IPGS-2712BU

Industrial L2+ managed GbE UPoE 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 IPGS-2712BU, 12 Ports Industrial L2+ managed GbE UPoE 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 a Web browser to initially configure the switch
* To troubleshoot the switch

## Front View of the Switch

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

## Rear View of the Switch

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**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:

* **Power LEDs**

indicates if the switch is powered up correctly or not.

* **System LED**

indicates if the system is ready or not.

* **Alarm LED**

indicates if the system is normal or not.

* **Ring Master and Rapid Chain LED**

indicates if the Rapid Ring is ready or not.

* **Port Status LEDs**

indicates the current status of each port. Users can check these LEDs to understand the port status.

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

**Table 1: Power LEDs**

|  |  |  |  |
| --- | --- | --- | --- |
| **LED**  | **Color** | **State** | **Description** |
| Power1 | Green | On | The switch is powered ON correctly. |
| Off | The switch is not receiving power from power1. |
| Power2 | Green | On | The switch is powered ON correctly. |
| Off | The switch is not receiving power from power2. |

**Table 2: System LED**

|  |  |  |  |
| --- | --- | --- | --- |
| **LED**  | **Color** | **State** | **Description** |
| System | Green | On | The switch is ready. |
| Off | The switch is not ready. |

**Table 3: Alarm LED**

|  |  |  |  |
| --- | --- | --- | --- |
| **LED** | **Color** | **State** | **Description** |
| Alarm | Red | On | An abnormal state, such as temperature, voltage or DC power1/2, has been detected in the switch. |
| Off | The system is normal. |

**Table 4: Ring Master and Rapid Chain LED**

|  |  |  |  |
| --- | --- | --- | --- |
| **LED** | **Color** | **State** | **Description** |
| RM(Ring Master) | Green | On | Ring Master has been detected in the switch. |
| Amber | On | Ring Member has been detected in the switch. |
| -- | Off | Disable |
| RC(Rapid Chain) | Green | On | Rapid Chain has been detected in the switch. (Active path) |
| Amber | On | Rapid Chain has been detected in the switch. (Backup path) |
| Blinking | Error:There is no correspondent Rapid Chain Switch found. |
| -- | Off | Disable |

Users can check the port status by reading the LED behaviors per the table below.

**Table 5: Port Status LEDs**

|  |  |  |  |
| --- | --- | --- | --- |
| **LED** | **Color** | **State** | **Description** |
| RJ45 PortsUP | Green | On | The port is enabled and established a link to connected device, and the connection speed is 1000Mbps. |
| Green | Blinking | The port is transmitting/receiving packets, and the connection speed is 1000Mbps. |
| Amber | On | The port is enabled and established a link to connected device, and the connection speed is 10/100Mbps. |
| Amber | 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. |
| RJ45 PortsDown | Green | On | The port is enabled and supplying power to 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. |
| SFP Ports | Green | On | The port is enabled and established a link to connected device, and the connection speed is 1000Mbps. |
| Green | Blinking | The port is transmitting/receiving packets, and the connection speed is 1000Mbps. |
| Amber | On | The port is enabled and established a link to connected device, and the connection speed is 100Mbps. |
| Amber | 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. |

## DIP Switch

By configure the DIP Switch, users can perform the Rapid Ring tasks.

Detail setting can refer to Rapid Ring User Manual.

## Reset Button

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

* **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 Reset button. **Once the LED behaviors are correctly displayed, users may just release the button.**

**Table 6: Reset Button Descriptions**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task to be Performed** | **Time Period of Pressing Button** | **SYS LEDBehavior** | **Port Status LEDBehavior** |
| 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
* Terminal Block
* Installation Guide
* Mounting kit
* RJ45 to DB9 Serial Console Cable (Option)

**Note**:

T he switch is an indoor device. If you need to use it to connect 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.


**Fig. Addition an arrester between outdoor device and this switch**

## Mounting the Switch on a DIN Rail

**Step 1:** Attach the DIN Rail mounting kit to rear panel of the chassis. Insert screws and tighten then with a screwdriver to secure the kit.

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**Figure 3: Attaching DIN Rail Kit to the Switch**

**Step 2:** Insert the upper lip of the DIN rail into the DIN-rail mounting kit. And press the switch towards the DIN rail until it snaps into place.



**Figure 4: Insert switch to the DIN Rail**

**Step 3:** Make sure that the switch is attached securely to DIN Rail.

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**Figure 5: The switch is attached to DIN Rail**

## Mounting the Switch on Wall (Optional)

**Step 1:** Attach the wall mounting plates to rear panel of the chassis. Insert screws and tighten then with a screwdriver to secure the plates.

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**Figure 6: Attaching Wall Mounting Plates to the Switch**

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**Figure 7: The Dimension of Wall Mounting Plates**

**Step 2:** Install user-supplied screws on the appropriate location on the wall.

**Step 3:** Make sure that the switch is attached securely to wall.

## Connecting the DC Power Cord

**Step 1:** Insert the negative/positive DC wires into the V-/V+ terminals, respectively.

**Step 2:** To keep the DC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

**Step 3:** Insert the terminal block connector prongs into the terminal block receptor.

**Step 4:** Check the SYS LED. If it is ON, the power connection is correct.

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**Figure 8: Connecting DC power cord**

**WARNING**:

Safety First Turn the power off before connecting or disconnecting modules or wires. The correct power supply voltage is listed on the product label. Check the voltage of your power source to make sure that you are using the correct voltage. Do NOT use a voltage greater than what is specified on the product label.

## Connecting the DI/DO Relay Wires



**Figure 9: Connecting DI/DO Relay Wires**

**STEP 1:** Insert the negative (ground)/positive DI/DO Relay wires into the +/- terminals, respectively.

**STEP 2:** To keep the DI/DO Relay wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

**STEP 3:** Insert the terminal block connector prongs into the terminal block receptor.

**Note**:

Digital output (relay): 24VDC/1A

Digital input: level 0(Low) -> 0V to 6V, level 1 (High) -> 10V to 24V

**FAULT:**

The two contacts of the terminal block connector are used to detect user-configured events. The two wires attached to the fault contacts form an open circuit when a user-configured event is triggered. If a user-configured event does not occur, the fault circuit remains closed.

## 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.



**Figure 10: Installing a SFP Module into a SFP Port**

**Note**:

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

# Chapter 3 Initial Configuration of Switch

## Initial Switch Configuration Using Web Browsers

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

To begin with the initial configuration stage, you need to reconfigure your PC’s IP address and subnet mask so as to make sure the PC can communicate with the switch. After changing PC’s IP address (for example, 192.168.1.250), then you can access the Web interface of the switch using the switch’s default IP address as shown below.

The initial switch configuration procedure is as follows:

**Note:**

The factory default IP address of the switch is 192.168.1.1

The factory default Subnet Mask of switch is 255.255.255.0

## Initial Switch Configuration Procedure

The initial switch configuration procedure is as follows:

1. Power up the PC that you will use for the initial configuration. Please make sure the PC has the Ethernet RJ45 connector to be connected to the switch via standard Ethernet LAN cable.
2. Reconfigure the PC’s IP address and Subnet Mask as below, so that it can communicate with the switch. The method to change the PC’s IP address, for example, for a PC running Windows® 7/8.x/10, is as follows:

**Step 1:** Type “*network and sharing*“ into the **Search box** in the **Start Menu**

**Step 2:** Select **Network and Sharing Center**

**Step 3:** Click on **Change adapter settings** on the left of PC screen

**Note:**

Users can also skip step 1 to 3, by pressing **WinKey**+**R** and type ”*ncpa.cpl”*command to get to step 4 directly.

**Step 4:** Right-click on your local adapter and select **Properties**

**Step 5:** In the **Local Area Connection Properties** window highlight **Internet Protocol Version 4 (TCP/IPv4)** then click the **Properties** button.

**Note:**

Be sure to record all your PC’s current IP settings to be able to restore them later.

**Step 6:** Select the radio button **Use the following IP address** and enter in the IP for the PC (e.g. any IP address not in use, and in between *192.168.1.2* and *192.168.1.254*), Subnet mask (e.g. *255.255.255.0*), and Default gateway that corresponds with your network setup. Then enter your Preferred and Alternate DNS server addresses.

**Step 7:** Click **OK** to change the PC’s IP address.

1. Power up the switch to be initially configured, and wait until it has finished its start-up processes.
2. Connect the PC to any port on the switch using a standard Ethernet cable, and check the port LED on the switch to make sure the link status of the PC’s is OK.
3. Run your Web browser on the PC, enter the factory default IP address, so as to access the switch’s Web interface.

If your PC is configured correctly, you will see the login page of the switch as shown by Figure 9 below.

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**Figure 11: Web Interface login page**

If you do not see the above login page, please perform the following steps:

- Refresh the web page.

- Check to see if there is an IP conflict issue.

- Clean browser cookies and temporary internet files.

- Check your PC settings again and repeat step 2.

1. Enter the factory default username and password in login page.

Click “Login” to log into the switch.

**Note:**

The factory default Username of the switch is **admin**.

There is no factory default Password of the 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 7: 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 DC 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 DC outlet socket to make sure correct DC source is supplied.  |
| Port Up Status LED is Off | 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 WEB user interface . |
| Port Down Status LED is Off  | 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 WEB user interface . |