ES208G

Industrial Ethernet Switch

User Manual

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【Introduction】

ES208G is a kind of gigabit unmanaged Industrial Ethernet switch, it support 8 port 10/100/1000M RJ45 port, DC power supply (12-48V). It adopted no fan, low power consumption design, IP40, corrugate high strength iron shell, the performance is more steadily. ES208G accorded with CE, FCC standard and Industrial 4 grades, DIN rail installation and wide operating temperature (-25~70℃), it can satisfied some kinds of industrial environment, it can provide reliable and quickly solution for your Ethernet device.

【Packing list】

The unmanaged 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.

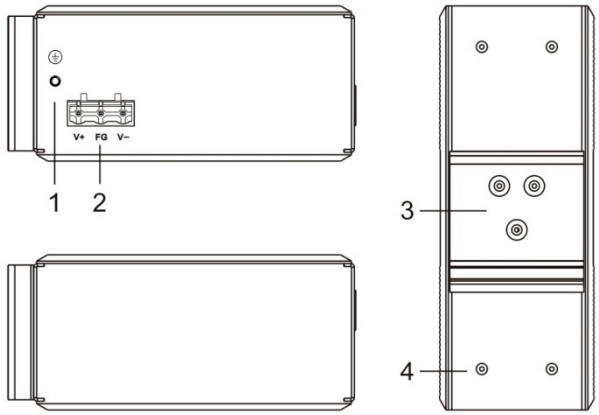
- Industrial Ethernet Switch x 1
- User manual x 1
- DIN-Rail mounting kit x 1
- Warranty card x 1

【Feature】

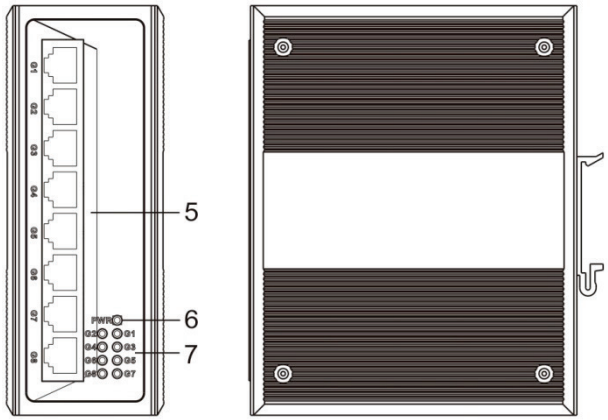
- Support 8 ports 10Base-T/100Base-TX/1000 Base-TX
- Support 10/100/1000M self-adaption
- Support IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab
- Support Store and forward
- Support broadcast storm relieving
- 12～48VDC power input, power supply support non-polarity.
- -25～70℃ working temperature
- IP40 protect grade, high strength iron shell
- DIN Rail installation

【Panel layout】

Vertical view and bottom view **Front view**



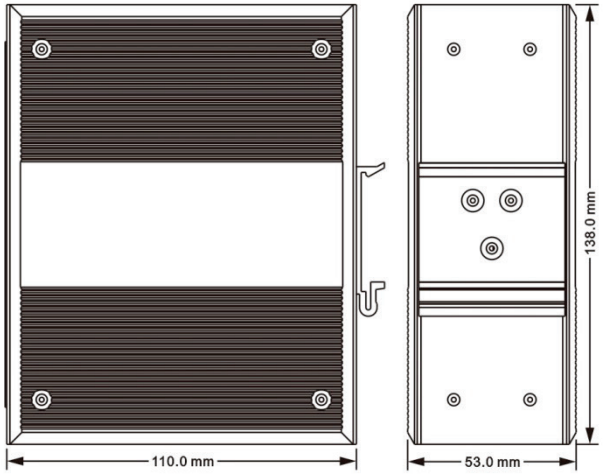
Rear view and Side view



1. Ground screw
2. Power input terminal block (3 bits)
3. Screw holes for Wall Mounting Kit
4. DIN-Rail mounting kit
5. 10/100/1000Base-T(X) port
6. PWR indicator
7. Gigabit Ethernet port indicator

【Dimension】

Unit (mm)



【Power supply input】

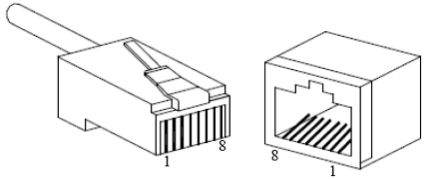


The switch provided 3 bit power supply input terminal block, support DC input. Voltage input range is 12～48VDC (terminal block defined as: V-, FG, V+). It can also work if connection opposite.

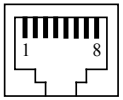
【Communication connector】

10/100/1000BaseT(X) Ethernet port

The pinout of RJ45 port display as below, connect by UTP or STP. The connect distance is no more than 100m. 1000Mbps is used 120Ω of UTP 5e; 100Mbps is used 120Ω of UTP 5; 10Mbps is used 120Ω of UTP 3, 4, 5.



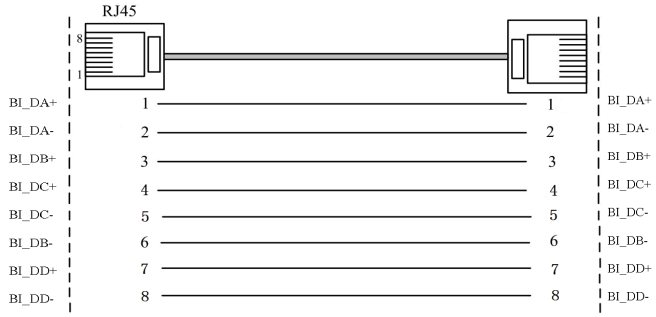
RJ 45 port support automatic MDI/MDI-X operation. That can connect the PC, Server, Converter and HUB. Pin 1, 2, 3, 4, 5, 6, 7, 8 Corresponding connections in MDI. 1→3, 2→6, 3→1, 4→7, 5→8, 6→2, 7→4, 8→5, are used as cross wiring in the MDI-X port of Converter and HUB. In MDI/MDI-X, 100/1000Base-TX PIN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



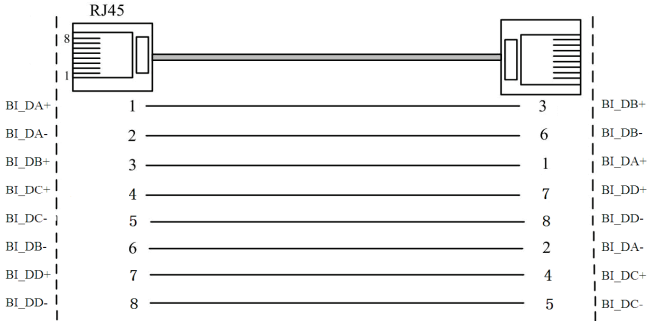
PIN	MDI	MDI-X
1	BI_DA+/TX+	BI_DB+/RX+
2	BI_DA-/TX-	BI_DB-/RX-
3	BI_DB+/RX+	BI_DA+/TX+
4	BI_DC+/—	BI_DD+/—
5	BI_DC-/—	BI_DD-/—
6	BI_DB-/RX-	BI_DA-/TX-
7	BI_DD+/—	BI_DC+/—
8	BI_DD-/—	BI_DC-/—

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

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.

【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
PWR	ON	Power is being supplied to power input PWR input
	OFF	Power is **not** being supplied to power input PWR input
LINK/ACT (G1~G8)	ON	Port connection regular.
	Blinking	Port connection active
	OFF	Port had no 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: -25～70℃
   Storage Temperature: -40～85℃
   Relative humidity 5%～95%

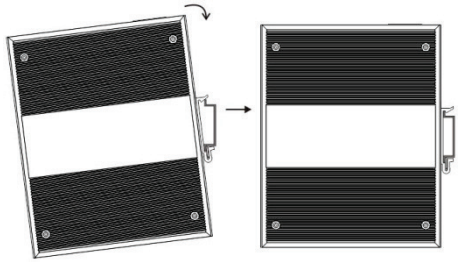
DIN Rail Installation

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, IEEE802.3ab

Flow control: IEEE802.3x, back pressure control

Exchange attribute

100M forward speed: 148810pps

1000M forward speed: 1488100pps

Transmit mode: store and forward

System exchange bandwidth: 16Gbps

MAC address table: 8K

Memory: 1Mbit

Interface

Gigabit Ethernet port: 10Base-T/100Base-TX/1000 Base-TX auto speed control

Transfer distance

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

LED indicator

Interface indicator: Link/ACT (G1~G8)

Power supply indicator: PWR

Power supply

Input Voltage: 24VDC (12~48VDC)

Type of input: 3 bits 7.62mm terminal block

Support non-polarity

Overload current protect: 4.0A

Consumption

No-load power consumption: 0.82W@24VDC

Full-load power consumption: 3.65W@24VDC

Working environment

Working temperature: -25～70℃

Storage temperature: -40～85℃

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

Mechanical Structure

Shell: IP40 protect grade, metal shell

Installation: DIN-Rail

Weight: 0.62kg

Size (W×H×D): 53mm×138mm×110mm

Industry Standard

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

EMS: EN61000-4-2 (ESD), Level 2
EN61000-4-3 (RS), Level 2
EN61000-4-4 (EFT), Level 2
EN61000-4-5 (Surge), Level 2
EN61000-4-6 (CS), Level 2
EN61000-4-8, Level 2

Shock: IEC 60068-2-27

Free fall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Certification

CE, FCC, RoHS, UL508 (Pending)

Warranty: 3 years