IT-ES205-IU-G

Industrial Ethernet switch

User manual

【**Summarize**】

IT-ES205-IU-G is a kind of unmanaged industrial Ethernet Switches, which supports 5 10/100/1000M RJ45 ports. It adopts fanless, low-power design, IP30 protection and high tensile corrugated metal shell so that it can perform more stable. It complies with FCC, CE standards and the design requirements of industrial level 4. Rail-mount installation and the operating temperature range from -40℃ to 75℃ meet the needs of various industrial field, which can provide reliable, efficient solutions for your Ethernet device connection.

【**Packing list**】

Please check the packaging and accessories by your first using.

- Industrial Ethernet switch ×1
- User manual ×1
- Certificate of quality ×1
- Warranty card ×1
- DIN-Rail

Please inform us or our distributor if your equipments have been damaged or lost any accessories, we will try our best to satisfy you.

【**Features**】

- Support IEEE802.3, IEEE802.3u, IEEE 802.3ab
- Support 5-port 10/100/1000BaseT(X)(RJ45)
- Store and Forward switching process type
- Plug-and-play , auto MDI/MDI-X connection
- Support MAC address learning, aging automatic
- 12~48V DC power input
- Operating temperature: -40~75℃
- Industry-standard design, IP40 Protection, high tensile corrugated shell
- DIN-Rail mounting

【**Panel layout**】
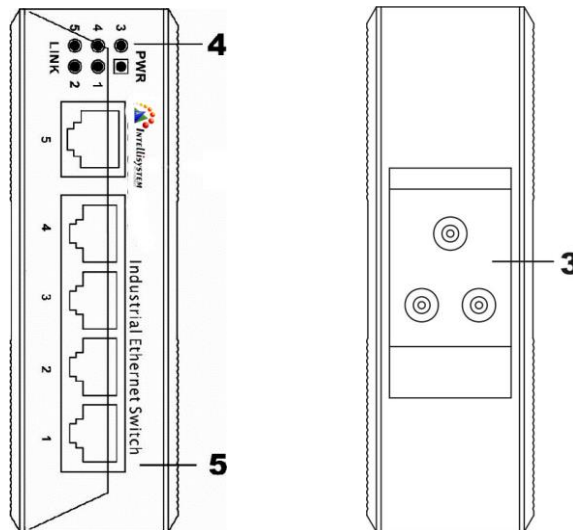
IT-ES205-IU-G
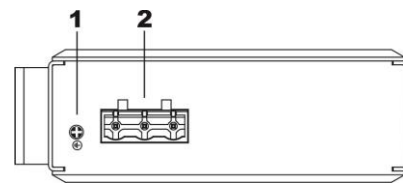
Top view

Below view

Front view   Rear view
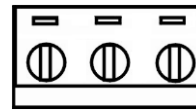
1.   Ground screw(Protect ground)
2.   Power input terminal block
3.   Din-Rail mount
4.   Equipment status indicator
5.   10Base-T /100Base-TX /1000Base-TX (RJ45) ports

【**Power supply input**】

IT-ES205-IU-G top panel provided 3 bit power supply input terminal block, support DC input. Voltage input range is 12~48VDC (terminal block defined as: V-, V+). Terminal diagram is as follows:
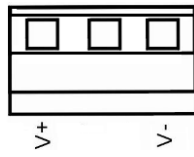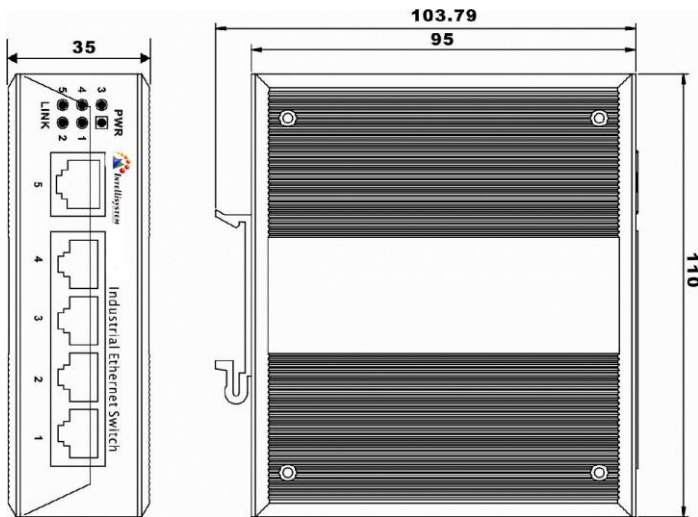
Front view   Top view

Important notice:

1. Power ON operation: first of all, insert power cable's terminal block into device's power port, then insert power supply plug into power source

2. Power OFF operation: First off all, unpin power plug, then strike the terminal block, please take care of operation sequence.
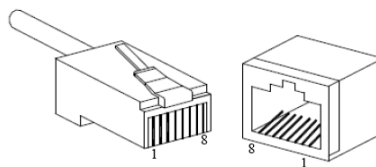
【Appearance and dimensions】

Unit (mm)

【Communication connector】

10/100/1000BaseT(X) Ethernet port

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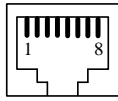
PIN	MDI	MDI-X
1	BI_DA+/TX+	BI_DB+/RX+
2	BI_DA-/TX-	BI_DB-/RX-
3	BI_DB+/RX+	BI_DA+/TX+
4	BI_DC+/—	BI_DD+/—
5	BI_DC-/—	BI_DD-/—
6	BI_DB-/RX-	BI_DA-/TX-
7	BI_DD+/—	BI_DC+/—
8	BI_DD-/—	BI_DC-/—

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

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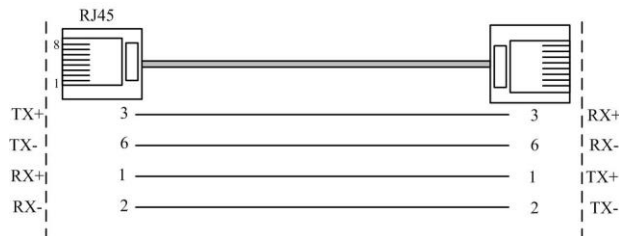
10/100Base-T(X) MDI-X (Cross over cable)
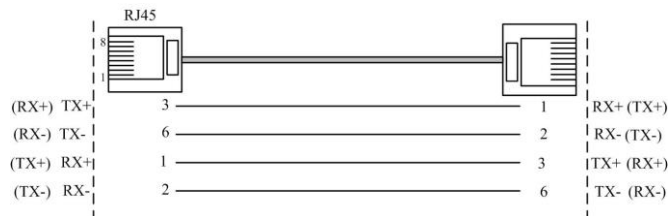
Gigabit MDI (straight-through cable)

Gigabit MDI-X (Cross over cable)

RJ45

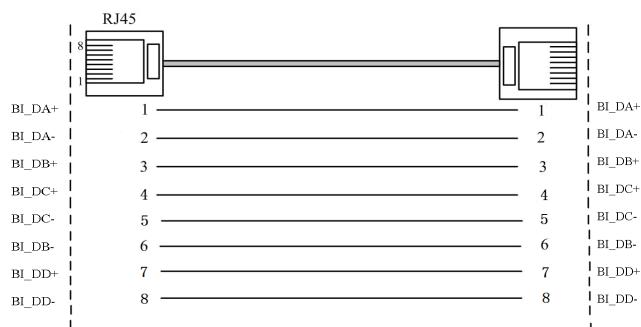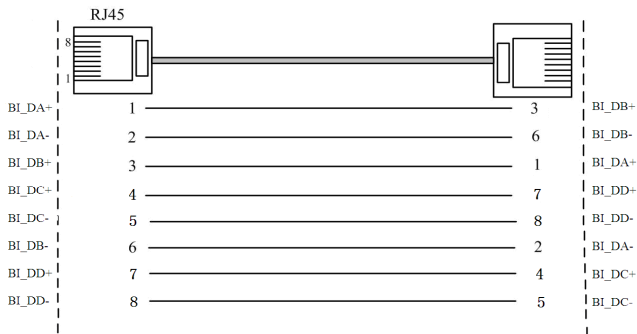|			
BI_DA+	1 —— 3	BI_DB+	
BI_DA-	2 —— 6	BI_DB-	
BI_DB+	3 —— 1	BI_DA+	
BI_DC+	4 —— 7	BI_DD+	
BI_DC-	5 —— 8	BI_DD-	
BI_DB-	6 —— 2	BI_DA-	
BI_DD+	7 —— 4	BI_DC+	
BI_DD-	8 —— 5	BI_DC-	

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

【LED Indicator】

The LED indicator on the front panel of IT-ES205-IU-G can indicate the running system and the operation status, which makes it easy to find and solve problems, the specific meaning of indicator are shown in the table.

System Indication LED		
LED	State	Description
PWR (Green light)	ON	Power is connected/ functioning well
	OFF	Power is not connected or not functioning well
Link/ACT (1~5)	ON	Electronic port links successfully
	OFF	No electronic port link
	Blinking	Electronic port has data transmission

【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%

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.

【Specifications】

Technology

Standard: Support IEEE802.3, IEEE802.3u, IEEE 802.3x, IEEE802.3ab

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

Exchange attributes

100M forward speed: 148810pps

100M forward speed: 1488100pps

Transmit mode: store and forward

System exchange bandwidth: 10G

MAC address table: 2K

Memory: 1M

Interfaces

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

Transfer distance

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

LED indicators

Interface indicator: Link (1~5)

Power supply indicator: PWR

Power supply

Input voltage: 12～48VDC

Type of input：3 bit 7.62mm pitch terminal block

Consumption

Unload consumption: 0.65W@24VDC

Full load consumption: 3.80W@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

Size（W×H×D）: 35mm×110mm×95mm

Industry Standards

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

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

Shock: IEC 60068-2-27

Free fall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Certifications

CE, FCC, RoHS, UL508 (Pending)

Warranty: 5 years