IES1024 series

Industrial Ethernet switch

User manual

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【Summarize】

IES1024 series is a Plug-and-play unmanaged industrial Ethernet switch. The IES1024 industrial Ethernet switches consists of 24 Ethernet ports. The IES1024-2F industrial Ethernet switches consists of 22 Ethernet ports and 2 Fiber ports. The IES1024-4F industrial Ethernet switches consists of 20 Ethernet ports and 4 Fiber ports. The IES1024-8F industrial Ethernet switches consists of 16 Ethernet ports and 8 Fiber ports. The IES1024-12F industrial Ethernet switches consists of 12 Ethernet ports and 12 Fiber ports. The IES1024-16F industrial Ethernet switches consists of 8 Ethernet ports and 16 Fiber ports that provide an economical solution for your industrial Ethernet connection. The IES1024-20F industrial Ethernet switches consists of 4 Ethernet ports and 20 Fiber ports. The IES1024-24F consists of 24 Fiber ports that provide an economical solution for your industrial Ethernet connection.

The IES1024 series switches have an operating temperature range of -40 to 75°C, and are designed with low consumption and without fan. The rugged hardware design makes the IES1024 perfect for ensuring that your Ethernet equipment can withstand the rigors of industrial applications.

【Packing list】

Please check the packaging and accessories by your first using.

- Industrial Ethernet switch x 1
- User manual x 1
- Certificate of quality x 1
- Warranty card x 1
- Power adapter x 1

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

【Feature】

High performance network exchange technology

- Support IEEE802.3, IEEE802.3u, IEEE 802.3x
- Support 8K MAC address
- Support 12.8Gbps backboard bandwidth
- 10/100BaseT(X)(RJ45)
- Store and Forward switching process type
- Plug-and-play, auto MDI/MDI-X connection
- Support auto negotiation speed, F/H duplex mode, and auto send data control

Reliable Industrial grade design

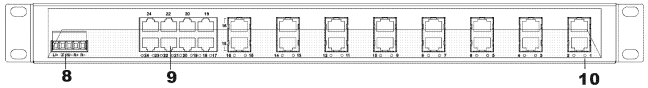
- Industrial grade 4 design, -40-75℃work temperature
- No fan deign
- IP30 protection grade
- 19 inch rack mounting

【Panel layout】

IES1024-P (100/240VAC)

Front panel

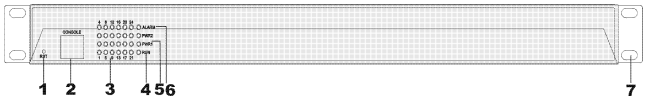
Rear panel



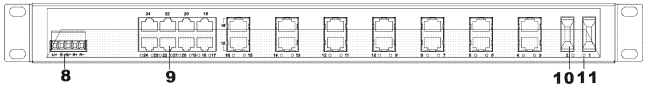
1. Restore factory settings
2. Console port
3. Link/ACT LED
4. Systems running LED
5. The power LED
6. Relay alarm LED
7. Hangers
8. Power input and Relay output terminal block
9. 10/100BaseT(X) (RJ45) ports
10. Rear panel connector LED

IES1024-2F-P (100/240VAC)

Front panel



Rear panel



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10. 100Base-FX ports
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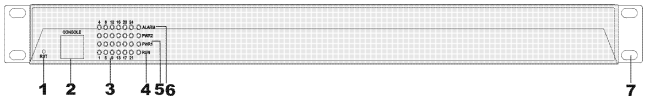
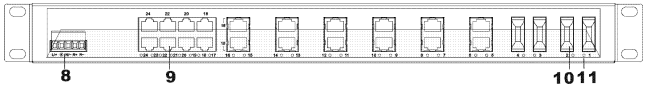
IES1024-4F-P (100/240VAC)

Front panel



Rear panel



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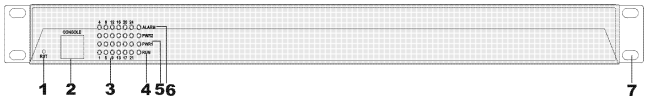
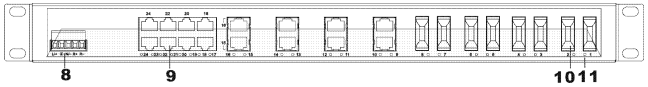
IES1024-8F-P (100/240VAC)

Front panel



Rear panel



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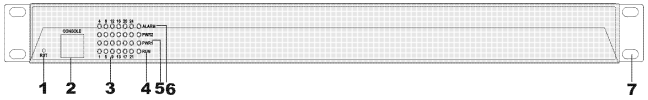
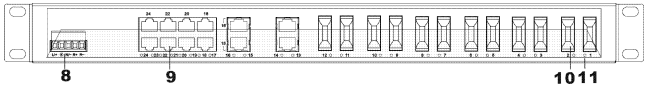
IES1024-12F-P (100/240VAC)

Front panel



Rear panel



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IES1024-16F-P (100/240VAC)

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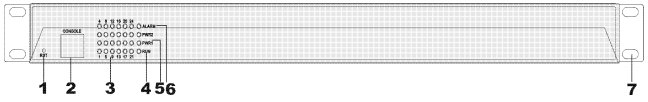
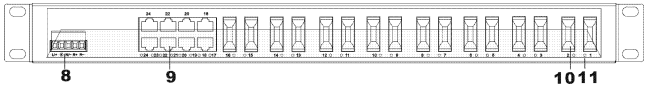


Rear panel



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IES1024-20F-P (100/240VAC)

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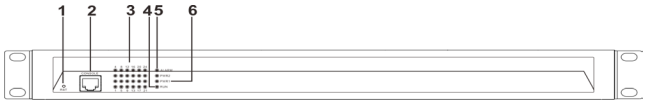

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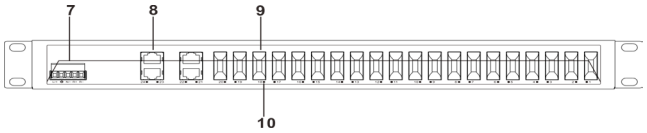

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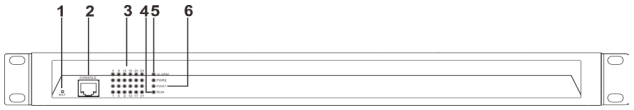
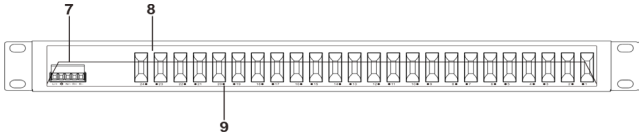
IES1024-24F-P (100/240VAC)

Front panel



Rear panel



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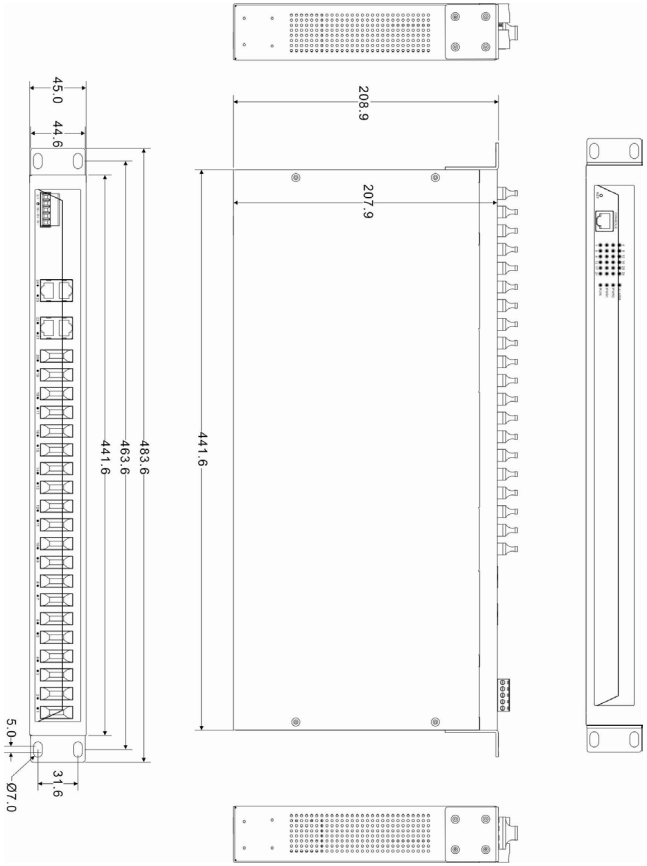
【Appearance and dimension】

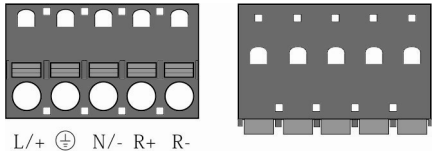
This series of dimensions length width height, between product series port number is different.

Unit（mm）



【Power supply input】

The IES1024 series Ethernet switch have singe power and redundancy power two kinds of power input. The singe power series rear panel provides 5 bit wiring terminal for AC100~240V power entered (L/+, GND, N/-) and relay output (R+, R-).The unmanaged Ethernet switch relay alarm function is invalid. Terminal diagram is as follows:



The redundancy power series rear panel provides two terminal blocks (5 bits) for P1 and P2 input. The redundant power can be used independently. P1 and P2 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. Voltage input range is 100～240VAC (terminal block defined as P1: L/+, GND, N/-; P2: L/+, GND, N/-).

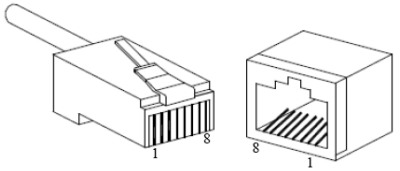
Important notice:

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.

【Communication connector】

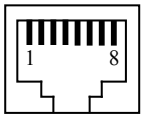
10/100BaseT(X) Ethernet port

The pinout 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

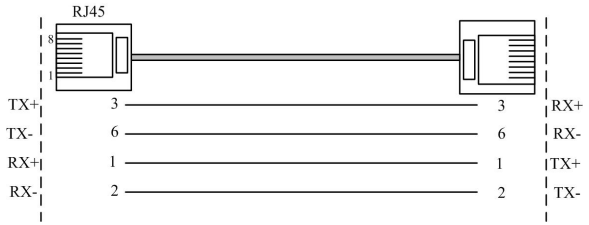
Corresponding connections in MDI. 1→3, 2→6, 3→1, 6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table as below.



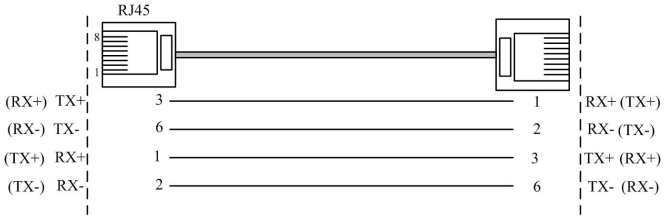
NO.	MDI signal	MDI-X signal
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4, 5, 7, 8	—	—

Note："TX±"Transmit Data±，"RX±"Receive Data±，"—"Not Use.

MDI (straight-through cable)



MDI-X (Cross over cable)



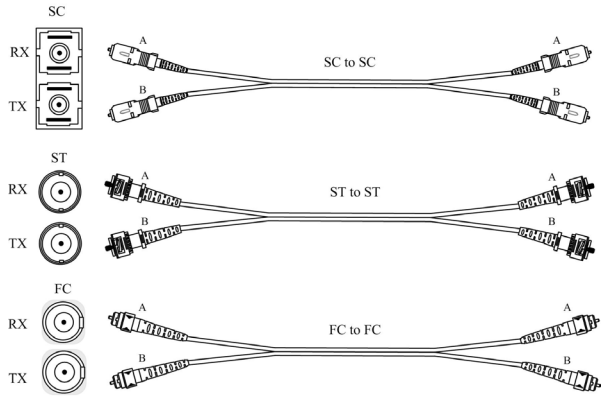
MDI/MDI-X auto connection makes switch easy to use for customers without considering the type of network cable.

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 input
	OFF	Power is **not** being supplied to power input PWR1 input
PWR2	ON	Power is being supplied to power input PWR2 input
	OFF	Power is **not** being supplied to power input PWR2 input
RUN	ON/OFF	System is not running well
	Blinking	System is running well
Link/ACT (1~24)	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: 100-240VAC power input
5. Environment：working temperature: -40～75℃
   Storage Temperature: -40～85℃
   Relative humidity 5%～95%

Rack mount installation

In most of industrial application, it is convenience to use rack mount installation, the step of installation is as follows:

1. Check if have rack mount installation tools and components (The package provided parts of components)
2. Check installation place strong or not, have the place to install the device or not.
3. Put the device into rack, aim at the screw hole of device and rack, fixed it in strong screw. Easy and convenience to operation.

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

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

Exchange attribute

100M forward speed: 148810pps

Transmit mode: store and forward

System exchange bandwidth: 12.8G

MAC address table: 8K

Memory: 4M

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

Console port: Retain

Alarm port: Retain

Transfer distance

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

Multi-mode: 1310nm, 2/5Km

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

1550nm, 80/100/120Km

LED indicator

Run indicator: Run

Interface indicator: Link (1~24)

Power supply indicator: PWR1 (PWR2)

Power supply

Input voltage: 100～240VAC

Type of input: 3 bit terminal block

Overload Current Protection: 1.2A

Consumption

➢IES1024-P(100/240VDC):

Unload consumption: 6.9W

Full load consumption: 9.4W

➢IES1024-2F-P (100/240VDC):

Unload consumption: 8.2W

Full load consumption: 10.7W

➢IES1024-4F-P (100/240VAC):

Unload consumption: 9.5W

Full load consumption: 12.0W

➢IES1024-8F-P (100/240VDC):

Unload consumption: 12.1W

Full load consumption: 14.6W

➢IES1024-12F-P (100/240VAC):

Unload consumption: 14.7W

Full load consumption: 17.2W

➢IES1024-16F-P (100/240VDC):

Unload consumption: 17.3W

Full load consumption: 19.8W

➢IES1024-20F-P (100/240VDC):

Unload consumption: 18.8W

Full load consumption: 20.7W

➢IES1024-24F-P (100/240VAC):

Unload consumption: 21.7W

Full load consumption: 22.9W

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: 19” 1U rack

Size（W×H×D）**:** 441.6mm×45mm×208.9mm

Industry Standard

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

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