

User Manual

HGW-2402A-PSE

24 port Gigabit Unmanaged Industrial Smart PoE Switch



User Manual

This manual introduces ROBOfiber's HGW-2402A-PSE Gigabit switch installation procedures, operation settings and user safety operating aspects.

Contents:

Introduction: PoE switch functions, features and physical appearance.

Installation: basic installation guide for the PoE switch with necessary precautions for proper operation.

Connectivity: guide for connecting the PoE switch with other network devices.

Technical Specifications



Tip: To avoid misuse of device and personal injury, please read carefully this User Manual before installing and using the Ethernet switch.

Warning



Some of the drawings in this manual might depict slight differences compared to the real product.

When the Warning triangle is seen, please read the respective section of the manual to avoid inadvertent damage of equipment or potential personal injury.

Introduction

Switch Description

HGW-2402A-PSE is an Industrial Gigabit Smart Unmanaged PoE switch with 24 10/100/1000Mbps PoE ports and 2 Gigabit SFP uplink ports. HGW-2402A-PSE can deliver PoE power to end devices such as IP cameras, wireless AP/bridge devices or IP phones. Switch has DIP switch settings for 4 distinctive operating modes. In AI VLAN mode switch has all 24 ports isolated from each other, to prevent network storms and improve network performance. In AI Extend mode, the effective transmission of the 24 UTP ports can reach up to 250 meters, improving network deployment options. Third option, the AI power supply mode, detects the status of the connected PD devices and will automatically restart the device by cycling PoE delivery to correct status of unresponsive PD elements. Last mode, the AI QoS mode treats video data with preferential higher priority to maintain video quality in event of traffic congestion. HGW-2402A-PSE supports IEEE802.3af/at and auto PD identification to protect remote devices that do not follow IEEE standards, like non-standard PoE passive devices or non-PoE devices.

Package Contents

Upon opening of the packaging, please carefully check the following contents

Item	Quantity	Remarks
PoE switch	1 piece	main unit
DIN rail bracket	1 piece	for TS-35 DIN rail mounting
Wall bracket	2 pieces	for wall mounting of main unit

Physical Appearance

■ Front panel

LED indicator lights, RJ45 ports, DIP switches, SFP ports are shown as in below picture:



LED Indicator lights - HGW-2402A-PSE LEDs provide operating information as below:

LED	Name	Color	Status	Declaration
P1, P2	Power	Green	On	Normal power
			Off	No power present/ power supply faulty
LINK/ACT (Ports 25,26)	Uplink Ports	Green	Blinking	Normal data traffic
			Off	No fiber uplink
Link Ports 1-24	LNK	Green	On/Blink	Port connected with data traffic
			Off	Port not connected
Speed Ports 1-24	SPD	Yellow	On	Gigabit speed
			Off	10M or Fast Ethernet speed

- ◇ **RJ45 Ports**
HGW-2402A-PSE delivers PoE power on 24 ports of 10/100/1000Mbps following IEEE802.3af and IEEE802.3at standards. When set up in Extend mode (via DIP switches), port 1 to 24 can support 250m line PoE power at 10M speed only.
- ◇ **SFP Ports**
HGW-2402A-PSE has two gigabit SFP ports (25, 26) requiring Gigabit rated SFP modules.
- ◇ **DIP Switch Mode Settings**

Extend Mode: Ports 1-24 port support 250 meters long spans (cabling must be cat 5 or above, speed will only be 10M for the UTP ports)

VLAN Mode: Ports 1-24 are isolated from each other, reducing risk of network storms and improving overall network performance

QoS Mode: Identify type of data and prioritize traffic for video data to enhance video quality

AI PoE Mode: Automatic detection of enabled PoE ports with stalled data traffic and execute a power cycle to restart the PD device and restore communication

IMPORTANT – Multiple DIP switches can be active in the same time for a combination of features to be present and operating

■ Rear panel image



✧ Power Terminal Block

6 screw power terminal block offers PWR1 and PWR2 DC48V input for HGW-2402A-PSE switch; power supply requirement is DC 48-56V(no power switch to eliminate accidental shutdown).

✧ Ground Terminal Screw

For surge protection and accidental electric discharges please ALWAYS use proper electric grounding.

Installation



Warning: Incorrect usage of this device can cause property damage and personal injury, please read carefully the list below before using the equipment:

- Please keep device unplugged from power sources during installation, wear anti-static bracelet if available
- Please make sure that power source voltage matches requirements for power input on the equipment
- To avoid electric shock, please do not open the PoE Switch case when in operation
- Before cleaning the PoE switch, please disconnect power cables
- Avoid cleaning switch with a wet cloth, avoid using liquids for cleaning, use a light damp or dry cloth to wipe dust from device

✧ **Temperature and Humidity Requirements**

Environment Description	Temperature	Humidity
Operating environment	-40°C~75°C	10% ~ 90% RH non-condensing
Storage environment	-50°C ~ 85°C	5% ~ 90% RH non-condensing

✧ **Dustproof**

Dust deposits can increase static electricity charges and cause electrostatic discharges that can destroy component parts of the PCB. To avoid static electricity discharge effect, keep equipment in a clean indoor area and regularly clean device of dust deposits

✧ **Electromagnetic interference**

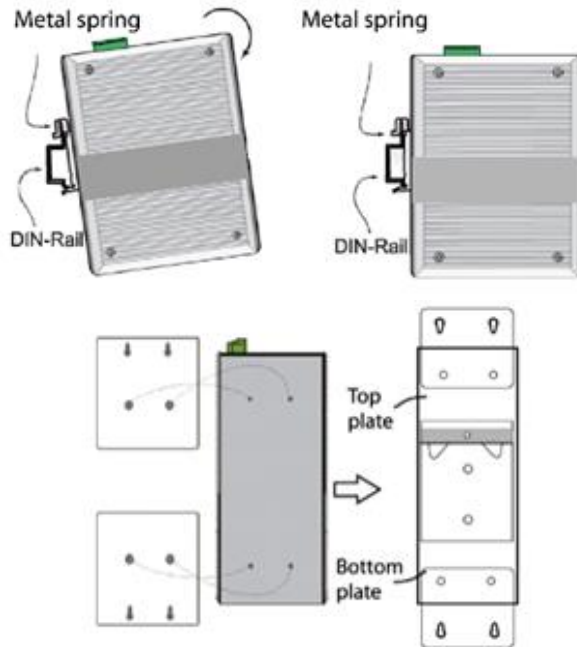
Electromagnetic interference can affect the normal operation of the network device. In order to reduce electromagnetic interference please keep equipment away from high frequency power sources or high current devices such as wireless charging pads.

✧ **Lighting protection**

In order to protect equipment from inadvertent electrical surges, please provide good electrical grounding for the installation rack, please observe proper network cabling installation and always use lightning surge protectors when networking cabling is installed outside of a building.

Installation

HGW-2402A-PSE switch is designed to be installed on a standard TS-35 DIN rail. Installation on rail should follow below diagram.



For wall mounting the position of the wall brackets should change as above.



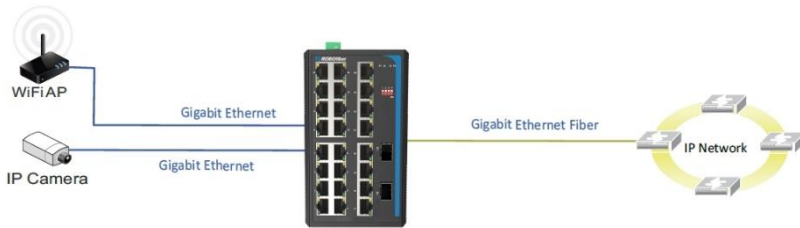
Note:

Before screwing the screws into the wall, make sure that the screw size matches the wall-mounting metal panels of the HGW-2402A-PSE switch. In total, 4 screws are required for wall mounting.

Connectivity

3.1 RJ45 port connections

Connect regular network equipment or PoE PD devices to any UTP ports 1 to 24 like in below diagram.



**Warning:**

Length of UTP cable should not exceed 100m (305ft) for any network device that is not a PoE PD device.

All RJ45 ports support Auto-MDI/MDIX, both standard Ethernet cables and crossover Ethernet cables can be used for network connectivity (please use Cat5e cabling or better)

3.2 SFP ports

HGW-2402A-PSE SFP ports only support gigabit SFP modules. Please use Gigabit rated (1.25G) SFPs with the switch.

Installing the SFP transceiver module:

1. Hold the SFP module from the side, insert it smoothly along the SFP port slot of PoE switch, until a soft click is heard, denoting SFP is secure to switch;
2. Observe proper Rx and Tx path connectivity for each inserted SFP
3. Check the corresponding link indicator light status. If light is on, link has been established, if light is off, no link has been made over the fiber.

**Warning:**

Avoid sharp turns of fiber cables, keeping the radius of any turn larger than 4 inches; Be prepared to clean fiber connector ferrules if there is trouble obtaining a fiber link; Avoid looking into the SFP of fiber connectors while under operation, lasers can cause serious eyes damage

3.3 Device Initialization

Power up will turn PWR1/PWR2 LEDs ON. After approximately 2 seconds all other LED indicators on switch will turn briefly ON and then OFF again. This is part of the internal POST process of the device. After the brief OFF period (another approx. 2 seconds), all LEDs will report the correct status of connectivity and PoE.

Switch will start operating normally.

Hardware Specifications

4.1 Technical Specifications

Standards	IEEE 802.3i, IEEE 802.3u, IEEE 802.3x IEEE 802.3ab, IEEE 802.3af, IEEE 802.3at
Ports	24x 10/100/1000Mbps RJ45 ports
	2x Gigabit SFP ports
PoE	24x 10/1000Mbps RJ45 PoE ports
	Total power budget: 480W
	Single port max. budget: 30W
Indicators	26 Link/Act indicator lights
	2 Power indicator lights
Performance	Forwarding mode: storage forwarding
	Backplane bandwidth: 56Gbps
	Packet forwarding rate: 38.7Mpps
	Support 8K MAC address table
Input power	DC 48-56V
Dimensions (L×W×H)	155mm x 128mm x 88mm

