PSGS-6528XBF

L2+ Managed GbE PoE+ SDN Switch

Quick Installation and

Initial Configuration

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# Chapter 1 Introduction

## Overview

This user guide describes how to install, configure, and troubleshoot the PSGS-6528XBF, 28 Ports L2+ Managed GbE PoE+ SDN Switch.

By reading this user guide, users can perform the following tasks:

* To check the switch status by reading the LED behavior
* To reset the switch or to restore the switch to factory defaults
* To install the switch
* To use CLI to initially configure the switch
* To troubleshoot the switch

## Front View of the Switch

**Figure 1: Front panel of the switch**

## Rear View of the Switch

**Figure 2: Rear panel of the switch**

## LED Descriptions

The LEDs on the front panel provide users with switch status checking and monitoring. There are three types of LEDs as follows:

* **System LED**

Indicates if the switch is powered up correctly or not, or, indicates if there is a system alarm triggered for troubleshooting.

* **Mode LEDs**

Indicates the mode of all ports on the switch. Users can press the Mode button sequentially to switch among the two different modes (Link/Activity/Speed mode and PoE mode).

* **Port Status LEDs**

Indicates the current status of each port. Users can check these LEDs to understand the port status in different modes, after changing the mode by pressing Mode button.

The following table details the functions and descriptions of various LED indicators.

**Table 1: System LED**

|  |  |  |  |
| --- | --- | --- | --- |
| **LED**  | **Color** | **State** | **Description** |
| System | Green | On | The switch is powered ON correctly. |
| Off | The switch is not receiving power. |
| Blinking | POST Running |
| Red | On | An abnormal state, showing PoE is over its maximum power consumption.  |
| Blinking | POST Running |

**Table 2: Mode LEDs**

|  |  |  |  |
| --- | --- | --- | --- |
| **LED** | **Color** | **State** | **Description** |
| Link/Act/Speed | Green | On | The Port Status LEDs are displaying link status, network activity and speed of each port. |
|  |  |  |  |
| PoE | Green | On | The RJ45 Port Status LEDs are displaying PoE powering status of each port. |

By pressing the MODE button in less than 2 seconds to change LED modes (Link/Act/Speed Mode or PoE Mode), users can check the port status by reading the LED behaviors per the table below.

**Table 3: Port Status LEDs**

|  |
| --- |
| **When Link/Act/Speed Mode LED Lit** |
| **LED** | **Color** | **State** | **Description** |
| RJ45 Ports | Green | On | The port is enabled and established a link to the connected device, and the connection speed is 1000Mbps. |
| Blinking | The port is transmitting/receiving packets, and the connection speed is 1000Mbps. |
| Amber | On | The port is enabled and established a link to the connected device, and the connection speed is 10/100Mbps. |
| Blinking | The port is transmitting/receiving packets, and the connection speed is 10/100Mbps. |
| -- | Off | The port has no active network cable connected, or it is not established a link to connected device. Otherwise, the port may have been disabled through the switch user interface. |
| SFP+ Ports | Green | On | The port is enabled and established a link to the connected device, and the connection speed is 1/10Gbps. |
| Blinking | The port is transmitting/receiving packets, and the connection speed is 1/10Gbps. |
| Amber | On | The port is enabled and established a link to the connected device, and the connection speed is 1000/100Mbps. |
| Blinking | The port is transmitting/receiving packets, and the connection speed is 100Mbps. |
| -- | Off | The port has no active network cable connected, or it is not established a link to connected device. Otherwise, the port may have been disabled through the switch user interface. |
| **When PoE Mode LED Lit** |
| **LED** | **Color** | **State** | **Description** |
| RJ45 Ports | Green | On | The port is enabled and supplying power to the connected device. |
| Amber | On | An abnormal state, such as overload status, has been detected in the switch. |
| -- | Off | The port has no active network cable connected, or it is not connected a PoE PD device. Otherwise, the port may have been disabled through the switch user interface. |

## Mode/Reset Button

By pressing the Mode/Reset Button for certain period of time, users can perform the following tasks.

* **Change Port Status LED Mode**

To read the port status correctly in the two different modes (Link/Act/Speed mode or PoE mode).

* **Reset the Switch**

To reboot and get the switch back to the previous configuration settings saved.

* **Restore the Switch to Factory Defaults**

To restore the original factory default settings back to the switch.

**Note**:

According to the table below, users can easily judge which task is being performed by reading the LED behaviors while pressing the Mode/Reset button. **Once the LED behaviors are correctly displayed, users may just release the button.**

**Table 4: Mode/Reset Button Descriptions**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task to be Performed** | **Time Period of Pressing Button** | **SYS LEDBehavior** | **Port Status LEDBehavior** |
| Change LED Mode | 0 ~ 2 seconds | ONGreen | LED status will be changed according to the mode selected.  |
| Reset the Switch | 2 ~ 7 seconds | Blinking Green | ALL LEDs Light OFF |
| Restore to Defaults |  7 ~ 12 seconds | Blinking Green | ALL LEDs Stay ON |

# Chapter 2 Installing the Switch

## Package Contents

* The Switch
* AC Power cord (Option)
* Four adhesive rubber feet
* Installation Guide
* Mounting kit (Option)
* RJ45 to DB9 Serial Console Cable (Option)

**Note**: The switch is an indoor device. If you need to connect it to outdoor devices such as outdoor IP cameras or outdoor WiFi APs with cable, then you need to install an arrester on the cable between outdoor device and the switch.



## Mounting the Switch in a 19-inch Rack

**Step 1:** Attach the mounting brackets to both sides of the chassis. Insert screws and tighten them with a screwdriver to secure the brackets.

****

**Step 2:** Place the switch on a rack shelf in the rack. Push it in until the oval bracket holes align with the mounting holes in the rack posts.

**Step 3:** Attach the brackets to the posts. Insert screws and tighten them.



## Placing the Switch on Desk or Shelf

**Step 1:** Verify that the workbench is sturdy and reliably grounded.

**Step 2:** Attach the four adhesive rubber feet to the bottom of the switch.



## Connecting the AC Power Cord

**Step 1:** Connect the AC power cord to the AC power receptacle.

**Step 2:** Connect the other end of the AC power cord to the AC power outlet.

**Step 3:** Check the SYS LED. If it is ON, the power connection is correct.

****

## Installing SFP+ Modules

You can install or remove a mini-GBIC SFP+ module from a SFP+ port without having to power off the switch.

**Step 1:** Insert the module into the SFP+ port.

**Step 2:** Press firmly to ensure that the module seats into the connector.



**Note**:

The SFP+ ports should use UL Listed Transceiver product, Rated 3.3Vdc, Laser Class 1.

# Chapter 3 Initial & OpenFlow Configuration

## Initial Switch Configuration Using CLI

After powering up the switch for the first time, you can perform the initial switch configuration using CLI. For managing other switch features, please refer to the CLI user guide for details.

The following description is the brief of the network connection.

 -- Attach the RJ45 serial port on the switch’s front panel which used to connect to
the switch for telnet configuration

-- Go to the Device Manager on your computer, open the Port Settings in the Com Port Properties window, and configure the parameters as below:

 Baud rate 115200

 Stop bits 1

 Data bits 8

 Parity N

 Flow control none

**Note:**

The factory default Username of the switch needs to be created at the first time.

The default Password of the switch is a minimum of 9 characters.

Press ENTER to get started

New Account: admin

New Password:

Re-type Password:

PSGS-6528XB#

## OpenFlow Configuration

### Overview

OpenFlow hybrid mode switch supports two pipelines: OpenFlow pipeline and Normal pipeline. A port based classification mechanism is provided to dispatch packet to the corresponding pipeline. In addition to dispatch packet to one of the pipelines, system also supports the packet first processed by OpenFlow pipeline and then loopback to normal pipeline (“Normal” reserved port in OpenFlow spec).

### Commands of OpenFlow

The commands that are used for configuring and monitoring OpenFlow are shown as follows:

**Table 5: OpenFlow Commands**

|  |  |  |
| --- | --- | --- |
| **Command** | **Mode** | **Purpose** |
| openflow | Interface Config | To dispatch the incoming packets from corresponding port to OpenFlow pipeline. |
| openflow group | Global Config | Configure OpenFlow group. |
| openflow controller | Global Config | Specifies the OpenFlow controller. |
| openflow flow | Global Config | Configure OpenFlow default flow entries. |
| show openflow controllers | Exec | Displays OpenFlow controller status. |
| show openflow flows | Exec | Displays the entries of the flow table on the switch. |

### OpenFlow Configuration Flowcharts

The two diagrams below (Figure 3-1 & 3-2) illustrate the general steps for consideration when configuring an OpenFlow-controlled switch.



To be continued in Figure 3-2 below.

**Figure 3-1: Configuring an OpenFlow-controlled switch**



**Figure 3-2: Configuring an OpenFlow-controlled switch**

# Chapter 4 Troubleshooting

The following table provides information for users to easily troubleshoot problems by taking actions based on the suggested solutions within.

**Table 6: Troubleshooting Table**

|  |  |  |
| --- | --- | --- |
| **Symptoms** | **Possible Causes** | **Suggested Solutions** |
| SYSTEM LED is Off | The switch is not receiving power. | 1. Check if correct power cord is connected firmly to the switch and to the AC outlet socket. 2. Perform power cycling the switch by unplugging and plugging the power cord back into the switch.3. If the LED is still off, try to plug power cord into different AC outlet socket to make sure correct AC source is supplied.  |
| SYSTEM LED is RED | An abnormal state has been detected by the switch. | Check the system log within the switch from CLI to understand the abnormal state (e.g. exceeding operating temperature range) and take corresponding actions to resolve. |
| Port Status LED is Off in the Link/Act/Speed Mode | The port is not connected or the connection is not working. | 1. Check if the cable connector plug is firmly inserted and locked into the port at both the switch and the connected device.2. Make sure the connected device is up and running correctly.3. If the symptom still exists, try different cable or different port, in order to identify if it is related to the cable or specific port.4. Check if the port is disabled in the configuration settings via CLI. |
| Port Status LED is Off in the PoE Mode | The port is not supplying power | 1. Check if the cable connector plug is firmly inserted and locked into the port at both the switch and the connected device.2. Make sure the correct Ethernet cables are used.3. If the symptom still exists, try different cable or different port, in order to identify if it is related to the cable or specific port.4. Check if the port is disabled in the configuration settings via CLI. |