IES308 Series

Industrial Ethernet Switch

User manual

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【Summarize】

IES308 series is an industrial grade, unmanaged Ethernet switch. The IES308-P (12/48VDC) industrial Ethernet switches consists of 8 Ethernet ports. The IES308-1F-P (12/48VDC) consists of 7 Ethernet ports and 1 Fiber ports. The IES308-2F-P (12/48VDC) consists of 6 Ethernet ports and 2 Fiber ports that provide an economical solution for your industrial Ethernet connection. Its dustproof fully sealed structure(protective case of IP30 level), over-current, over-voltage and EMC protected redundant double power input as well as built-in intelligent alarm design can help system main tenancy personnel monitor the network operation, which can work reliably in harsh and dangerous environment.

【Packing list】

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

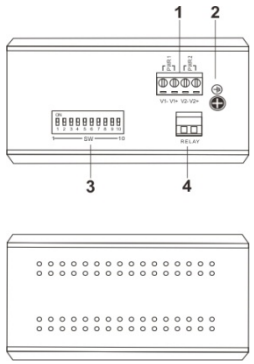
- Industrial Ethernet switch x 1
- User manual x 1
- DIN-Rail mounting kit x 1
- Warranty card x 1

【Feature】

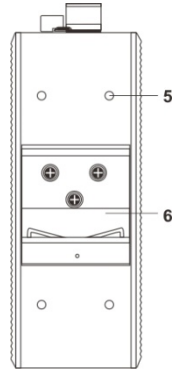
- Support IEEE802.3, IEEE802.3u, IEEE 802.3x
- Ethernet port support Plug-and-play, 10/100M, F/H duplex, MDI/MDI-X auto negotiation
- Broadcast storm protection
- Support 2K MAC address
- Support 1.6Gbps backboard bandwidth
- Support DC power redundancy 12~48VDC power input
- Support 1 channel relay alarm output
- Industrial grade 4 design, -40-75℃work temperature
- No fan deign
- IP30 protection grade
- DIN rail mount

【Panel layout】

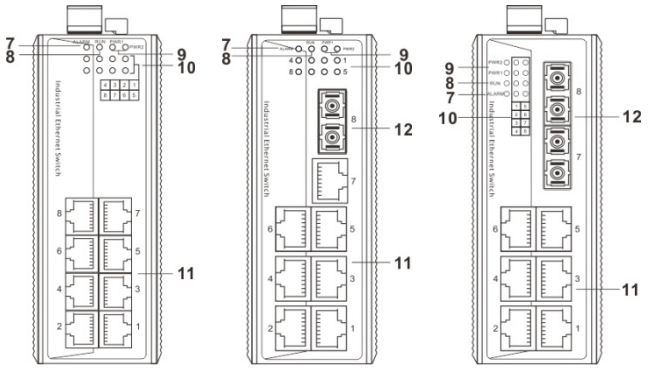
Vertical view and bottom view



Rear view



Front panel view

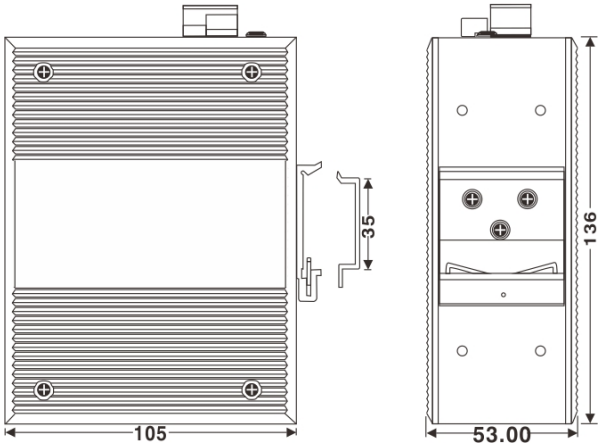


IES308 IES308-1F IES308-2F

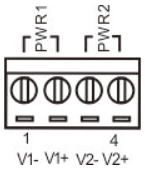
1. Power input terminal block
2. Ground screw
3. DIP switches for Ports and Power alarm
4. 2-pin terminal block for relay output
5. Screw holes for Wall Mounting Kit
6. DIN-Rail mounting kit
7. Relay alarm LED
8. System running LED
9. Power indicator (PWR1, PWE2)
10. Link/ACT LEDs
11. 10Base-T /100Base-TX Ethernet port
12. 100Base-FX fiber port

【Dimension】

The series of products are the same size, and the number of the Ethernet interface is different. Unit (mm)



【Power supply input】



The switch have redundant power input, provides one terminal block (4 bits) for PWR1 and PWR2 input. The redundant power can be used single and used two self-governed power to supply to the system, PWR1 and PWR2 input at the same time, when neither of these two power fails, the other power acts as a backup, and automatically supplies power needs, ensure running Ethernet reassuring. Voltage input range is 12～48VDC (terminal block defined as: V1-、V1+、V2-、V2+).

【DIP Switch】

Provide 10 bits switch for function setting. 1～8 alarm enable switch setting, ON show enable. 9 show PWR2 alarm setting, 10 show PWR 1 alarm setting, ON show alarm state.

【Relay connection】

The relay consists of the two middle contacts of the terminal block on the switch's top panel. The two terminal block connector are used to detect both power faults and port faults. The two wires attached to the Fault contacts form an open circuit when:

(1) The switch have lost power from one of the DC power inputs.

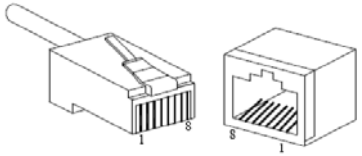
(2) One of the ports for which the corresponding Port alarm DIP Switch is set to ON is not properly connected.

If neither of these two conditions occurs, the alarm circuit will be closed.

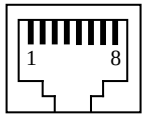
【Communication connector】

10/100BaseT(X) Ethernet port

The pinout define 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.



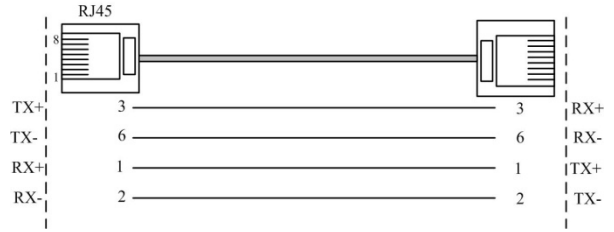
RJ 45 port support automatic MDI/MDI-X operation. can connect the PC, Server, Converter and HUB .Pin 1,2,3,6 Corresponding connection in MDI. 1→3, 2→6, 3→1, 6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table as below.



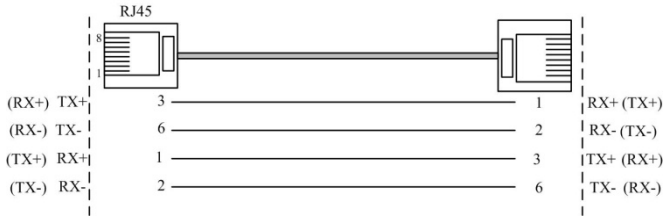
NO.	MDI signal	MDI-X signal
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4, 5, 7, 8	—	—

Note: "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)



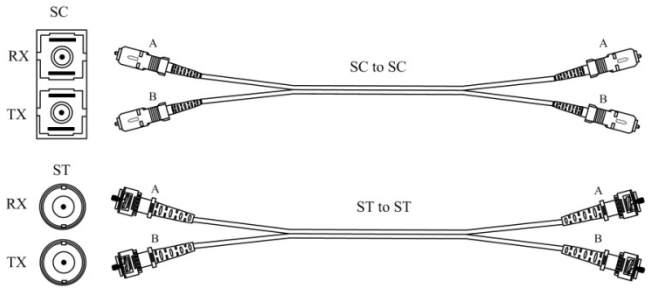
MDI/MDI-X auto connection makes switch easy to use for customers without considering the type of network cable.

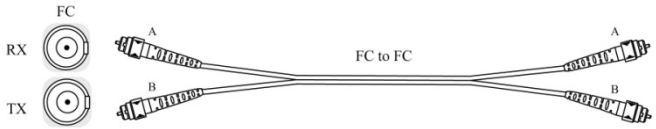
100Base-FX Fiber port

100Base-FX full-duplex SM or MM port, SC/ST/FC type .The fiber port must be used in pair, TX (transmit) port connect remote switch's RX(receive) port; RX(receive) port connect remote switch's TX(transmit) port.

The optical fiber connection supports the line to instruct enhance the reliability of network effectively.

Suppose: If you make your own cable, we suggest labeling the two sides of the same line with the same letter (A-to-A and B-to-B, shown as below, or A1-to-A2 and B1-to-B2).





【LED Indicator】

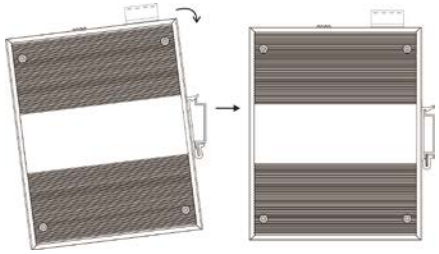
LED indictor light on the front panel of product, the function of each LED is described in the table as below.

System indication LED		
LED	**State**	**Description**
PWR1	ON	Power is being supplied to power input PWR1
	OFF	Power is **not** being supplied to power input PWR1
PWR2	ON	Power is being supplied to power input PWR2
	OFF	Power is **not** being supplied to power input PWR2
Alarm	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
	Blinking	Data transmitted
	OFF	Port connection is not active

【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 equipments 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: Redundant, dual 12-48VDC 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: Support IEEE802.3, IEEE802.3u, IEEE802.3x

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

Exchange attribute

100M forward speed: 148810pps

100M maximum filter speed: 148810pps

Transmit mode: store and forward

System exchange bandwidth: 1.6G

MAC address table: 2K

Memory: 1M

Interface

Electric port: 10Base-T/100Base-TX auto speed control, Half/full duplex and MDI/MDI-X auto detect

100M optic fiber port: 100Base-FX, SC/ST/FC connector, support single mode （20/40/60/80Km optional）, multi mode (2Km), wavelength: 1310nm, 1550nm

Alarm port: 2 bit terminal block, 1 channel relay alarm output

Transfer distance:

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

Multi-mode: 1310nm, 2Km

Single-mode: 1310nm, 20/40/60Km

1550nm, 80/100/120Km

LED indicator:

Run indicator: Run

Interface indicator: Link (1~8)

Power supply indicator: P1, P2

Alarm indicator: Alarm

Power supply

Input voltage: 12~48VDC

Type of input: 4 bit terminal block

Support DC dual power supply redundancy

Support overload Current Protection

Consumption

➢IES308-P (12~48VDC):

Unload consumption: 1.5W@12VDC

Full load consumption: 2.2W@12VDC

➢IES308-1F-P (12~48VDC):

Unload consumption: 1.7W@12VDC

Full load consumption: 3.1W@12VDC

➢IES308-2F-P (12~48VDC):

Unload consumption: 3.6W@12VDC

Full load consumption: 4.3W@12VDC

Working environment:

Working temperature: -40～75℃

Storage temperature:-40～85℃

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

Mechanical Structure:

Shell: IP30 protect grade, metal shell

Installation: DIN-Rail

Size (W×H×D): 53mm×136mm×105mm

Weight: 900g

Industry Standard:

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

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

EN61000-4-3 (RS), Level 3

EN61000-4-4 (EFT), Level 4

EN61000-4-5 (Surge), Level 4

EN61000-4-6 (CS), Level 3

EN61000-4-8, Level 5

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