

IES206G-2GS

Industrial Ethernet switch

User manual

【Summarize】

IES206G-2GS-P (12/48VDC) is a kind of industrial, unmanaged, gigabit Ethernet switch. It supports 4 port 10Base-T/100Base-TX /1000 Base-TX Ethernet port and 2 port 1000Base-X SFP fiber port, no fan, low consumption design, working function more steadily. It accorded with FCC, CE standard, industrial design requirement, it can work steadily in -40 °C ~75 °C working temperature, it can provide reliable and quickly solution for your Ethernet device.

【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 × 1
- User manual × 1
- DIN-Rail mounting kit × 1
- Warranty card × 1

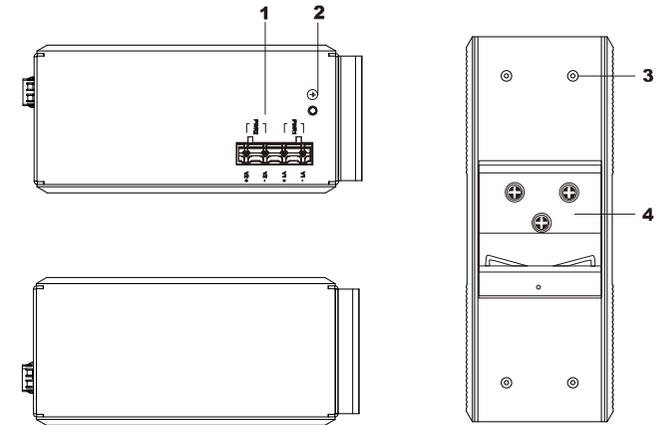
【Features】

- Support IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3z, IEEE802.3ab store and forward
- Support 4 port 10Base-T/100Base-TX/1000Base-TX and 2 port 1000Base-X SFP Gigabit port
- Ethernet port support full/half duplex mode, MDI/MDI-X
- Support 12~48VDC power input, power supply support non-polarity
- Working temperature:-40 °C~75 °C
- No fan, low consumption, Industrial design standard
- IP40 protect grade, high strength iron shell, DIN-rail mounting

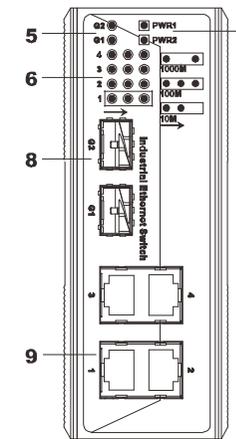
【Panel layout】

Vertical view and bottom view

Rear view

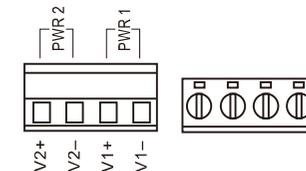


Front panel view



1. Power input terminal block
2. Ground screw
3. Screw holes for Wall Mounting Kit
4. DIN-Rail mounting kit
5. SFP port G1 and G2 connection indicator
6. Ethernet port connection indicator and rate state display
7. Power indicator
8. 1000Base-FX SFP port
9. 10Base-T/100Base-TX/1000Base-TX (RJ45) ports

【Power supply input】

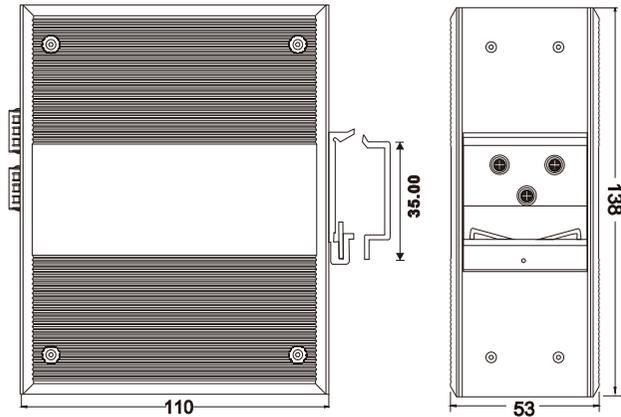


The switch support redundant DC power input, which provides two terminal blocks for PWR1 and PWR2 input. Voltage input

range is 12 ~ 48VDC. The redundant power can be used independently. PWR1 and PWR2 can supply power at the same time, once either of these two powers fails, another power can acts as backup automatically to ensure reliability of the network. It also supports reverse polarity connection.

【Dimension】

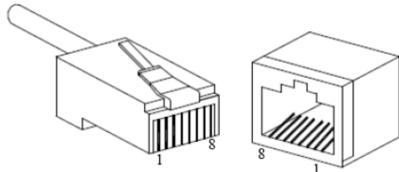
Unit (mm)



【Communication connector】

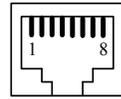
10/100BaseT(X) Ethernet port

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. 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

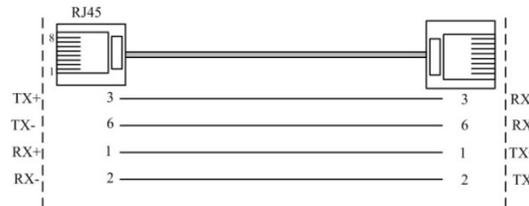
PIN defines is as follows:



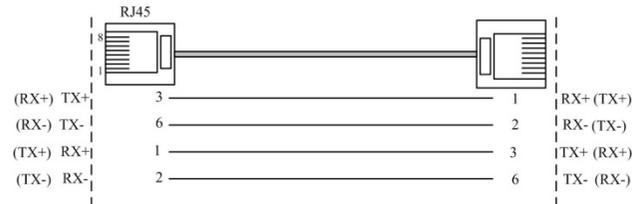
PIN	MDI	MDI-X
1	BI_DA+/TX+	BI_DB+/RX+
2	BI_DA-/TX-	BI_DB-/RX-
3	BI_DB+/RX+	BI_DA+/TX+
4	BI_DC+/-	BI_DD+/-
5	BI_DC-/-	BI_DD-/-
6	BI_DB-/RX-	BI_DA-/TX-
7	BI_DD+/-	BI_DC+/-
8	BI_DD-/-	BI_DC-/-

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

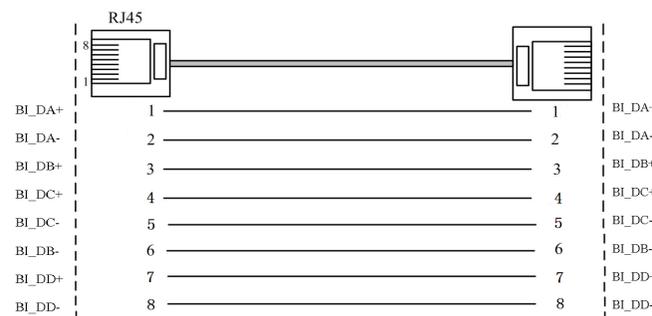
10/100Base-T(X) MDI (straight-through cable)



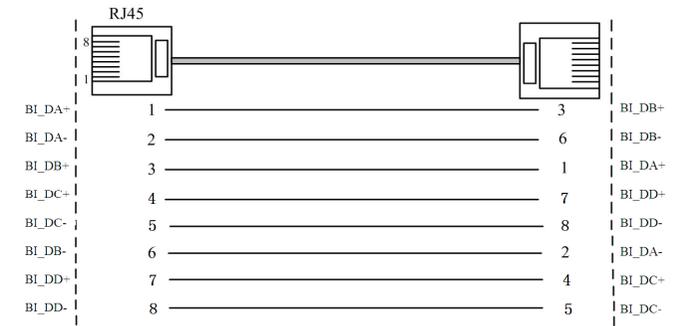
10/100Base-T(X) MDI-X (Cross over cable)



Gigabit MDI (straight-through cable)



Gigabit MDI-X (Cross over cable)

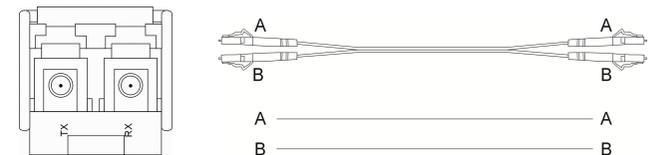


MDI/MDI-X auto connection makes switch easy to use for customers without considering the type of network cable.

1000Base SFP fiber port(mini-GBIC)

1000Base-FX SFP fiber port adopts gigabit mini-GBIC transmission, can choice different SFP module according to different transfer distance. Fiber interface must use for pair, TX port is transmit side, must connect to RX (receive side). The fiber interface support loss line indicator.

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 indicator 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 1 is working normally.
	OFF	PWR1 is not connected or does not run normally.

PWR2	ON	Power 2 is working normally.
	OFF	PWR2 is not connected or run normally.
G1~G2	ON	SFP slot Port connection is active
	Blinking	Data transmitted
	OFF	SFP slot Port connection is not active
Link1~4	ON	Network connection of the Electronic port is valid
	Blinking	Data is being transmitted
	OFF	Network connection of the Electronic port is invalid
	● ○ ●	1000M speed
	● ● ●	100M speed
	● ● ○	10M speed (●: ON, ○: OFF)

【Installation】

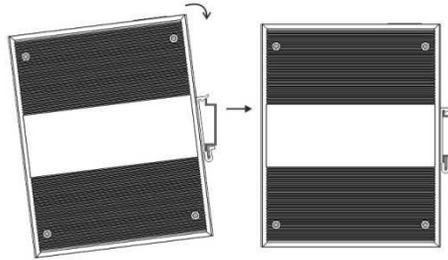
Before installation, confirm that the work environment meet the installation require, including the power needs and abundant space. Whether it is close to the connection equipment and other equipments are prepared or not.

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: 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, IEEE802.3ab, IEEE802.3z

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

Exchange attribute

100M forward speed: 148810pps

1000M forward speed: 1488100pps

Transmit mode: store and forward

System exchange bandwidth: 12Gbps

MAC address table: 1K

Memory: 1Mbit

Interface

Gigabit Ethernet port: 10Base-T/100Base-TX/1000Base-TX auto speed control, Half/full duplex and MDI/MDI-X auto detect

Gigabit SFP port: 1000Base-X, SFP slot

Transfer distance

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

Multi-mode: 1310nm, 2Km

Single-mode: 1310nm, 20/40Km

1550nm, 60/80/100/120Km

LED indicator

Ethernet port indicator: 1, 2, 3, 4

Gigabit SFP port indicator: G1, G2

Ethernet port speed indicator: 10M, 100M, and 1000M

Power supply indicator: PWR1/PWR2

Power supply

Input Voltage: 24VDC (12~48VDC)

Type of input: 4 bits 7.62mm terminal block

Support non-polarity

Support overload current protect

Consumption

No-load power consumption: 1.45W@24VDC

Full-load power consumption: 4.35W@24VDC

Working environment

Working temperature: -40~75°C

Storage temperature: -40~85°C

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

Mechanical Structure

Shell: IP40 protect grade, metal shell

Installation: DIN-Rail

Weight: 0.71kg

Size (W×H×D): 53mm×138mm×110mm

Industry Standard

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

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

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