PROVISION ISR®

Now you can see!

Color LCD PoE Switch

- PoES-16250GCL+2SFP
- PoES-24370GCL+2SFP

PoES-16250CL+2G+2SFP

PoES-24370CL+2G+2SFP

User Manual

Notes

- Before operating the switch, we strongly advise users to read this manual and keep it for later use.
- Please use the supplied power cord.
- Avoid incorrect operation, shock, vibration or heavy pressing which can cause damage to the switch.
- Do not use corrosive detergent to clean the body of the switch. If necessary, please use a soft dry cloth to wipe dirt; for hard contamination, use neutral detergent. Any cleanser for high-grade furniture is applicable.
- Do not operate the switch in extreme temperatures or extreme humidity conditions.
- Keep away from heat sources such as radiators, heat registers, stove, etc.
- The instructions in this manual could be outdated; if you need any clarifications you can contact an authorized PROVISION-ISR technician. PROVISION-ISR reserves the right to add changes to this manual and publish it online on our website (www.provision-isr.com): there may be inconsistencies with the latest version. This applies to any and all software upgrades and product improvements, interpretation and modification added. These changes will be published in the latest version without prior notification.
- All pictures and examples used in the manual are for reference only.

Package Contents

Check the following contents of your package:

- PoE Switch x 1
- User's Manual x 1
- Power Cord x 1
- Accessories (Rack mount ears*2, Rubber Feet*4, Bracket screws*8)

If any part is lost and damaged, please contact your local agent immediately.

Table of Contents

1)Introduction

Thank you for choosing Provision-ISR's PoE Switch. The 16/24GE(PoE)+2G SFP LCD Display PoE switch have 16(24)-10/100/1000Mbps PoE RJ45 Port and 2-Gigabit SFP Slot. Its PoE ports can automatically detect and supply power with those IEEE 802.3af/at compliant Powered Devices (PD). The electrical power is transmitted along with data in one single cable allowing you to expand your network where there are no power lines or outlets, where you wish to fix devices such as AP, IP Cameras or IP Phones, etc.

The LCD can be used to display the PoE work status, accurate measurement total load and for each port independently. This can help the installer and engineer to quickly discover and solve network failures and improve work efficiency and quality.

Port Feature

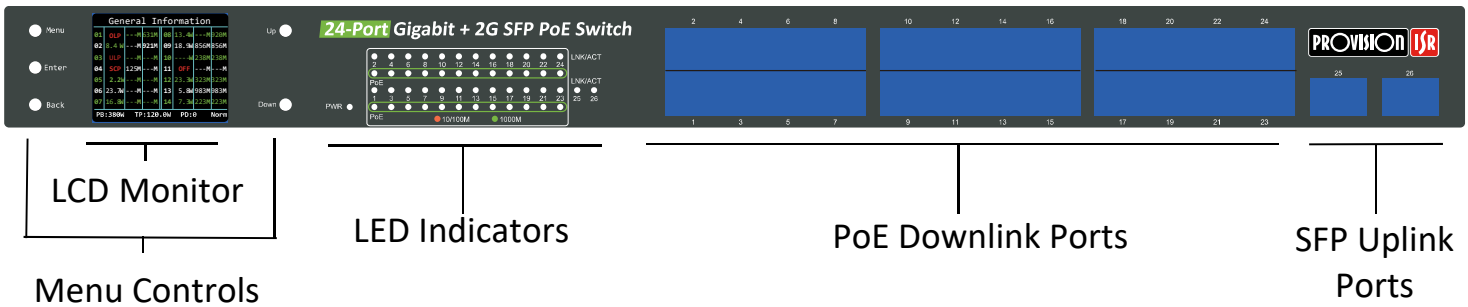
Model	PoE Ports	PoE Ports Speed	Uplink Ports	Uplink Ports Speed
PoES-16250GCL+2SFP	16 (1-16)	10/100/1000Mbps	2 SFP (17-18)	10/100/1000Mbps
PoES-24370GCL+2SFP	24 (1-24)	10/100/1000Mbps	2 SFP (25-26)	10/100/1000Mbps
PoES-16250CL+2G+2SFP	16 (1-16)	10/100Mbps	2SFP + 2RJ-45 (17-20)	10/100/1000Mbps
PoES-24370CL+2G+2SFP	24 (1-24)	10/100Mbps	2SFP + 2RJ-45 (25-28)	10/100/1000Mbps

2)Hardware Description

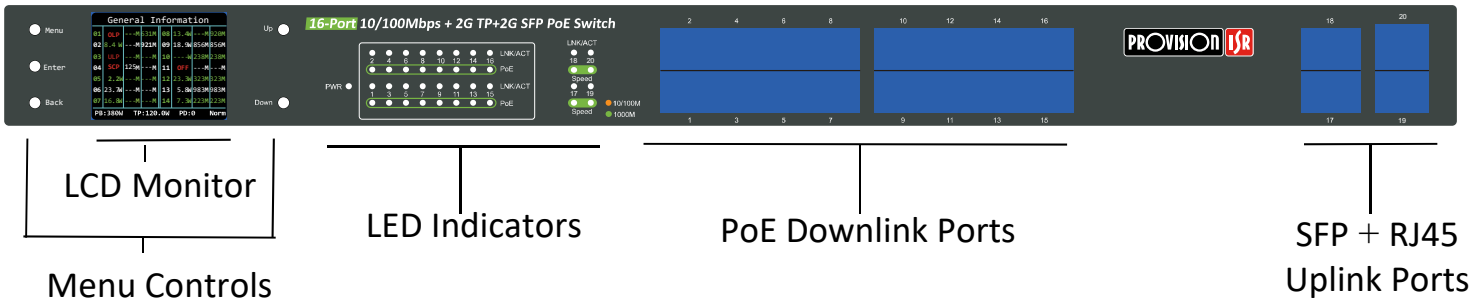
2.1) Front Panel:

The Front Panel of the PoE Switch consists of Ethernet Ports, LCD Display + controls and LED indicators.

Giga (10/100/1000Mbps Switches) Front panel illustration.



10/100Mbps Switches Front panel illustration.

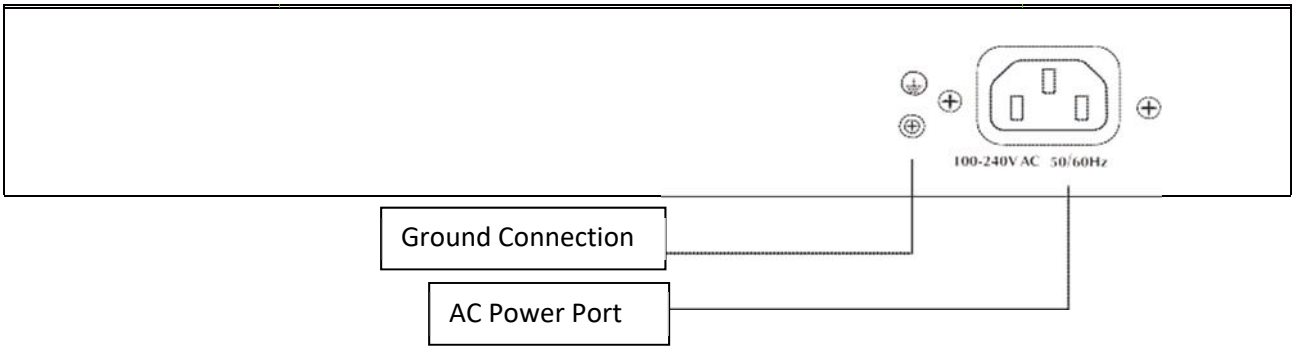


LED indicators

LED	Color	Function
PWR	Green	**Off**: Switch is off / No power supply. **Light**: The switch is on.
LNK/ACT	Orange	**Off**: No device is connected to the corresponding port. **Light**: Indicates the link through that port is successfully established at 10/100Mbps. **Blink**: Indicates that the Switch is actively sending or receiving data over that port.
	Green	**Off**: No device is connected to the corresponding port. **Light**: Indicates the link through that port is successfully established at 1000Mbps. **Blink**: Indicates that the Switch is actively sending or receiving data over that port.
PoE	Orange	**Off**: No PoE powered device (PD) connected. **Light**: There is a PoE PD connected to the port and power is supplied successfully. **Blink**: Indicates port abnormal power supply.

2.2) Rear Panel

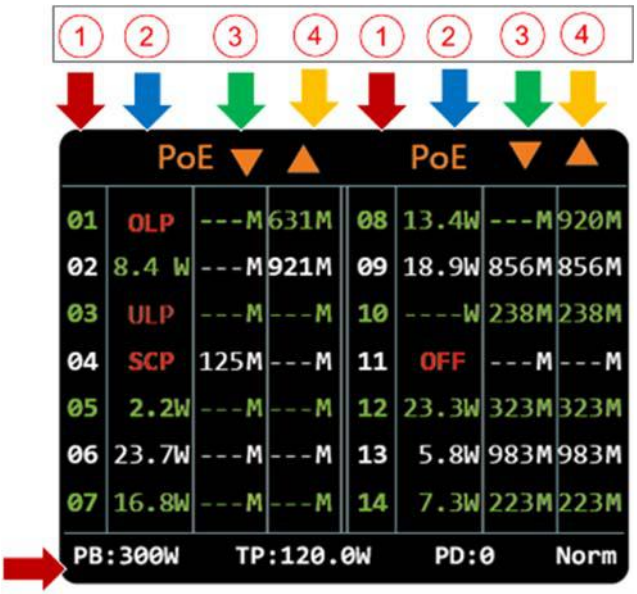
The rear panel of the PoE Switch contains a full range AC inlet power socket (100 to 240V AC, 50/60HZ) and a grounding screw. **In case the AC cord is not connected to ground, you must ground the unit using the grounding screw!**



3) LCD Features:

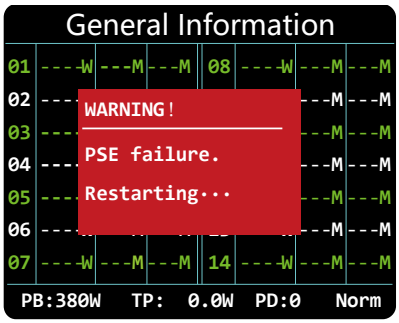
This PoE switch line is equipped with color LCD display and PoE. The LCD can display the status of the switch as well as independent status for each of the PoE ports such as: Output power, Overload, Short circuit, Light load, Low voltage, Over voltage, High temperature Etc.

3.1) General Status Indicators:



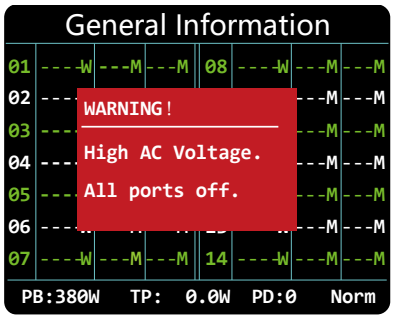
1) Port Number. Remaining ports will be displayed in the next page.
2) Port power consumption
3) Port download real-time bandwidth.
4) Port upload real-time bandwidth.
5) **PB:** the total "PoE budget" of the switch
6) **TP:** "Total power" under current use
7) **PD**: Numbers of "PD device"
8) **Norm:** Work mode. "Norm" for normal, VLAN and CCTV available

3.2) General Warnings:



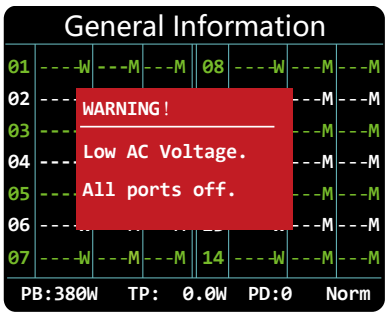
Problem: Power supply failure

Result: Switch restart



Problem: High AC voltage input

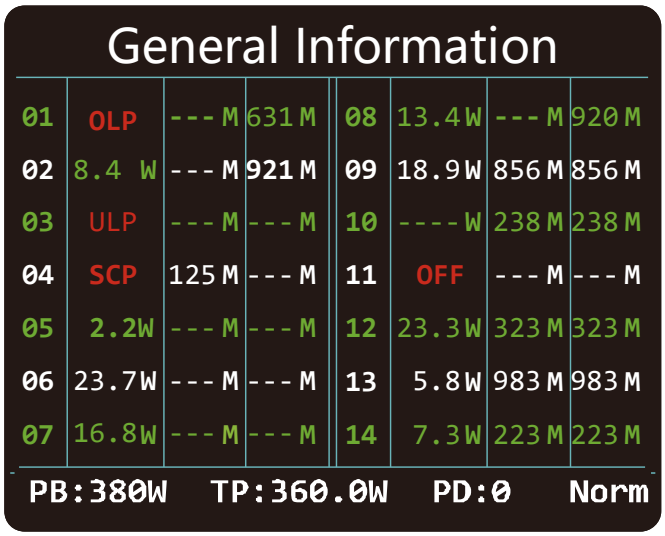
Result: Ports are off to prevent damage



Problem: Low AC voltage input

Result: Ports are off to prevent damage

3.3) Port Status Warnings:



OLP (Overload Protection): The port is overloaded and was shut down.

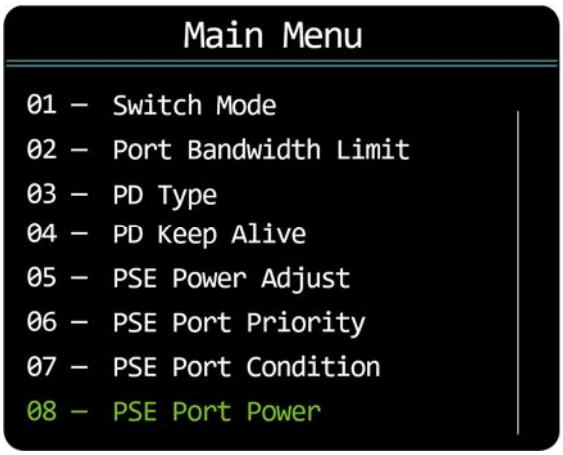
ULP (Underload Protection): The port is consuming extremely low power which might indicate a fault and therefore the port has shut down.

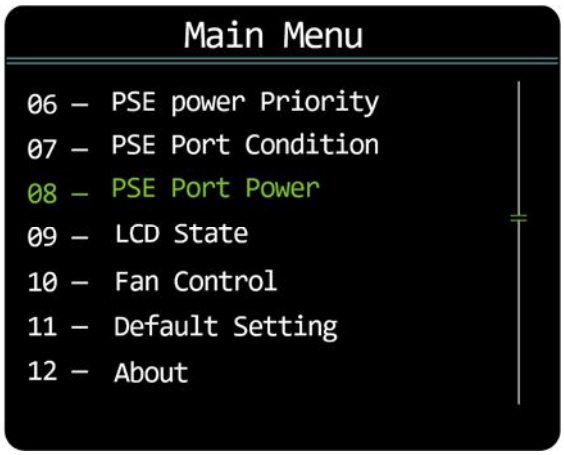
SCP (Short-Circuit Protection): The port appears to be short-circuited and was shut down

OFF: Port not in use

3.4) Menu and Operations:

Click and hold the menu button for 5 second in order to access the main menu:





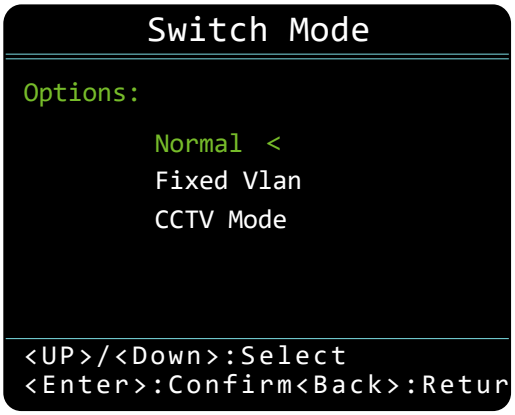
Scroll the menu using the “Up” and “Down” buttons, confirm using the “Enter” button and cancel/go back using the “Back” button.

The main menu contains 12 options. The next chapter will go through it.

3.4.1. Switch Mode:

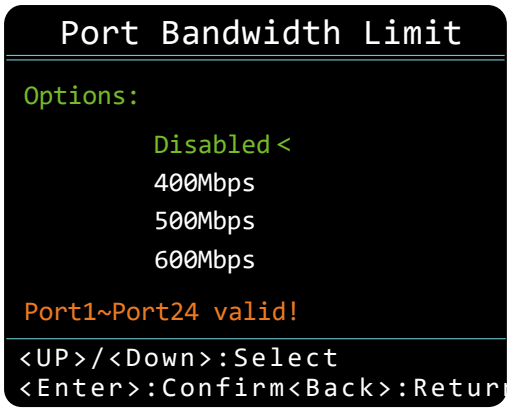
The Color LCD PoE switch series support 3 working modes:

1) **Normal:** The switch operates as a normal IEEE 802.af/at PoE switch in standard operation mode.
2) **Fixed VLAN:** This will enable a pre-made VLAN settings that will prevent the downlink ports from any communications between themselves. The VLAN enhances security by preventing unauthorized connection to any available port to communicate with the IP cameras and other equipment connected to the switch. It will also optimize network traffic.



3) **CCTV Mode:** CCTV mode will enable "Fixed VLAN" together with restricting the downlink port bandwidth to 10Mbps duplex communication. The CCTV mode allows the installer to reach distances of up to 250m over standard Cat.5e cable.

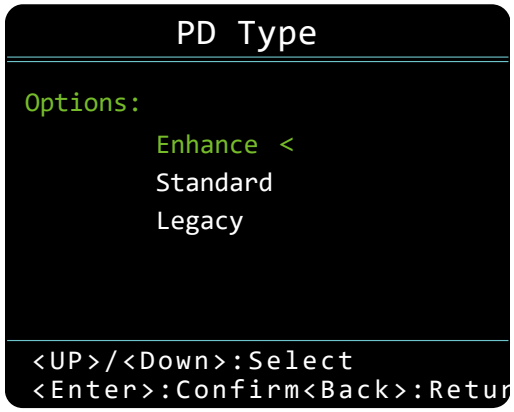
3.4.2. Port Bandwidth Limit:



This feature allows you to monitor and restrict the incoming bandwidth coming from a single port. Once crossed, the switch will set a buzzer alarm to warn for bandwidth overuse. Once enabled, this setting will take effect on all downlink ports. It cannot be set for a specific port.

The default setting is "Disabled" meaning that there is no bandwidth restriction. The other options are 400Mbps, 500Mbps and 600Mbps.

3.4.3. PD Type:



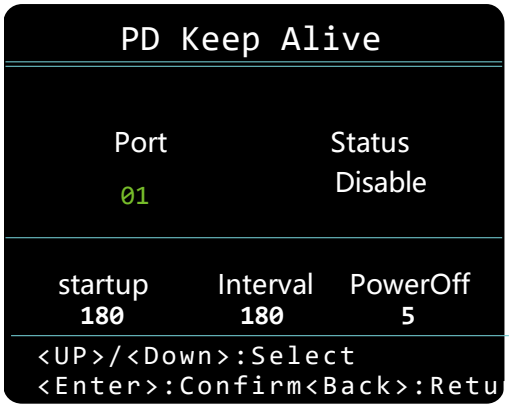
There are 3 types of PD. Enhance, Standard and Legacy.

Enhance: The default settings. It will detect at/af modes and increase the current surge limit to the if at standard is used.

Standard: Full conformity with the IEEE 802.3 af/at standards.

Legacy: Should be used if the PD device does not comply with the IEEE 802.3af standard. The switch will try to detect compliance with legacy standards and supply power to the PD if detected. This operation mode should not be used unless advice by the PD manufacturer, as it might supply power to devices not designed to receive PoE and damage it.

3.4.4. Keep Alive:



Keep alive is designed to detect a malfunction of a PD device that caused it to stop communication and make attempt to restore its connection by hard rebooting it by taking and restoring power. This feature is designed to increase the system's reliability and reduce maintenance to the system.

The Keep Alive can be set for each of the PoE ports individually. The settings should be done as follows:

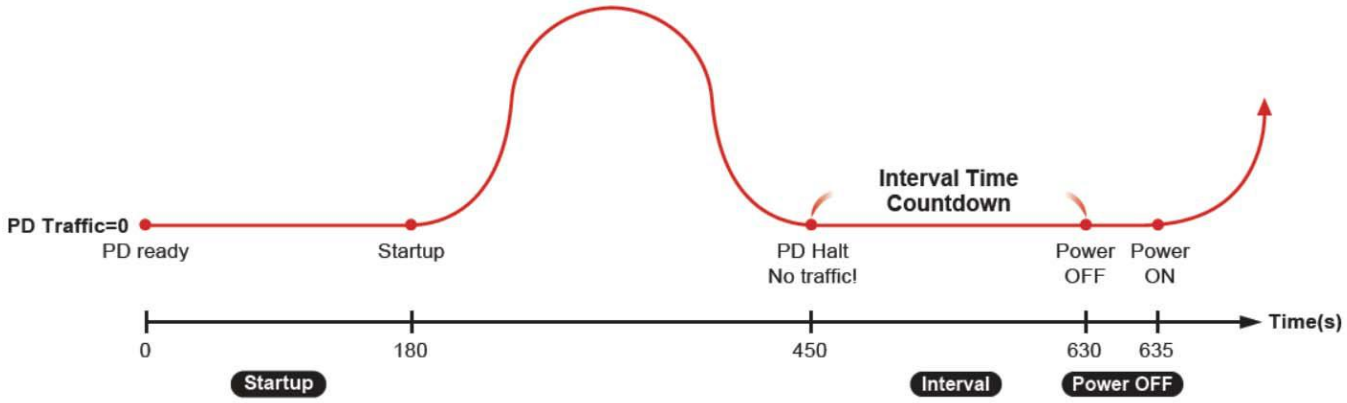
Port (01-16/24): The required port number

Status (Disabled/Enabled): The Keep Alive Status

Startup (60~300s): The estimated startup time of the PD device. Once a PD is connected to the specified port, a countdown will commence from the entered value. For example. If the "Startup" setting was set to 180, once a PD device will be connected a countdown of 180 seconds will commence. The switch will expect to detect incoming/outgoing traffic from the PD before the countdown reaches 0.

Interval (60~300s): The interval is the allowed time without incoming/outgoing traffic from the PD. Once no traffic is detected, the countdown will commence according to the configuration. If there is still no traffic by the countdown reaches 0 the switch will execute a hard bootup procedure.

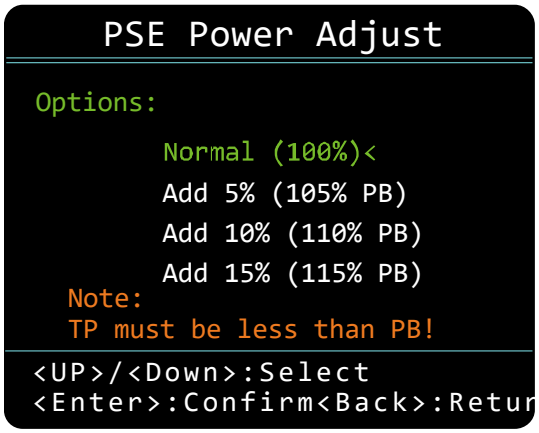
Power Off (5~60s): This value determines the duration of the power cut for the required switch. After this countdown reaches 0, the switch will restore power to the port and let the PD device boot and initialize.



3.4.5. PSE Power Adjust:

The PSE (Power Source Equipment) is the main power supply unit for the switch. In order to increase its life and reliability its rate is actually higher than the stated power bank, but it is reserved for situations where PD power requirement suddenly peaks for a short moment.

In case the devices connected to the switch reaches the PB limit, you can manually increase it and utilize more power to the PoE ports on the expense of the reserve power.



This feature has 4 options:

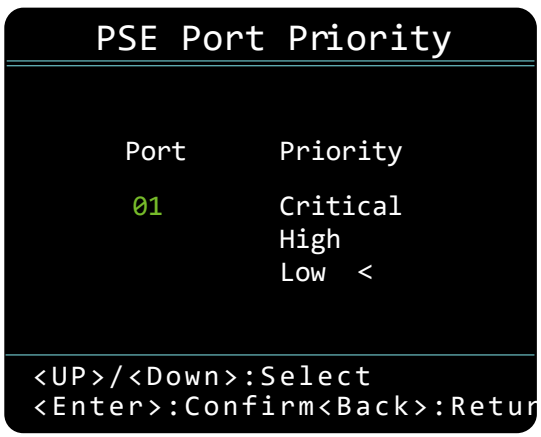
1. Normal (100%)
2. Add 5% (105% PB)
3. Add 10% (110% PB)
4. Add 15% (115% PB)

Note: In order to make sure that the PSE is not overloaded for a long time, please make sure that the TP is lower than the PB

3.4.6. PSE Port Priority:

The PoE switch has a power bank (PB) measured in Watts (W). PD will require power from the power bank. This power will be marked as Total Power (TP). Once the TP is higher than the PB, the switch will automatically shut down ports in order not to overload and damage itself.

PSE Port Priority allows the user to configure the priority of the ports – actually setting order of which the ports will shut down.



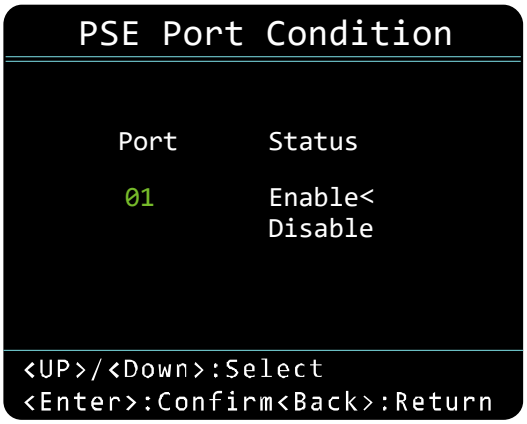
The priorities are as follows:

Critical: Devices set to “Critical” will shut down last

High: Device set to “High” will shut down once all the “Low” priority devices as shut down.

Low Priority (Default Settings): These devices will shut down first.

3.4.7. PSE Port Condition:



This setting will determine whether the switch is allowed to distribute PoE to the specified channel. This setting is mainly useful after the initial setting of the network and the PD devices. After the system is up, all ports without PD devices and all unused ports should be disabled from receiving PoE. It will prevent overloading the system by unrequired PoE devices. “Enable” is the default setting.

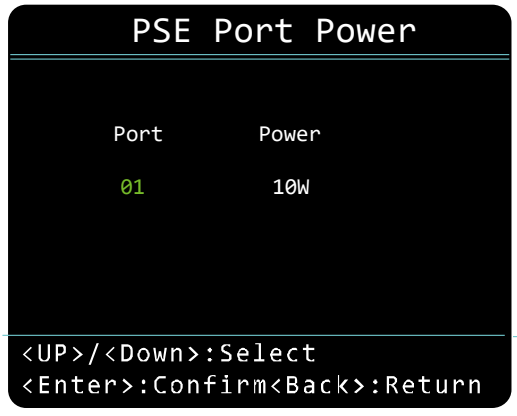
This setting will only affect PoE and will not affect network communication.

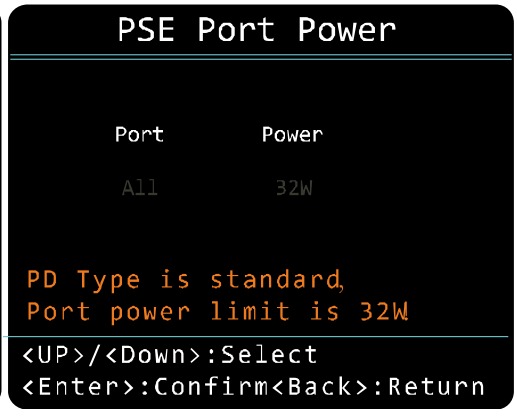
3.4.8. PoE Port Power:

This setting can limit the power supplied to a specific port as required. Each port can be configured independently.

1) Port: Port number for configuration.
2) Power (6-36W): The power limit for the port. Skips in 2W intervals.

Note: PoE Port Power is available for configuration only if the PD type is set to “Enhanced”/”Legacy”. If the PD type is set to “Standard” the PoE Port Power is automatically set to 32W and cannot be modified.

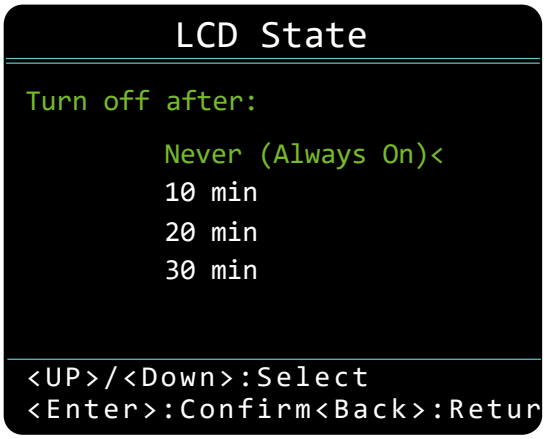




3.4.9. LCD State:

This setting will determine the duration of which the LCD monitor will stay on. The options are as follows:

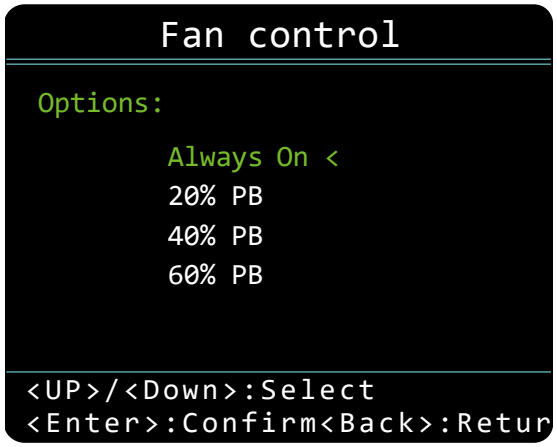
1) Never (Always On): The LCD monitor will stay on.
2) 10 min (Default Setting): The LCD will turn off after 10 minutes.
3) 20 min: The LCD will turn off after 20 minutes.
4) 30 min: The LCD will turn off after 30 minutes.



3.4.10. Fan Control:

This setting will determine the switch internal fan working mode. The options are as follows:

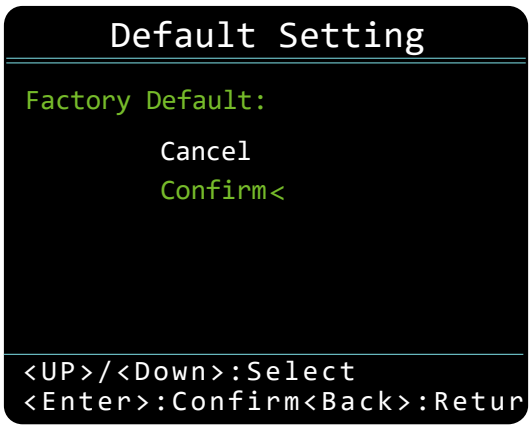
1) Always On: The fan will stay on regardless of the PB status.
2) 20% PB (Default Setting): The fan will turn on once the PB reaches 20% consumption.
3) 40% PB: The fan will turn on once the PB reaches 40% consumption.

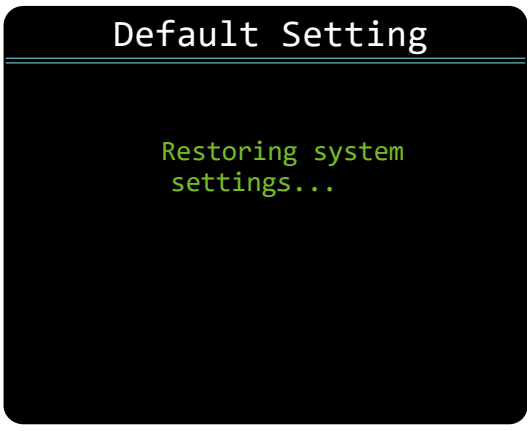


4) 60% PB: The fan will turn on once the PB reaches 60% consumption.

3.4.11. Default Settings:

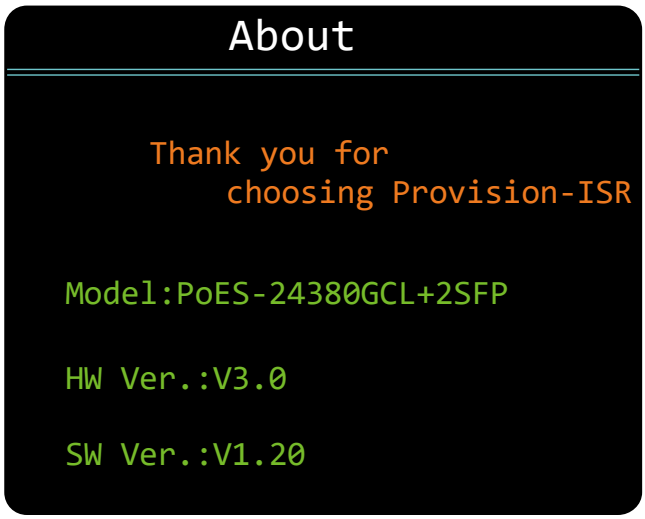
Use this option if you wish to reset all switch settings and configuration back to factory default.





3.4.12. About:

This will show you general information about the PoE Switch.



4) Switch Installation:

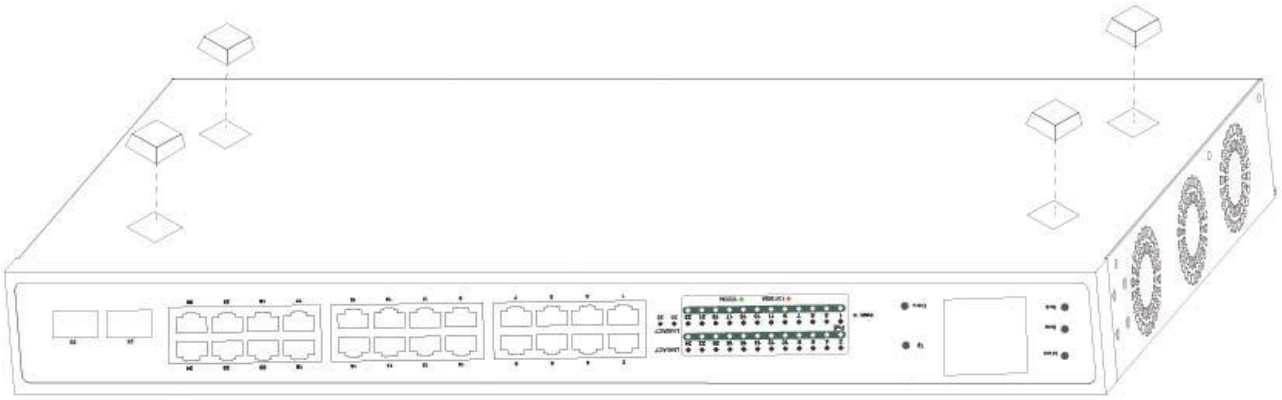
This section describes how to install your Ethernet Switch in the best manner and make proper connections. Please follow the following instructions in avoid of incorrect installation which might cause device damage and potential security threat.

General Instructions:

- Do not place the switch near water or any damp area. Prevent water or moisture from entering the switch chassis.
- Do not place the switch on an unstable case or desk. The switch might be damaged severely in case of a fall.
- Ensure proper ventilation of the equipment room and keep the all the ventilation openings of the switch free of obstruction.
- Make sure that the operating voltage and current matches the power input labeled on the switch.
- Do not open the chassis while the switch is operating or when electrical hazards are present to avoid electrical shock.
- Before cleaning the switch, unplug the power plug of the switch first. Do not clean the switch with wet cloth or liquid.

4.1) Desktop Installation:

For desktop installation, please attach the supplied cushioning rubber feet on the bottom of each corner of the Switch. This will prevent the switch from shifting or sliding and will reduce shock in case of external vibration. Allow adequate space for ventilation between the device and the objects around it.

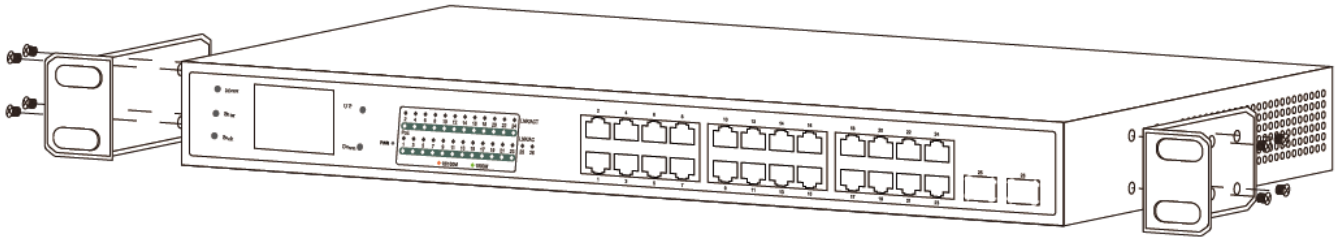


4.2) Rack Mount Installation

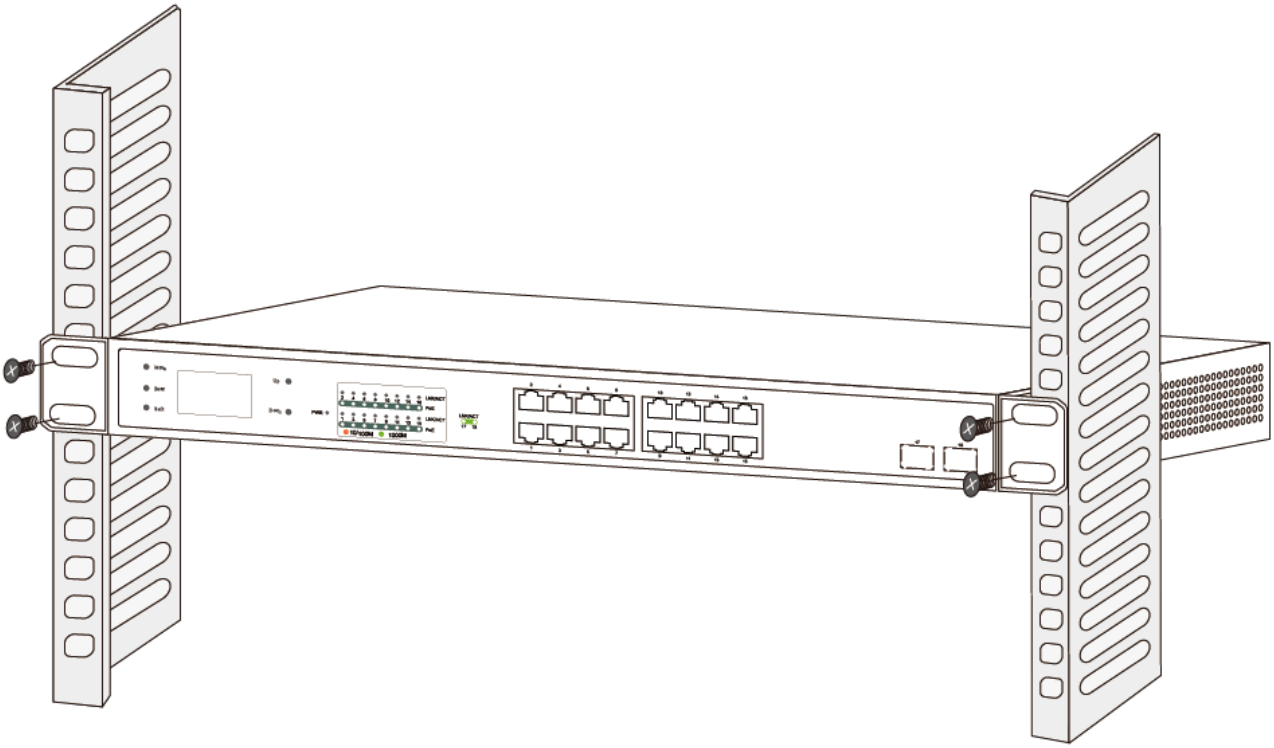
The switch is rack-mountable and can be installed on any EIA-19 compatible rack. Before installation, please install the mounting brackets on the switch side panels (one on each side), secure them with the provided screws. Do not use different screws since longer screws might damage the switch components and shorter screws might not bear the weight of the switch after installation.

After the brackets has been installed, use the rack mount screws (not included), in order to securely mount the switch on the rack.

Step 1: Bracket installation



Step 2: Mounting the switch on the rack.



4.3) Turning on the switch

Please plug the power supply into the switch, the internal power system of the switch can Auto-regulate the working power according to the actual input power. When the switch is power on, the power indicator will be light on the front panel of the switch shines.

Note: Please confirm the voltage is correct before power on, otherwise the switch will be damaged. (There is a power supply socket on the back panel of the PoE Ethernet switch. The power input is: 100V-240Vac, 50/60Hz.)