3onedata®

IES206-2GS

Industrial Ethernet switch

User manual

3onedata

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【Summarize】

IES206-2GS is a type of plug-and-play industrial unmanaged redundant Ethernet switch, which supports 4 10/100M ports, and 2 gigabit Ethernet ports (SFP slots). No fan, low consumption and industrial grade design. More steadily work capability. To satisfy applications in different industrial environments, IES206-2GS can also provide wide temperature type in accommodation with limit temperature (-40 ~ 75℃) and we have got CE, FCC approvals.

【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
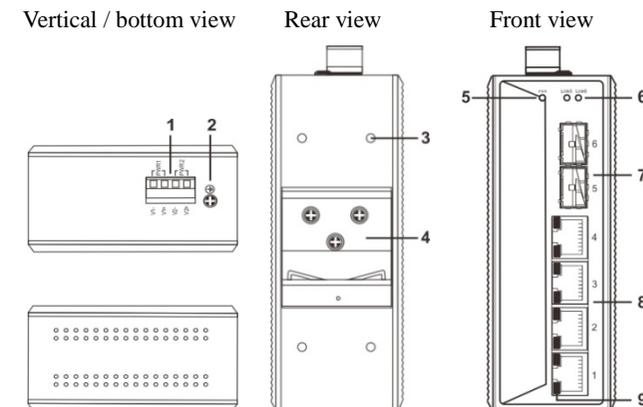- DIN-Rail mounting kit ⅹ 1
- Warranty card ⅹ 1

【Feature】

- Support 4 10/100M ports, and 2 gigabit Ethernet ports (SFP slots)
- Support IEEE802.3/802.3u /802.3x
- Support 10/100M, half/full duplex, MDI/MDI-X
- Support broadcast storm shield
- DC12～48V Power input
- Support industrial grade 4 level
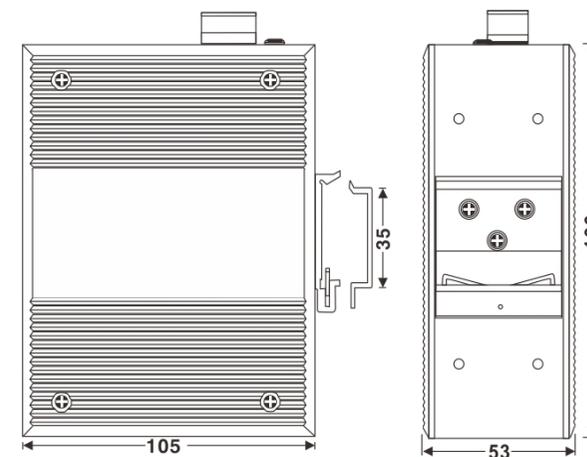- IP40 protection, metal shell, DIN Rail

【Panel layout】

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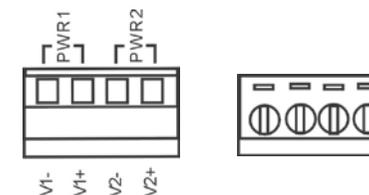9. RJ45 port connection indicator and rate state display

Vertical / bottom view   Rear view   Front view

【Dimension】

Unit (mm)

【Power supply input】

- 1 -

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.

【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.
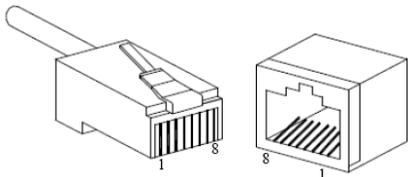

RJ 45 port support automatic MDI/MDI-X operation. Can connect the PC, Server, Converter and HUB .Pin 1,2,3,6 Corresponding connections in MDI. 1→3, 2→6, 3→1, 6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table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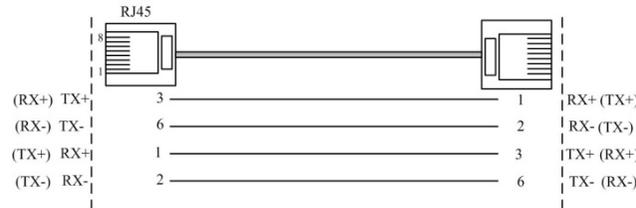

NO.	MDI signal	MDI-X signal
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4, 5, 7, 8	—	—

Note：, "TX±"transmit data±, "RX±"receive data±, "—"not use.

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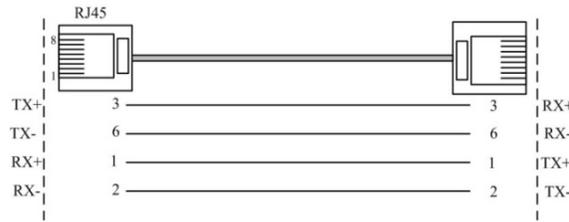

10/100Base-T(X) MDI-X (Cross over cable)

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

1000Base SFP fiber port(mini-GBIC)

1000Base 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).
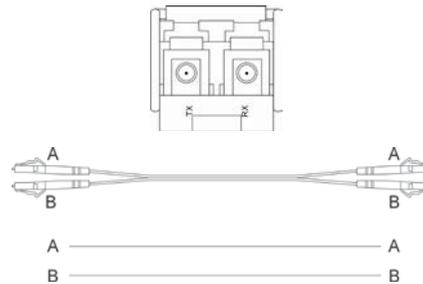
【LED Indicator】

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

LED system statue		
LED	Statue	Description
PWR	ON	PWR connect and running normal
	OFF	Power supply have no connection or unwonted
Link/ACT	ON	Port made effective connection
	Blinking	Port is in active statue
	OFF	Port did not make effective connection
RJ45 port with two LED lights		
10/100M (Green)	ON	100M mode（100Base-TX）
	OFF	10M mode（10Base-TX）
Link/ACT (Green)	ON	The port has been the establishment of an effective network connection
	Blinking	The port is in a running state of network
	OFF	The port is not the establishment of an effective network connection

【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.
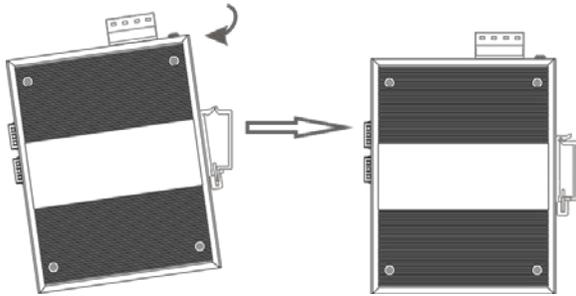
Wiring Requirements

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, IEEE 802.3x, IEEE802.3z

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

Exchange attribute

Transmit mode: store and forward

System exchange bandwidth: 7.6G

MAC address table: 8K

Memory: 1M

Interface

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

1000M fiber port: 1000Base-X SFP slot（LC interface）

Transfer distance

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

Multi-mode: 1310nm, 2Km

Single-mode: 1310nm, 20/40Km

　　　　　1550nm, 60/80/100/120Km

Power supply

Input voltage: 12～48VDC

Type of input: 4 bit 7.62mm pitch terminal block

Unload consumption: 5.9W@24VDC

Full load consumption: 7.3W@24VDC

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: 900g

Size（W×H×D）: 136mm×105mm×53mm

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