P2

Run indicator: RUN

Alarm indicator: ALM

PoE indicator: POE (1~4/8)

Power supply

Input Voltage: 48VDC

Type of input: 4 bits 7.62mm terminal block

Consumption

IPS3110-2GC-8POE

No-load consumption: 5.28W@48VDC

Full-load consumption: 114.3W@48VDC

IPS3110-2GC-4T-4POE

No-load consumption: 8.9W@48VDC

Full-load consumption: 114.4W@48VDC

Single PoE port maximum consumption: 30W@48VDC

Support DC dual power supply redundancy

Support DC input reverse connection protection

Working environment

Working temperature: -40～75℃

Storage temperature: -40～85℃

Relative Humidity: 5%~95% (no condensation)

Mechanical Structure

Shell: IP40 protect grade, metal shell

Installation: DIN-Rail mounting

Weight: 950g

Size (W×H×D): 70mm×160mm×130mm

Industry Standard

EMI: FCC Part 15, CISPR (EN55022) class A

EMS: EN61000-4-2 (ESD), Level 3

EN61000-4-4 (EFT), Level 3

EN61000-4-5 (Surge), Level 3

Shock: IEC 60068-2-27

Free fall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Certification

CE, FCC, RoHS, UL508 (Pending)

Warranty: 5 years