IGS-2704A

Industrial L2+ managed GbE Switch

Quick Installation and

Initial Configuration

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# Chapter 1 Introduction

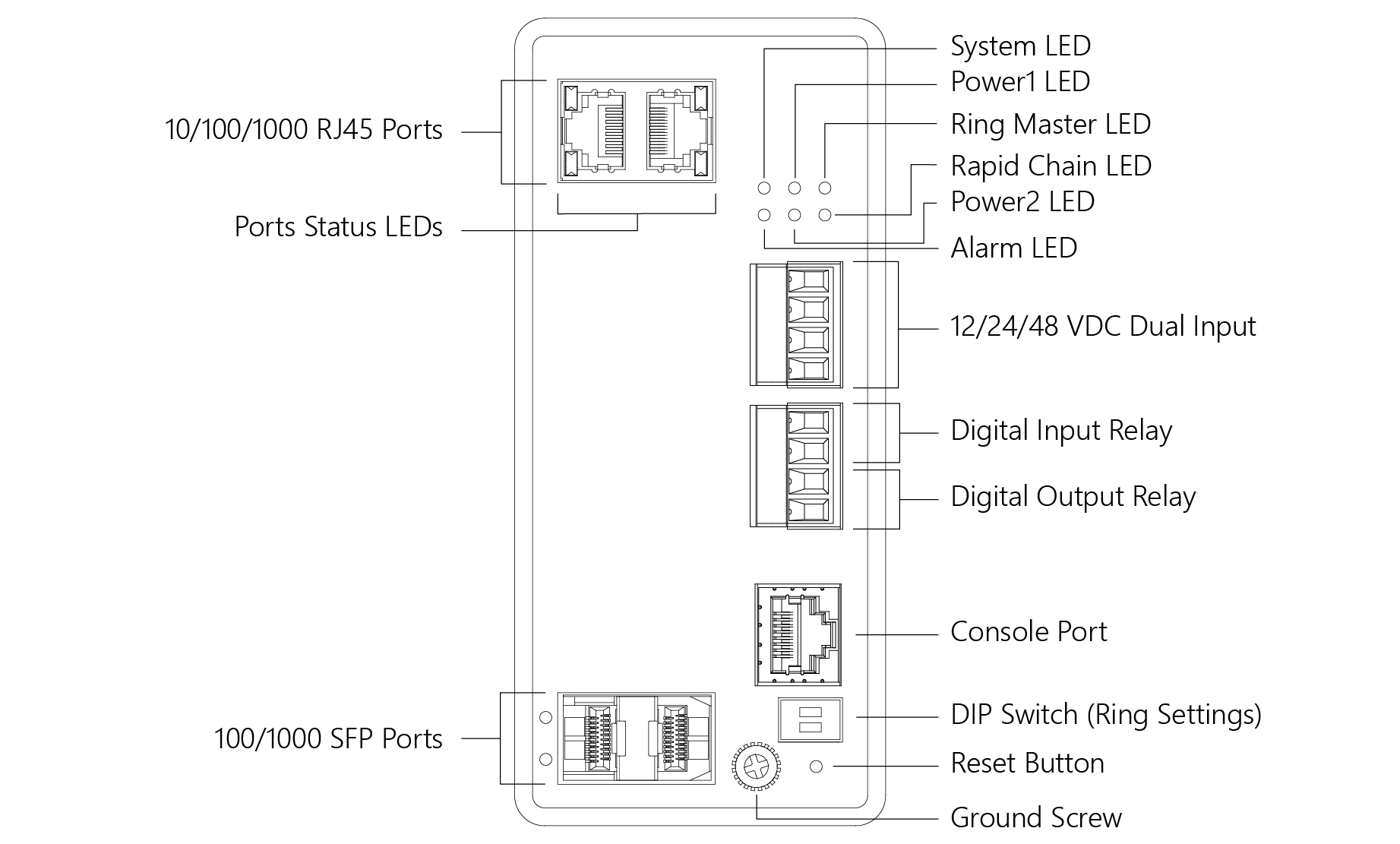
## Overview

This user guide describes how to install, configure, and troubleshoot the IGS-2704A, 4 Ports Industrial L2+ managed GbE Switch.

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

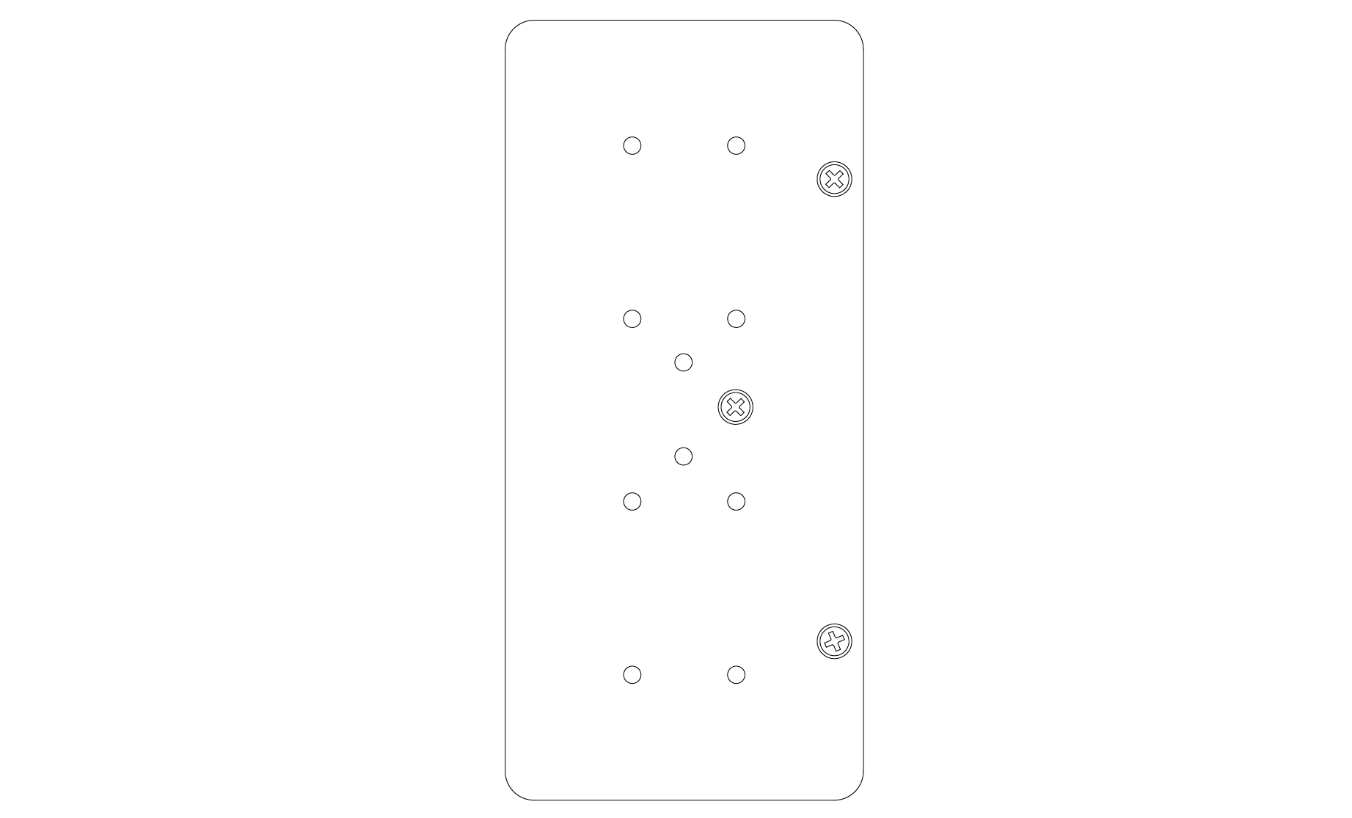
* To check the switch status by reading the LED behavior
* To reset the switch or to restore the switch to factory defaults
* To install the switch
* To use a Web browser to initially configure the switch
* To troubleshoot the switch

## Front View of the Switch



**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 front panel LEDs provide switch status checking and monitoring

* **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 tables describe 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 Ports | Green | On | The port is enabled and established a link to the connected device. The connection speed is 1000Mbps. |
| Green | Blinking | The port is transmitting/receiving packets. The connection speed is 1000Mbps. |
| Amber | On | The port is enabled and established a link to the connected device. The connection speed is 10/100Mbps. |
| Amber | Blinking | The port is transmitting/receiving packets. The connection speed is 10/100Mbps. |
| -- | Off | The cable is not connected to an active port or device. Or the port is disabled through the switch user interface. |
| SFP Ports | Green | On | The port is enabled and established a link to the connected device. The connection speed is 1000Mbps. |
| Green | Blinking | The port is enabled and established a link to the connected device. The connection speed is 1000Mbps. |
| Amber | On | The port is enabled and established a link to the connected device. The connection speed is 100Mbps. |
| Amber | Blinking | The port is transmitting/receiving packets. The connection speed is 100Mbps. |
| -- | Off | The port has no active network cable connected, or it is not established a link to the 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 a 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 understand 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 LED Behavior** | **Port Status LED Behavior** |
| 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)

## 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 them 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.

****

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

## Mounting the Switch on Wall (Optional)

**Step 1:** Attach the wall mounting plates to the rear panel of the chassis. Insert screws and tighten them 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 the 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:** Carefully slide the SFP device into the slot, aligning it with the internal installation guides.

**Step 2:** Press firmly to ensure that the SFP device is firmly seated against the internal mating connector.

**Step 3:** Attach an appropriate cable into the SFP module port.

**Step 4:** Attach the other end of the cable to the other device.



**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 the 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 the 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, the switch Login page displays as shown below.

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**Figure 11: Web Interface login page**

If you do not see the above login page, try these 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 the 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 intends to help determine why a port or interface experiences problems. It can save time to look at the port LEDs which give you the link status or can indicate an error condition.

**Table 7: Troubleshooting Table**

|  |  |  |
| --- | --- | --- |
| **Symptoms** | **Possible Causes** | **Suggested Solutions** |
| SYSTEM LED is Off | The switch is not receiving power. | 1. Check if the correct power cord is connected firmly to the switch and to the DC outlet socket.  2. Cycle switch by unplugging and plugging the power cord back into the switch. 3. If the LED is still off, try to plug the 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 a different cable or a 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 UI. |