



IES608-2F

8-port 10/100M Industrial Ethernet Switch Hardware Installation Guide

Introduction:

IES608-2F series are a type of plug-and-play industrial managed redundant Ethernet switch, which supports 6-port 10/100Base-T(x) and 2-port 100Base-Fx. The 7 and 8 ports(100Base-Fx) are used to establish SW-Ring for the purpose accomplishing redundancy for Ethernet ring network (self-recovery time <20ms) to enhance the reliability of the network.

Furthermore, IES608-2F series can also support numerous intelligent network management functions, including QoS, VLAN, Port Trunking, velocity configuration and alarm enabling functions. To satisfy applications in different industrial environments, IES608-2F series can also provide wide temperature type in accommodation with limit temperature (-40 ~ 70°C).

Packing List:

The IES608-2F switch is shipped with following items.

1. Ethernet switch IES608-2F (plus terminal block) × 1
2. Hardware Installation Guide × 1
3. CD-ROM with Windows Utility × 1
4. Product Warranty Statement × 1
5. RJ45 to DB9 Console port cable × 1
6. DIN-Rail setting fittings(wall mounting for optional)

Features:

Designed for Industrial Applications

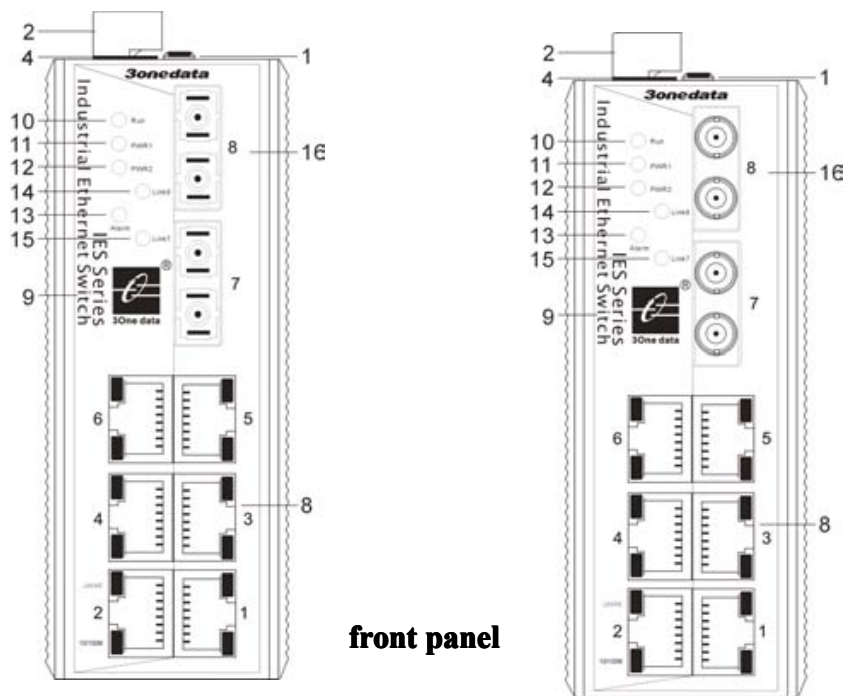
1. Dual power backup, Relay output warning for power failure and port break alarm
2. Port link, ring fault/abnormity alarm indication
3. IP 30 protection, rugged high-strength metal case
4. Redundant 24VDC power input (12V~36VDC) Operating
5. DIN-Rail or panel mounting ability

Advanced Industrial Ethernet Networking Capability

1. Store and forward.8k address. Support MAC address filtrate struction
2. SW-Ring(recovery time < 20 ms at full load)
3. Port-based VLAN, IEEE 802.1Q VLAN to ease network planning
4. Port Trunking for optimum bandwidth utilization
5. Lock port function for blocking unauthorized access based on MAC address
6. Port mirroring for online debugging
7. Bandwidth management prevents unpredictable network status

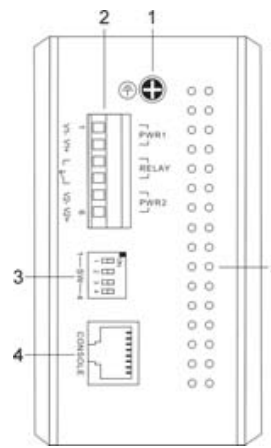
Panel Layout:

6 TP ports and 2 fiber ports (IES608-2F)



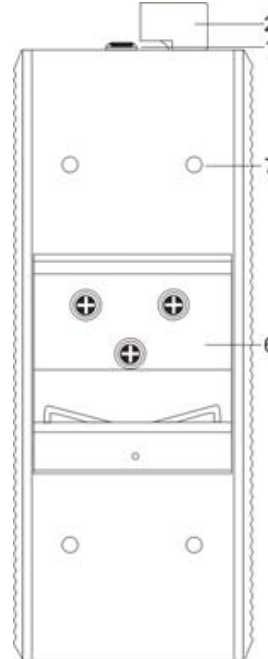
Note: left is SC, right is ST, the same as the picture for single-mode and multi-mode.

1. Grounding screw
2. PWR1/PWR2 input, relay output
6 bit terminal block
3. DIP switch: DOWNLOAD PROGRAM,
RESUME DEFAULT, SW-Ring Enabled
4. DOWNLOAD PROGRAM port
(RS-232, RJ45)



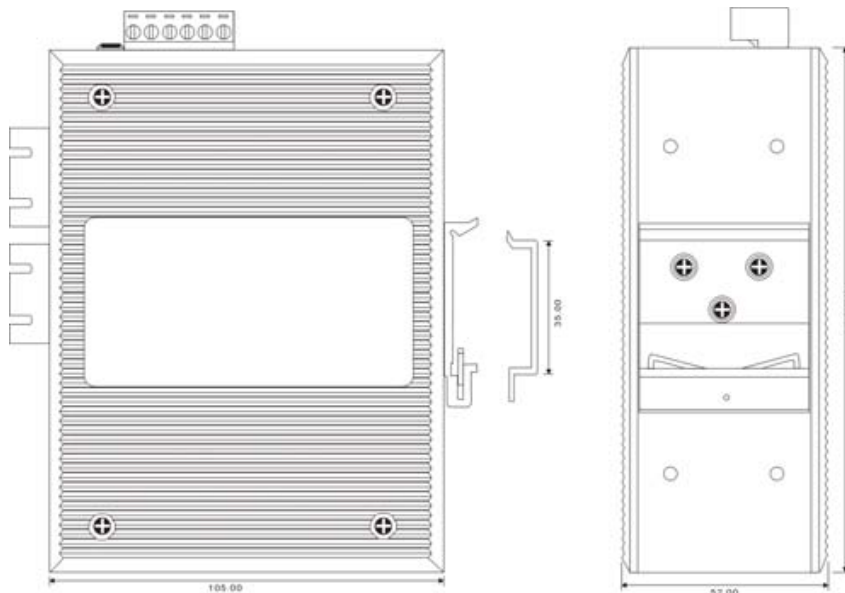
top panel

5. Heat dissipation orifices
6. DIN-Rail locating kit
7. Screw hole for wall mounting kit
8. 10/100Base-T(X) port
9. Corporation, product information
10. Run indication LED
11. Power input PWR1 LED
12. Power input PWR2 LED
13. System alarm indication LED
14. Fiber port 8 indication LED
15. Fiber port 7 indication LED
16. 100Base-FX port



back panel

Units (mm)

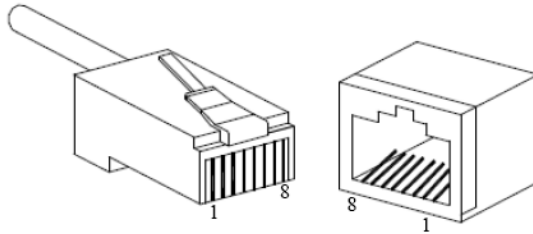


Communication connector:

IES608-2F series have 8x10/100BaseT(X) Ethernet ports(RJ45) and 2x100BaseFX (SC/ST connector, optional) fiber ports.

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 100 Ω of UTP 5 , 10Mbps is used 100 Ω of UTP 3,4,5.

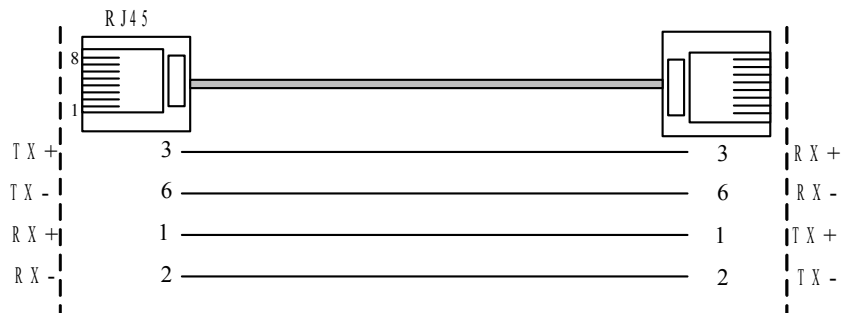


RJ 45 port support automatic MDI/MDI-X operation. can connect the PC, Server, Converter and HUB .Pin 1,2,3,6 Corresponding connection in MDI. 1→3,2→6,3→1,6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table as below.

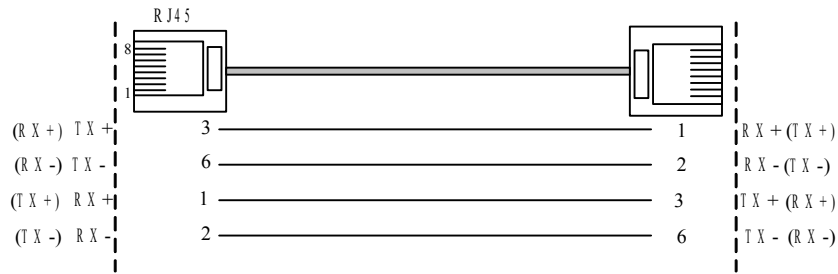
NO.	MDI signal	MDI-X signal
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4,5,7,8	—	—

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

MDI(straight-through cable)



MDI-X(Cross over cable)

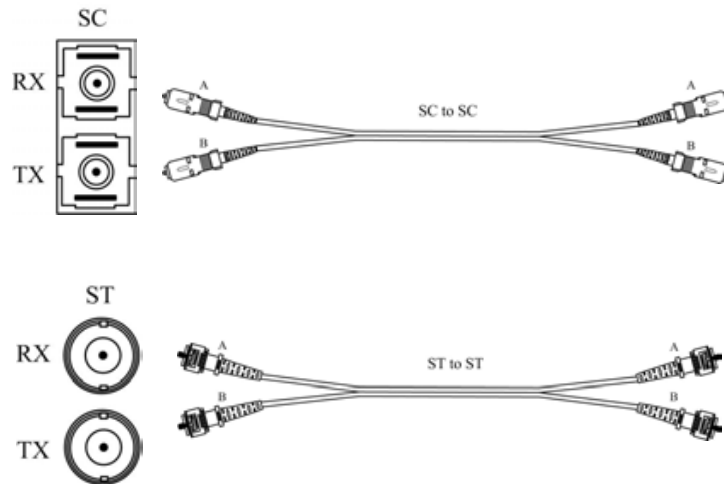


100BaseFX port

100Base-FX full-duplex SM or MM port , SC/ST 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).

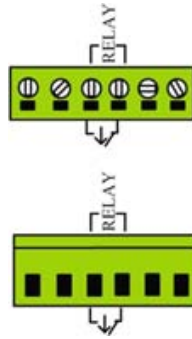


LED Indicator:

LED indicator light on the front panel of IES608-2F Series .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 POWER2 input
Alarm	ON	When the alarm is enabled, power and the port's link is inactive.
	OFF	Power and the port's link is active, not alarm
Run	ON/OFF	Switch is unwonted
	Blinking	Switch is active
100BaseFX port state LED (7, 8)		
Link (IES608-2F)	ON	FX port is active
	Blinking	Data is being transmitted
	OFF	FX port is inactive
10/100BaseT(X) Ethernet port state LED		
10M/100M (yellow)	ON	100Mbps is active (100Base-TX)
	OFF	10Mbps is active (10Base-T)
Link/ACT (green)	ON	TP port is active
	Blinking	Data is being transmitted
	OFF	TP port is inactive

Relay contact:

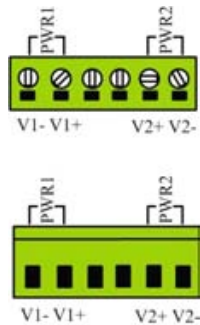


The relay consists of the two middle contacts of the terminal block on IES608-2F series top panel. The two terminal block connector are used to detect both power faults and port faults. The two wires attached to the Fault contacts form an open circuit when:

- (1) IES608-2F series have lost power from one of the DC power inputs, or
- (2) One of the ports for which the corresponding Port alarm DIP Switch is set to ON is not properly connected.

If neither of these two conditions occur, the alarm circuit will be closed.

Power Input:



IES608-2F series have redundant power input, provides two terminal block (3 bits) for PWR1 and PWR2 input. The redundant power can be used single and used two self-governed power to supply to the system, PWR1 and PWR2 input at the same time, when neither of these two power fails, the other power acts as a backup, and automatically supplies power needs, ensure running Ethernet reassuring .

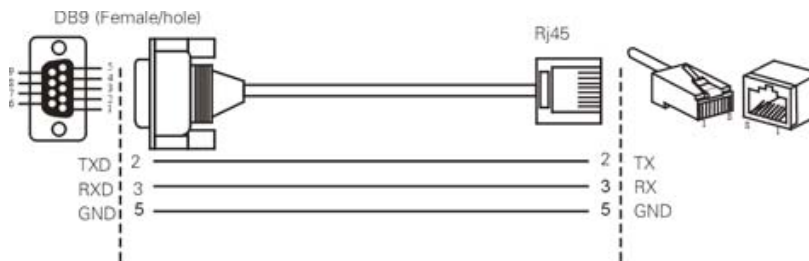
Switch Settings:



Provide 4 bit switch for function setting (ON is enable): 1(ISP) is DOWNLOAD PROGRAM,2 is RESUME DEFAULT,3 is SW-Ring Enabled ,4 is blank (NC).When the switch is setup, must be restart.

DOWNLOAD PROGRAM port:

IES608-2F series provide one DOWNLOAD PROGRAM port (RJ45 type), on the top panel, manage the system with PC by RJ45-DB9F adapter.



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

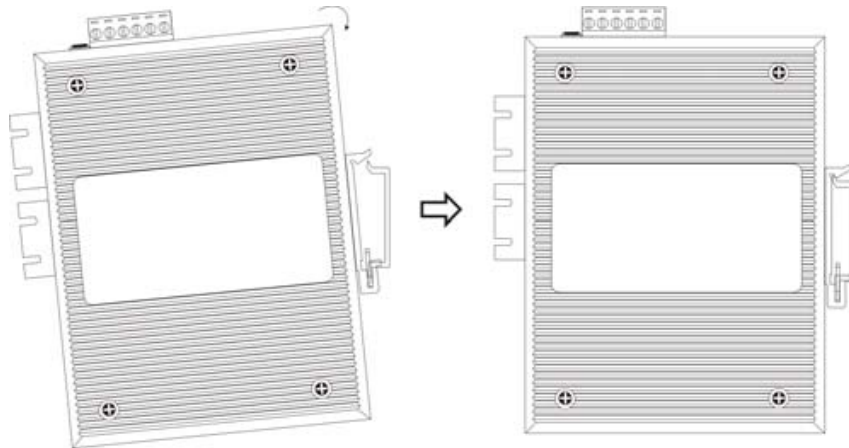
1. Avoid in the sunshine, keep away from the heat fountainhead or the area where in intense EMI.
2. Examine the cables and plugs that installation requirements.
3. Examine whether the cables be seemly or not (less than 100m) according to reasonable scheme.
4. Screw, nut ,tool provide for yourself.
- 5.Power need: Redundant, dual 24VDC power inputs(12~36DC)
6. Environment: -40°C to 75°C
Storage Temperature: -45°C to 85°C
Relative humidity 10% to 95%

DIN-Rail Installation

In order to use in industrial environments expediently, IES608-2F

series adopt 35mm DIN-Rail installation, the installation steps as follows:

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

Be sure to disconnect the power cord before installing and/or wiring your Ethernet Switch.

Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size. If the current goes above the maximum ratings, the wiring could overheat may causing serious damage to your equipment. You should also pay attention to the following items:

1. Use separate path to route wiring for power and devices. If power wiring and device wiring paths must cross make sure the wires are perpendicular at the intersection point.
2. NOTE: Do not run signal or communications wiring and power wiring in the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.
3. You can use the type of signal transmitted through a wire to determine which wires should be kept separate. The rule of

thumb is that wiring that shares similar electrical characteristics can be bundled together.

4. Keep input and output wiring separated. It is strongly advised that you label wiring to all devices in the system when necessary.

Specifications:

Interface

RJ45 Ports: 10/100BaseT(X) auto connection, Full /Half duplex or force work mode, and support MDI/MDI-X connection

Fiber Ports: 100BaseFX ports (SC/ST connector, optional)

Single-mode: 20, 40,60, 80, 120Km,optional

Multi-mode: 2,5Km,optional

Wavelength: 850nm,1310 nm,1550nm

DOWNLOAD PROGRAM Port: Based serial network management (RS-232), RJ45

Alarm output interface: One relay alarm output. Support power, port link and ring network alarm .

Indicator: Port link, ring fault/abnormity alarm indication
10M/100M Rate, run indication

Technology

Standards: IEEE802.3 for 10BaseT, IEEE802.3x for Flow Control, IEEE802.3u for 100BaseTX and 100BaseFX, IEEE802.1Q for VLAN Tagging, IEEE802.1p for Class of Service

Transmit Rate: 148810pps

Max Rate of Filtrate: 148810pps

Processing type: Store and Forward

System exchange bandwidth: 4.8G

Support 8K MAC address

Port-Based VLAN

Relay

Max voltage: DC30V

Max current input: 1A

Power

Input Voltage: 24VDC (12VDC~36VDC)

Overload Current Protection

Support dual power backup

Support dual power alarm input

Mechanical

Dimensions: 136mm×52mm×105mm (H×W×D)

Casing: IP30 protection, metal case

Installation: DIN-Rail, Wall Mounting

Weight: 800g

Environmental

Operating Temperature: -40 to 70°C

Storage Temperature: -45°C to 85°C

Ambient Relative Humidity: 10 to 95% (non-condensing)

Approvals

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: 5 years

Certifications:



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