

IES3012G-4GS-P(12/48VDC)

Gigabit Unmanaged Industrial Ethernet switch

User manual

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【Summarize】

IES3012G-4GS-P(12/48VDC) is a kind of industrial, unmanaged, gigabit Ethernet switch. It supports 8 port 10Base-T/100Base-TX/1000 Base-TX Ethernet port and 4 port 1000Base-X SFP fiber port. The products are all electrical support automatic flow control, full / half duplex mode and adaptive MDI/MDI-X.

No fan, low consumption design, working function more steadily. It accords with FCC, CE standard, industrial design requirement, it can work steadily in -40°C~70°C working temperature, it can provide reliable and quickly solution for your Ethernet device.

【Packing List】

The first time use this product, please check the packaging is intact or not and the attachment is complete or not at first.

- IES3012G-4GS-P(12/48VDC) x1
- User manual x1
- Certificate x1
- Warranty card x1

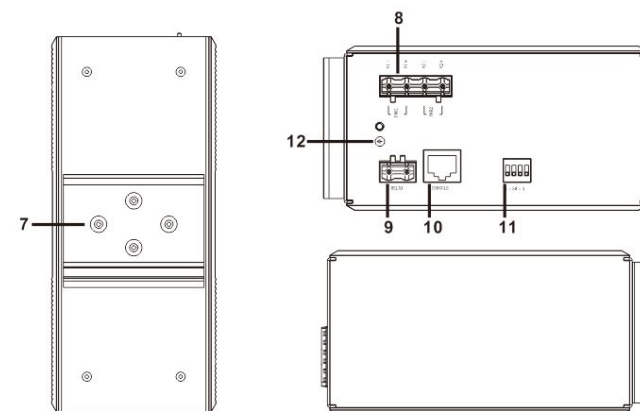
If you find that the device is damaged or any parts of it is missing during transportation, please notify the Company or the Company's distributor, we will give you proper solution as soon as possible.

【Features】

- Support 8 port 10Base-T/100Base-TX/1000 Base-TX and 4 port 1000Base-X SFP gigabit.
- Support MAC address automatic learning, automatic aging.
- Support 8 KMAC address table.
- System exchange bandwidth 24 Gbps
- Ethernet port support full/half duplex mode, MDI/MDI-X
- Support 12~48VDC power input, built-in over-current protection, Reverse connection protection
- Working temperature: -40°C~70°C
- No fan, low consumption, Industrial design standard

- IP40 protection grade, high strength iron shell, DIN-rail mount

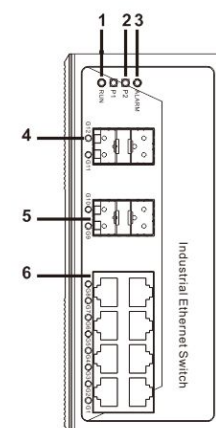
【Panel Layout】



Back view

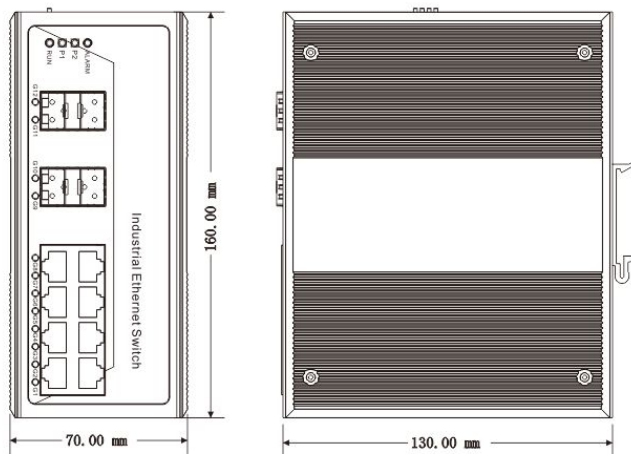
Vertical view and Bottom view

1. Systems running LED
2. Power indicator
3. Power alarm indicator
4. Ethernet port connection indicator
5. 1000Base-FX SFP port
6. 10Base-T /100Base-TX / 1000Base-TX port
7. DIN-Rail mounts
8. 4 bit power input terminal block
9. Relay output terminal block
10. CONSOLE port
11. DIP switch
12. Ground screw(Protect ground)

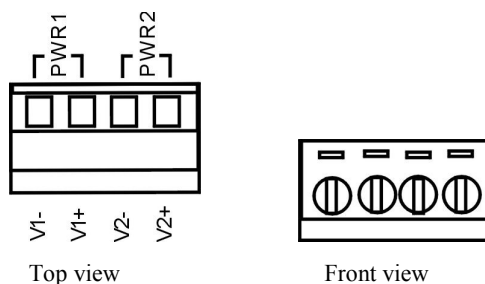


【Dimension】

Unit (mm)



【Power input】



IES3012G-4GS-P(12/48VDC) top panel provided 4 bit industrial terminal block, power input is 24VDC(12~48VDC) , the sign of the terminal block is V1-, V1+, V2-, V2+, it is redundant power input, both of them are 12~48VDC.

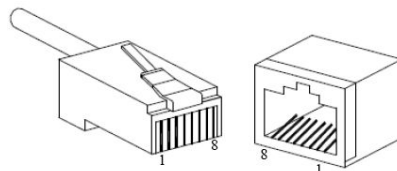
IES3012G-4GS-P(12/48VDC) DC power input had redundant function, provided PWR1 and PWR2 power input, can use for single, and can connect 2 separately power supply system, use 1 pair terminal block connect the device at the same time. If one of the power system broke, the device can work uninterruptible, built-in overcorrect protection, Reverse connection protection

Note：1, Power ON: please insert the power cable’s terminal block into device’s power pot at first and then insert the power supply.

2, Power OFF, please pluck the plug of the power supply and then strike the terminal block parts.

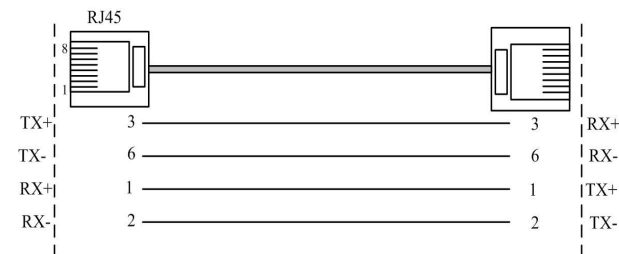
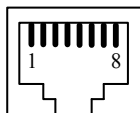
【Communication interface】

IES3012G-4GS-P(12/48VDC) provided 8 port 10Base-T/ 100 Base -TX/1000 Base-TX and 4 port1000Base-X SFP gigabit port.

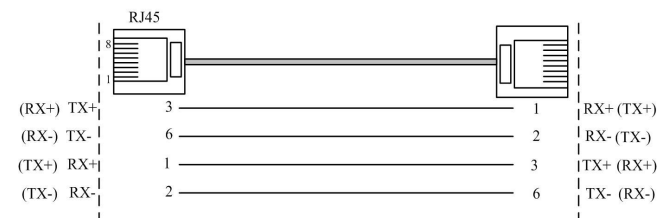


10Base-T/100Base-TX/1000 Base-TX Ethernet port use in front panel, It is RJ45 port, the PIN define of RJ45 is as follows: connection adopt UTP or STP, the distance is no more than 100m, 1000Mbps use cat5e, 100Mbps use cat5, 10Mbpos use cat3,4, 5.

RJ45 port support MDI/MDI-X self-adaption. In (MDI), PIN1, 2, 3, 4, 5, 6, 7, 8 connect corresponding, in (MDI-X) PIN1→3, 2→6, 3→1, 6→2, 4→7, 5→8, 7→4, 8→5. In MDI/MDI-X, 1000 Base-TX PIN define is as follows:



Fast interface MDI-X: (Cross over cable)



Gigabit interface MDI: (straight-through cable)

PIN	MDI	MDI-X
1	TX_D1+/TX+	RX_D1+/RX+
2	TX_D1-/TX-	RX_D1-/RX-
3	RX_D2+/RX+	TX_D2+/TX+
4	BI_D3+	BI_D3+
5	BI_D3-	BI_D3-
6	RX_D2-/RX-	TX_D2-/TX--
7	BI_D4+	BI_D4+
8	BI_D4-	BI_D4-

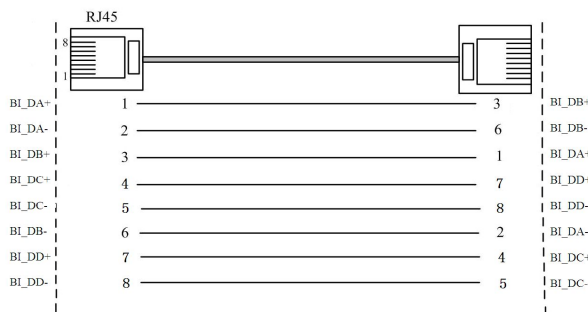
Gigabit

interface

MDI-X: (Cross over cable)

Note：10Base-T/100Base-TX/1000Base-TX , “TX ± ”transmit data ± , “RX ± ”receive data ± , “—”not use.

Fast interface MDI: (straight-through cable)

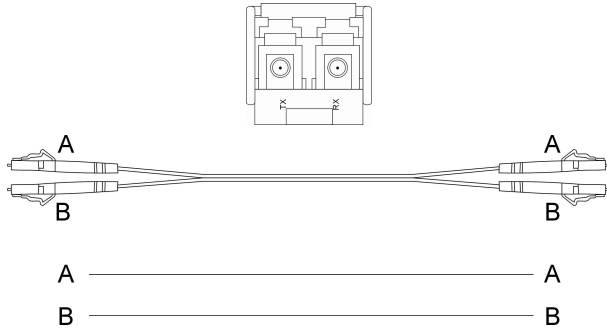


MDI/MDI-X self-adaption function can let user did not think about the type of Ethernet cable(Through line or cross wire) , can connect IES3012G-4GS-P(12/48VDC) by through line or cross wire directly.

1000BaseSFP port (mini-GBIC)

IES3012G-4GS-P(12/48VDC)'s 1000BaseSFP port adopted gigabit mini-GBIC optic fiber, can choice different type fiber according to different transfer distance, fiber port must used for pair, TX port is fiber transmit side, connect to other device's RX receive side, RX port is fiber receive side, connect to other device's TX transmit side. Fiber port support off-line indicator, can effective increase the reliability of network running.

Suggestion: please make a sign for the optic fiber (Figure as follows: A-A, B-B) , easy to use.



LED Indicator

LED indicator in front panel of IES3012G-4GS-P(12/48VDC)

monitor working status, it is convenience to find the problem, the function of each LED is described in the table as below.

System status LED		
LED	Indicator	Description
P1	ON	P1 connection regularly
	OFF	P1 Power supply have no connection or unwonted
P2	ON	P2 connection regularly
	OFF	P2 Power supply have no connection or unwonted
Alarm	ON	Power, port have alarm
	OFF	Power, port have no alarm
Run	ON/OFF	Device unwonted
	Blinking	Device working steadily
Link/ACT (G1~G12)	ON	Established effective network connection
	Blinking	Network in activity statues
	OFF	Did not established 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.

Installation require as below

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. Screw, nut, tools provide by yourselves.
5. Power need: power inputs(12~48DC)

6. Environment: -40°C to 70°C

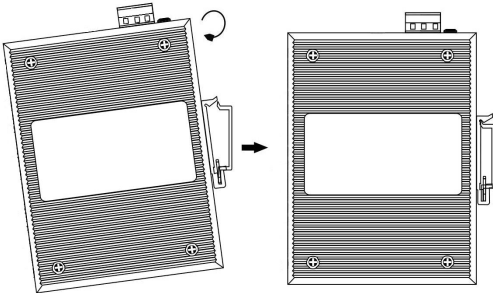
Storage Temperature: -40°C to 80°C

Relative humidity 10% to 95%

DIN-Rail Installation

In order to use in industrial environments expediently, IES3012G-4GS-P(12/48VDC) adopt 35mm DIN-Rail installation, the installation steps as fellows:

1. Examine the DIN-Rail attachment
2. Examine DIN Rail whether be firm and the position be 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

Wiring need to meet the following requirements:

- It is needed to check whether the type, quantity and specification of cable match the requirement before cable laying;
- It is needed to check the cable is damaged or not, factory records and quality assurance booklet before cable laying;
- The required cable specification, quantity, direction and laying position need to match construction requirements, and cable length depends on actual position;
- All the cable cannot have break-down and terminal in the

middle;

- Cables should be straight in the hallways and turning;
- 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;
- 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;
- 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;
- It should have corresponding simple signal at both sides of the cable for maintaining.

【Specification】

Technology:

Standard: IEEE802.3, IEEE802.3u, IEEE802.3z, IEEE802.3ab

Flow control: back press flow control

Interface:

Gigabit SFP port: 1000Base-FX (SFP port)

Gigabit Ethernet port: 10Base-T/ 100Base-TX/ 1000Base-TX, RJ45 port, full/half duplex mode and MDI/MDI-X auto detect

Alarm port: 2 bit 7.62mm Terminal block

1 channel relay alarm output

Exchange attribute:

1000M forward speed: 1488100pps

1000M maximum filter speed: 1488100pps

Transfer mode: Store and forward

Bandwidth: 24G

Buffer Memory: 512KB

MAC address table: 8K

Led indicator:

Power: P1,P2

Alarm indicator: Alarm

Run indicator: Run

Gigabit port connection / running status indicator:

Link/Act (G1~G12)

Transfer distance:

Twisted-cable: 100M (CAT5/CAT5e)

Multi-mode: 1310nm, 2Km

1310nm, 5Km

Single mode: 1310nm, 20Km

1310nm, 40Km

1310nm, 60Km

1550nm, 80Km

Power supply:

Power input: 24VDC (12~48VDC)

Terminal block: 4 bit 7.62mm separation distance

No-load power consumption: 4.85W@24VDC

Full-load power consumption: 10.32W@24VDC

Support redundant protection

Support over-current protection

Support reverse connection protection

Environmental:

Working temperature: -40℃~70℃

Storage temperature: -40℃~80℃

Relative humidity: 5%~95% (no condensing)

Mechanical:

Shell: IP40, high strength iron shell

Installation: DIN Rail

Weight: 950g

Dimension (W×H×D): 160mm×70mm×130mm

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

Warranty:

Warranty time: 5 years

Certificate:

CE, ,FCC, RoHS, UL508(Pending)