

# L2+ Fully Managed Switches with Gigabit Ports and SFP+ Uplinks

## User Manual

Models 561846, 561853, 561969, 562171, 562188



Shown: 561969



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# 1 Product Introduction

Thank you for purchasing the Intellinet Network Solutions L2+ Fully Managed Switch with Gigabit Ports and SFP+ Uplinks. Before you install and use this product, please read this manual carefully to benefit from the full set of features that are available.

## 1.1 Product Overview

This switch is a high performance L2+ Fully managed switch with 10G fiber ports. It provides forty-eight 10/100/1000 Mbps auto-sensing RJ45 ports, plus 10 gigabit SFP+ optical port that can be used to link higher-bandwidth equipment upstream. Store-and-forward technology combined with dynamic memory allocation ensures effective bandwidth allocation at each port. This unit's perfect QOS strategy and plenty of VLAN functionality along with easy maintenance and management help meet the networking and access requirements of small and medium-sized enterprises, hotels, offices and campus networks. It's equipped with Powered Device Monitoring\*, a self-healing PoE function. Often called a PoE watchdog\*, the function performs a PD-alive check to all connected PDs and automatically resets unresponsive devices, such as PoE security surveillance cameras, by cutting off and then restoring power.

The switch's ports can supply power via Power over Ethernet\*. Each RJ45 port supports IEEE 802.3at/af-compliant powered devices and automatically detects and supplies the correct amount of power to compatible equipment.

## 1.2 Features

- Support IEEE 802.3i, IEEE 802.3af, IEEE 802.3at, IEEE 802.3u, IEEE 802.3z, IEEE 802.3ab, IEEE 802.3x, IEEE 802.3ae, IEEE 802.3az.
- Support MAC address auto-learning and auto-aging.
- 10/100/1000 Mbps self-adapting RJ45 ports
- 1000/10000 Mbps SFP+ ports to link to higher-bandwidth equipment upstream.
- Store and forward switching architecture.
- Web-based management support.
- LED indicators for monitoring power, link/activity and PoE\*.
- Full 19-inch metal housing and internal power adapter design, suitable for rack installation.

| Model # | RJ45 Ports | Uplink Ports | PoE |
|---------|------------|--------------|-----|
| 561846  | 24         | 4 SFP+       | Yes |
| 561853  | 48         | 4 SFP+       | No  |
| 561959  | 48         | 6 SFP+       | Yes |
| 562171  | 8          | 2 SFP+       | Yes |
| 562188  | 16         | 4 SFP+       | Yes |

*\*All PoE features don't apply to Intellinet Network Solutions 561853 Switch. All other management features are shared. Kindly take this into consideration moving forward.*

## 1.3 External Component Description

### 1.3.1 Front Panel

The front panel of the Switch consists of Reset (RST) button, Mode (CTRL) button (561959 only), Console port, 10/100/1000 Mbps adaptive Ethernet ports, 1000/10000 Mbps SFP+ ports, and a series of LED indicators. The rear panel provides an AC power connector and grounding terminal.

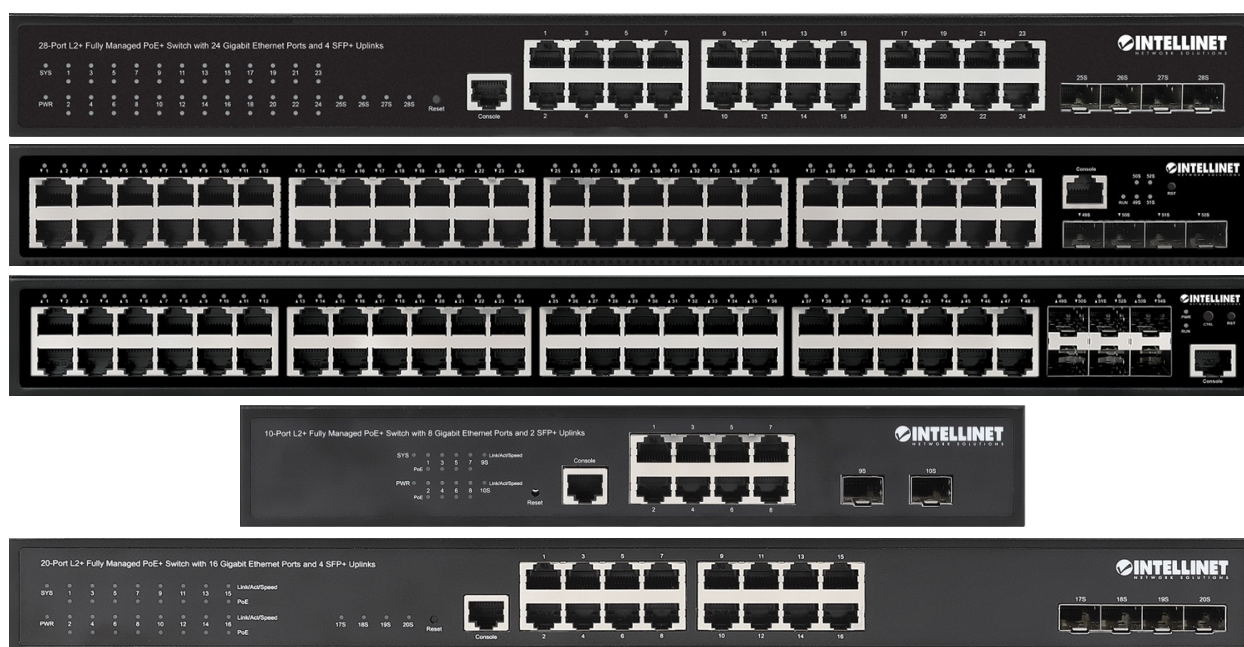


Figure 1 – Front Panel (From top to bottom: 561846, 561853, 561969, 562171, 562188)

#### LED indicators:

The LED Indicators will allow you to monitor, diagnose and troubleshoot any potential problem with the Switch, connection or attached devices.

The following chart shows the LED indicators of the Switch along with an explanation of each indicator.

| Indicator                               | Face plate Marker | Status         | Indication                                 |
|-----------------------------------------|-------------------|----------------|--------------------------------------------|
| Power Status Light                      | PWR               | Off            | Power Off.                                 |
|                                         |                   | Blinking green | Power On.                                  |
| System Status Indicator                 | RUN/SYS           | Blinking       | The system is starting.                    |
|                                         |                   | Solid green    | System startup completed.                  |
| Ethernet Port Indicator (Link/Act Mode) | 1 – 48            | Off            | The port is NOT connected.                 |
|                                         |                   | Solid green    | The port is connected at 10/100/1000 Mbps. |
|                                         |                   | Blinking       | The port is sending or receiving data.     |
| SFP+ indicator                          | #S                | Off            | The port is NOT connected.                 |
|                                         |                   | Solid green    | The port is connected at 1000/10000 Mbps.  |
|                                         |                   | Blinking       | The port is sending or receiving data.     |
| Ethernet port indicator (PoE Mode)      | PoE (1 – 48)      | Off            | The port is NOT connected.                 |
|                                         |                   | Solid green    | Port is connected to PD device.            |

**10/100/1000 Mbps PoE RJ45 ports (1 – 48):**

Designed to connect to the device with a bandwidth of 10 Mbps, 100 Mbps or 1000 Mbps via Cat5e/6/6a/8.x UTP/STP cable. Each has a corresponding Link/Act/Speed indicator. Each RJ45 port also supports Power over Ethernet to connect and operate IEEE 802.3at/af Powered Devices (PD) (*excluding 561853*).

**SFP+ ports (#S):**

Designed to install SFP+ modules. The switch features SFP+ receiver slots. An SFP+ port connect to the device with a bandwidth of 1000 Mbps or 10000 Mbps.

**Console port (Console):**

Designed to connect with the serial port of a computer or terminal for monitoring and configuring the Switch.

**Mode Switch (CTRL):**

Press and hold for three seconds to alternate between Link or PoE Status.

## 1.3.2 Rear Panel

The rear panel of the Switch contains one grounding terminal and an AC power connector as shown.



*Figure 3 - Rear Panel*

**Grounding Terminal:**

Wire the grounding terminal to an object that provides earth grounding (in rackmount installations, grounding is typically provided by the metal frame of the mounting rack), which is located on the side of the power supply connector.

**AC Power Connector:**

Power is supplied through an external AC power adapter. It supports 100 – 240 V AC, 50/60 Hz.

## 1.4 Package Contents

Before installing the Switch, make sure that the following packing list matches the items in the packaging. If any part is lost and damaged, please contact your place of purchase as soon as possible. In addition, make sure that you have the tools to install switches and cables on hand.

- L2+ Fully Managed Switch with Gigabit Ports and SFP+ Uplinks
- Rackmount brackets
- AC power cord
- Quick Install Guide

## 2 Installing and Connecting the Switch

This section describes how to install your Switch and make connections to it. Review the following topics and perform the procedures in the order being presented.

### 2.1 Installation

Use the following instructions to avoid incorrect installation, which could damage the Switch or void the warranty.

- Place the Switch on stable surface that can safely hold the switch and any related equipment.
- Make sure the Switch will be connected to power in the proper AC input range (refer to the switch label).
- Avoid electric shock — do not open the Switch housing, even if the switch is disconnected from power.
- Make sure that there is proper clearance on all sides of the Switch for proper heat dissipation and adequate ventilation.

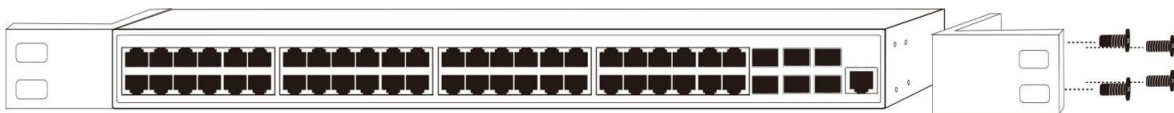
#### 2.1.1 Desktop Installation

When installing the Switch on a desktop, allow adequate space for ventilation between the device and the objects around it. Be sure to place the switch on a stable surface that can support the weight of the switch and any other components that may be placed on it.

#### 2.1.2 Rack-mountable Installation in 19-inch Cabinet

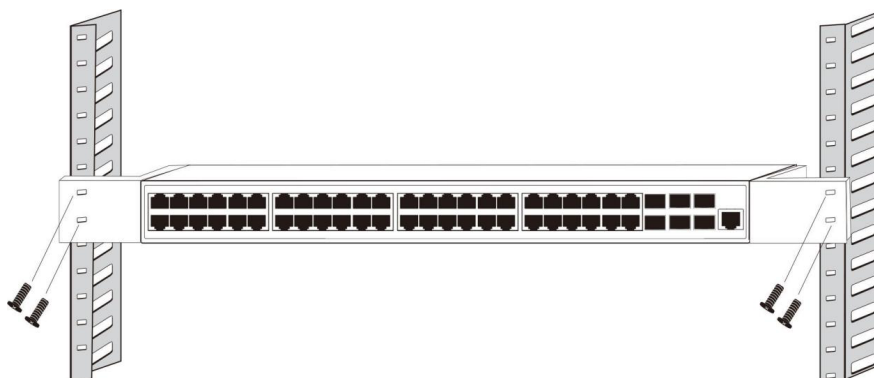
The Switch can be mounted in an EIA standard-sized, 19-inch rack, which can be placed in a wiring closet with other equipment. To install the Switch, please follow these steps:

- A.** Attach the mounting brackets on the Switch's side panels (one on each side) and secure them with the screws provided.



*Figure 4 - Bracket Installation*

- B.** Use the screws provided to mount the Switch on the rack; tighten the screws securely.



*Figure 5 - Rack Installation*

### 2.1.3 Power on the Switch

The Switch is powered on by the 100 – 240 VAC 50/60 Hz internal high-performance power supply. Follow these steps to connect:

**AC Electrical Outlet:**

It is recommended to use a single-phase three-wire receptacle with neutral outlet. Make sure to connect the metal ground connector to the grounding source on the outlet.

**AC Power Cord Connection:**

Connect the AC power connector on the back panel of the Switch to the external power receptacle with the included power cord. Check that the ON power indicator is lit, which indicates that the Switch is receiving power.

## 2.2 NIC Connection to the Switch

After installing the network card driver, insert the NIC into the computer. Connect one end of the twisted pair to the RJ45 jack on your computer. Connect the other end to any RJ45 port of the Switch, with a maximum distance of 100 meters between the Switch and the computer. Once the connection is OK and the devices power on normally, the LINK/ACT/Speed status indicator lights, corresponding to ports on the Switch.

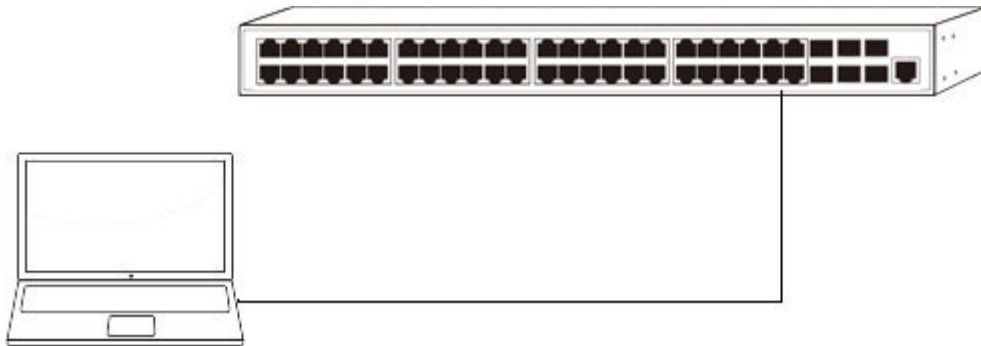
## 2.3 Switch connection to a Powered Device

Ports offer a PoE power supply function, which makes it possible to provide power to a Powered Device (PD) such as a VoIP phone, network camera, wireless access point and more. You only need to connect the Switch PoE port directly to the PD with a network cable.

## 3 Logging into the Switch

### 3.1 Switch to End Node

Use standard Cat5/5e (minimum) Ethernet cable (UTP/STP) to connect the Switch to end nodes as described below. Switch ports will automatically adjust to the characteristics (MDI/MDI-X, speed, duplex) of the device to which is connected.



*Figure 6 - Connect PC to Switch*

Refer to the LED Indicators. The LINK/ACT/Speed LEDs for each port lights when the link is available.

### 3.2 Login Information

As the Switch provides Web-based management login, configure your computer's IP address manually to log onto the Switch. The default settings of the Switch are shown below.

| Parameter          | Default Value              |
|--------------------|----------------------------|
| Default IP address | 192.168.2.1                |
| Default username   | admin                      |
| Default password   | The switch's serial number |

You can log into the configuration window of the Switch through the following steps:

1. Connect the Switch to the computer NIC interface.
2. Power on the Switch.
3. Check whether the IP address of the computer is within this network segment: 192.168.2.xxx ("xxx" ranges 2 – 254), for example, 192.168.2.100.
4. Open your web browser, enter `http://192.168.2.1`, and press **Enter**. The Switch login window appears, as shown below.



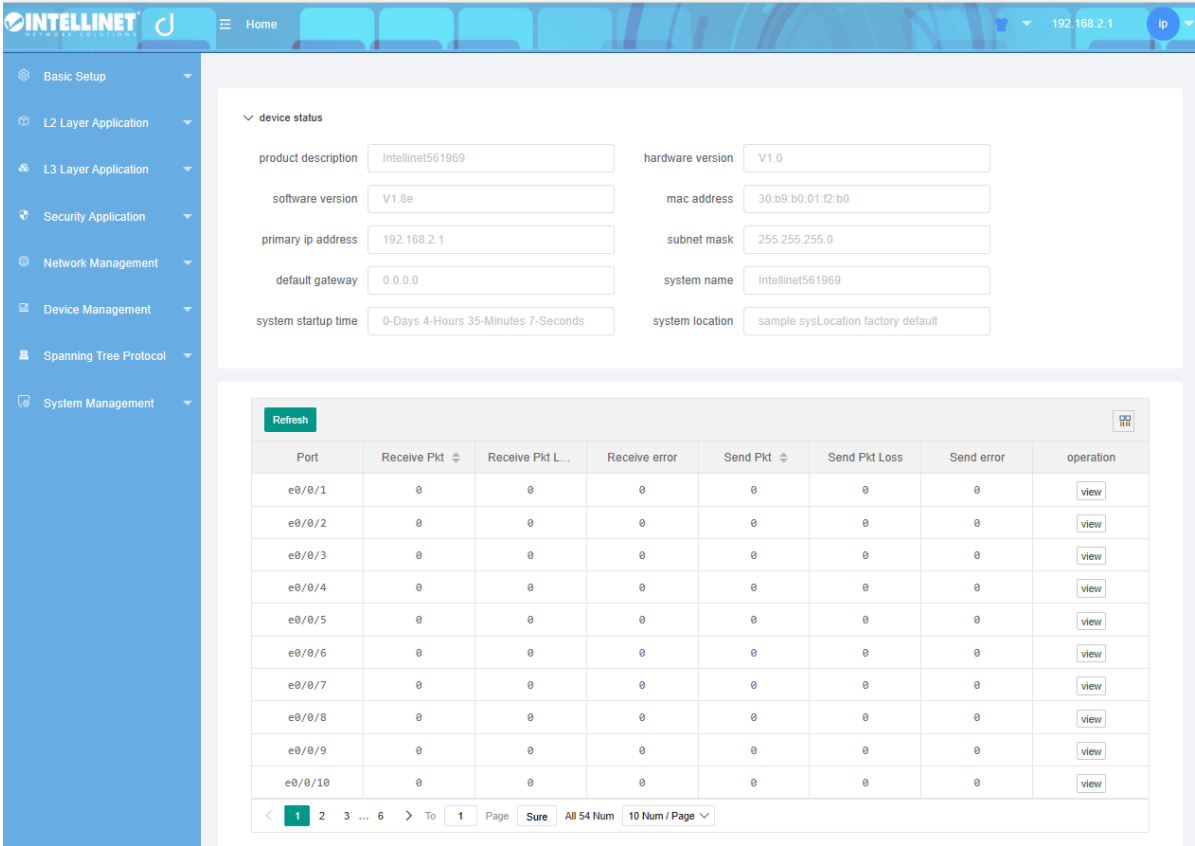
Figure 7- Login Windows

5. Enter the Username and Password (the factory default Username is **admin** and the Password is the same as the serial number found on the bottom of the switch), and then click **Login** to log into the Switch configuration window .

| Port    | Receive Pkt | Receive Pkt L... | Receive error | Send Pkt | Send Pkt Loss | Send error | operation |
|---------|-------------|------------------|---------------|----------|---------------|------------|-----------|
| e0/0/1  | 0           | 0                | 0             | 0        | 0             | 0          | view      |
| e0/0/2  | 0           | 0                | 0             | 0        | 0             | 0          | view      |
| e0/0/3  | 0           | 0                | 0             | 0        | 0             | 0          | view      |
| e0/0/4  | 0           | 0                | 0             | 0        | 0             | 0          | view      |
| e0/0/5  | 0           | 0                | 0             | 0        | 0             | 0          | view      |
| e0/0/6  | 0           | 0                | 0             | 0        | 0             | 0          | view      |
| e0/0/7  | 0           | 0                | 0             | 0        | 0             | 0          | view      |
| e0/0/8  | 0           | 0                | 0             | 0        | 0             | 0          | view      |
| e0/0/9  | 0           | 0                | 0             | 0        | 0             | 0          | view      |
| e0/0/10 | 0           | 0                | 0             | 0        | 0             | 0          | view      |

# 4 Web Configuration Guide

The Switch configuration interface consists of three main areas: the status bar at the top, the left function menu bar, and the main configuration window. Select the different functions in the function menu bar to modify all settings in the main configuration window.



## 4.1 Basic Setup

Choose Basic Setup, and the following page appears. There are configurable pages for **General Setup**, **IP Setup**, **Port Setup**, **User Setup**, and **DHCP**.



## 4.1.1 General Setup

To view basic information of the Switch, such as System description, the number of ports, etc., or to modify the System name, System contact and System location, select **Basic Setup>General Setup** in the navigation bar.

| Parameter              | Value                        | Parameter        | Value                           |
|------------------------|------------------------------|------------------|---------------------------------|
| system description     | Intellinet POE switch 561969 | system object id | 1.3.6.1.4.1.45855.1.3.32.24     |
| number of system ports | 54                           | system up time   | 04 hour 59 minute 43 second 46  |
| system name            | Intellinet561969             | system location  | sample sysLocation factory defe |
| system contact         | admin                        | product name     | Intellinet561969                |

### 【Parameters & Descriptions】

| Parameter          | Description                       |
|--------------------|-----------------------------------|
| System description | Brief description of device type. |
| System name        | System name.                      |
| System Location    | Specify the system location.      |
| System contact     | Include company or related URL.   |

### 【Configuration Example】

To configure general system information:

1. Click Basic Setup > General Setup.
2. Specify the system name as Switch, the location as office, and the contact information as admin for the system administrator.
3. Click **Apply**.

| Parameter              | Value                        | Parameter        | Value                          |
|------------------------|------------------------------|------------------|--------------------------------|
| system description     | Intellinet POE switch 561969 | system object id | 1.3.6.1.4.1.45855.1.3.32.24    |
| number of system ports | 54                           | system up time   | 04 hour 59 minute 43 second 46 |
| system name            | switch                       | system location  | office                         |
| system contact         | admin                        | product name     | Intellinet561969               |

## 4.1.2 IP Setup

To add VLAN interfaces and configure VLAN interfaces, select **Basic Setup>IP Setup** in the navigation bar.

### 【Parameters & Descriptions】

| Parameter | Description                                                        |
|-----------|--------------------------------------------------------------------|
| Interface | VLAN-interface or superVLAN-interface; this parameter is optional. |
| VLAN ID   | VLAN label.                                                        |

To configure the VLAN interface, select **Basic Setup>IP Setup>VLAN interface** in the navigation bar.

### 【Parameters & Descriptions】

| Parameter      | Description                               |
|----------------|-------------------------------------------|
| IP address     | Secure IP address for the user to log in. |
| Mask           | Specifies the subnet mask.                |
| Interface name | Name of the interface.                    |
| VLAN ID        | You can specify the VLAN ID.              |

## 4.1.3 Port Setup

To configure the related parameters of port, select **Basic Setup>Port Setup** in the navigation bar.

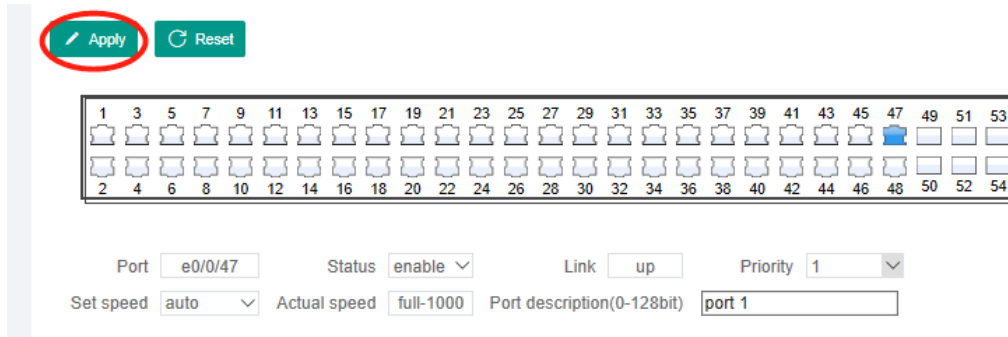
### 【Parameters & Descriptions】

| Parameter        | Description                                                                                                                                             |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Port             | Port number.                                                                                                                                            |
| Status           | Choose whether to enable or disable.                                                                                                                    |
| Link             | Status: down or up.                                                                                                                                     |
| Priority         | Set port priority, the range is 0 – 7.                                                                                                                  |
| Set speed        | Default is auto; choose from the following modes:<br>full-10<br>half-10<br>auto-10<br>full-100<br>half-100<br>auto-100<br>full-1000<br>full-10G<br>auto |
| Actual speed     | The actual speed of the port.                                                                                                                           |
| Port description | The port is described.                                                                                                                                  |

### 【Configuration Example】

To configure static routes:

1. Click **Basic Setup > Port Setup**.
2. Configure the related parameters for port 47, Status is **enable**, Priority is **1**, Set speed is **auto**, Mode is **auto**, Port description is **port 1**.

**3. Click Apply.**

**Apply** **Reset**

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 |

Port  Status  Link  Priority

Set speed  Actual speed  Port description(0-128bit)

## 4.1.4 User Setup

To change the login password of the switch or add a new user, select **Basic Setup>User Setup**, in the navigation bar.

**User Setup**

**Change Password:**

User Name:

Old Password:

New Password:  (1-32 characters)

Retype to confirm:

**New users:**

User Name:  (1-64 characters)

Password:  (1-32 characters)

Retype to confirm:

Privilege:

Terminal Type: ☐ Console ☐ Telnet ☐ SSH ☐ Web ☐

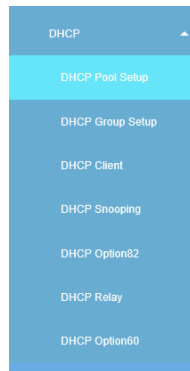
| user name | Privilege | Terminal | Operation |
|-----------|-----------|----------|-----------|
| admin     | admin     | CTSM     |           |

### 【Parameters & Descriptions】

| Parameter         | Description                         |
|-------------------|-------------------------------------|
| Username          | Provide the username.               |
| Password          | Encrypted password.                 |
| Retype to confirm | Reconfirm password.                 |
| Privilege         | Select NORMAL or ADMIN.             |
| Terminal Type     | Select Console / Telnet/ SSH / Web. |

## 4.1.5 DHCP

To configure settings for DHCP, including DHCP Pool Setup, DHCP Group Setup, DHCP Client, DHCP Snooping, DHCP Option82, DHCP Relay and DHCP Option60, select **Basic Setup>DHCP** in the navigation bar.



### 4.1.5.1 DHCP Pool Setup

To create, edit or delete a DHCP Pool address setup, select **Basic Setup>DHCP>DHCP Pool Setup** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter         | Description                                                                                               |
|-------------------|-----------------------------------------------------------------------------------------------------------|
| All Address Pool  | Set the pool ID.                                                                                          |
| Address Pool Name | Set the name of ip pool.                                                                                  |
| Lease time        | The lease period and day can be set to three digits, and the hour and day can be divided into two digits. |
| Default Gateway   | Configure the gateway corresponding to the address in the address pool.                                   |
| Ip Mask           | Set Ip Mask .                                                                                             |
| First DNS         | DNS server address assigned to the DHCP client.                                                           |
| Secondary DNS     | Set Secondary DNS.                                                                                        |
| Start address     | Set Start address.                                                                                        |
| End address       | End Start address.                                                                                        |

### 4.1.5.2 DHCP Group Setup

To reference the interface configuration on the DHCP server and view groups and clients to obtain address information, select **Basic Setup>DHCP >DHCP Group Setup** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter  | Description             |
|------------|-------------------------|
| Group ID   | DHCP server group ID.   |
| IP address | DHCP server IP address. |

### 4.1.5.3 DHCP Client

To set client binding and binding entries related to DHCP Clients, select **Basic Setup>DHCP >DHCP Client** in the navigation bar.

The screenshot shows the DHCP Client configuration interface. The left sidebar contains a navigation menu with the following items: Basic Setup, General Setup, IP Setup, Port Setup, User Setup, DHCP, DHCP Pool Setup, DHCP Group Setup, DHCP Client (selected), DHCP Snooping, DHCP Option82, DHCP Relay, DHCP Option60, L2 Layer Application, L3 Layer Application, Security Application, and Network Management. The main content area is titled 'DHCP Client' and includes an 'Apply' button. Below this, there are two rows of radio buttons: 'Dhcp Client Bind' with 'Enable' and 'Disable' options (where 'Disable' is selected), and 'Unbind Assign' with 'Enable' and 'Disable' options (where 'Enable' is selected). Further down, there are input fields for 'IP Address', 'MAC Address' (formatted as six boxes separated by colons), and 'VLAN' (with a range of '< 1-4094 >'). Below these fields are 'Apply' and 'Reset' buttons. At the bottom, there is a table with columns 'Index', 'IpAddress', 'MacAddress', 'VLAN', and 'Operating'. The table is currently empty, displaying 'No data'. Above the table are 'Delete all' and 'Refresh' buttons. The footer of the page states 'Copyright© 2001-2022 All Rights Reserved.'

#### 【Parameters & Descriptions】

| Parameter        | Description                                               |
|------------------|-----------------------------------------------------------|
| DHCP Client Bind | Select Enable or Disable.                                 |
| Unbind Assign    | Select Enable or Disable.                                 |
| IP Address       | IP address of the bound entry.                            |
| MAC Address      | MAC address of the bound entry.                           |
| VLAN             | VLAN bound to the entry. The value ranges from 1 to 4094. |

### 4.1.5.4 DHCP Snooping

To set the mode, enable DHCP Snooping, enable fast deletion, and provide the IP address of the DHCP server, select **Basic Setup>DHCP >DHCP Snooping** in the navigation bar.

The screenshot shows the DHCP Snooping configuration page. The left sidebar contains the navigation menu with 'DHCP Snooping' selected. The main area has tabs for 'DHCP Snooping' and 'DHCP Snooping'. The 'DHCP Snooping' tab is active, showing configuration options: Mode (Global Mode), Dhcp Snooping (Enable/Disable), Fast Remove (Enable/Disable), and Dhcp Server (text input). Below these are two tables: 'DHCP Snooping' and 'DHCP Snooping'. Both tables are empty, showing 'No data'.

#### 【Parameters & Descriptions】

| Parameter     | Description                                                 |
|---------------|-------------------------------------------------------------|
| Mode          | Global Mode, VLAN Mode, and Port Mode are available.        |
| Dhcp Snooping | Select Enable or Disable.                                   |
| Fast Remove   | Select Enable or Disable.                                   |
| Dhcp Server   | Set the IP address of the DHCP server.                      |
| Trust Mode    | Select Enable or disable.                                   |
| VLAN Id       | VLAN label.                                                 |
| Max Learn Num | The value ranges from 0 to 9999. The default value is 2048. |

### 4.1.5.5 DHCP Option82

To review and configure settings related to DHCP Option82, such as to set the mode, enable DHCP option82, enable Device ID and set formats, select **Basic Setup>DHCP >DHCP Option82** in the navigation bar.

The screenshot displays the DHCP Option82 configuration interface. On the left, a navigation sidebar lists various setup categories, with 'DHCP Option82' highlighted. The main configuration area includes several settings: 'Mode' is set to 'Global Mode'; 'Dhcp Option82' is set to 'Disable'; 'Device ID' is set to 'Disable'; 'Format' is set to 'Normal(default)'; and 'Information Format' is set to 'hex(default)'. Below the configuration fields is a table showing the current state of the DHCP Option82 settings. The table has five columns: 'Dhcp Option82', 'Device ID', 'Format', 'Information Format', and 'Node Identifier'. The data row shows 'disable', 'disable', 'Normal', 'HEX', and 'use-switch-mac' respectively. A pagination bar at the bottom indicates '1' of 1 page.

#### 【Parameters & Descriptions】

| Parameter          | Description                                                      |
|--------------------|------------------------------------------------------------------|
| Mode               | Global Mode, VLAN Mode, and Port Mode are available.             |
| Dhcp Option82      | Select Enable or Disable.                                        |
| Device ID          | Select Enable or Disable.                                        |
| Format             | Normal (default), User-defined format, and Verbose are optional. |
| Information Format | Hex (default) and scii are two optional formats.                 |
| Strategy           | Replace (default), Drop, and Keep are optional.                  |

### 4.1.5.6 DHCP Relay

To configure DHCP Relay globally and on ports, and set the maximum number of the hidden mode, select **Basic Setup>DHCP >DHCP Relay** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter           | Description                                   |
|---------------------|-----------------------------------------------|
| DHCP Relay (Global) | Select Enable or Disable.                     |
| Hide Mode           | Select Enable or Disable.                     |
| Max Hops            | The value is an integer ranging from 1 to 16. |
| DHCP Relay (Port)   | Select Enable or Disable.                     |

### 4.1.5.7 DHCP Option60

To configure settings related to DHCP Option60, including the application Interface Name, Action, Matching mode, Gateway Address, Server, and Server Reply, select **Basic Setup>DHCP >DHCP Option60** in the navigation bar.

The screenshot displays the DHCP Option60 configuration interface. On the left, a navigation sidebar lists various setup categories, with 'DHCP Option60' highlighted. The main configuration area includes a header with 'Apply' and 'Reset' buttons. The configuration fields are as follows:

- Interface Name:** A dropdown menu currently showing 'VLAN-IF1'.
- Action:** A dropdown menu currently showing 'equals'.
- Matching Form:** A dropdown menu currently showing 'ascii'.
- Gateway Address:** An empty text input field.
- Server:** A dropdown menu currently showing 'Please select'.
- Server Reply:** A dropdown menu currently showing 'Please select'.

Below the configuration fields is a table with a 'Refresh' button and a table icon. The table has the following columns: Name, Action, Format, Format Co..., Gateway, Group ID, Backup Gr..., Server-reply, Reply Con..., and Operating. The table content is currently empty, displaying 'No data'.

#### 【Parameters & Descriptions】

| Parameter       | Description                                                                   |
|-----------------|-------------------------------------------------------------------------------|
| Interface Name  | Select the interface to which option60 is applied from the created interface. |
| Action          | Select equals or starts-with.                                                 |
| Matching Form   | Select ascii or hex.                                                          |
| Gateway Address | Gateway IP Address.                                                           |
| Server          | Select dhcp-serve or server-reply.                                            |
| Server Reply    | Select ascii or hex.                                                          |

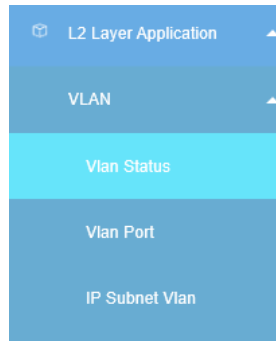
## 4.2 L2 Layer Application

Choose L2 Layer Application, and the following page appears. There are configuration web pages for **VLAN**, **MAC Address Forwarding**, **Port Isolation**, **ERPS Protocol**, **LLDP Protocol**, **Static Multicast**, **Multicast**, **Link Aggregation** and **Anti Dos Attack**.



## 4.2.1 VLAN

To configure settings related to VLANs, including VLAN Status, VLAN Port, and IP Subnet VLAN, select **L2 Layer Application>VLAN** in the navigation bar.



### 【Information】

Traditional Ethernet uses a common communication medium and is based on Carrier Sense Multiple Access/Collision Detect (CSMA/CD) data network communication protocol. Overloaded hosts in a standard Ethernet LAN can cause major collisions, flooding broadcasts, subpar performance, or even the collapse of the Internet. While substantial collisions can be avoided by connecting LANs through switches, flooding broadcasts cannot be avoided because they consume a lot of bandwidth resources and can result in significant security issues.

A network topology called a Virtual Local Area Network (VLAN) is set up using a logical plan rather than a physical one. Switches use VLAN technology to manage broadcast in LANs. You can divide a physical LAN into several logical LANs, each with its own broadcast domain, by implementing VLANs. The communication between hosts on the same VLAN is similar to that of a LAN. However, hosts in separate VLANs are unable to directly connect with one another.

VLANs therefore restrict broadcast packets. Standard Ethernet is how hosts in the same VLAN communicate, while Layer 3 switches, routers, and other Internet-connected devices are the method of communication for hosts in separate VLANs.

### 4.2.1.1 VLAN Status

To set the VLAN List and add VID, select **L2 Layer Application>VLAN>VLAN Status** in the navigation bar.

The screenshot shows the 'VLAN Status' page in a network management interface. On the left is a navigation menu with options: Basic Setup, L2 Layer Application, VLAN, Vlan Status (highlighted), Vlan Port, IP Subnet Vlan, MAC Address Forwarding, Port Isolation, ERPS Protocol, LLDP Protocol, Static Multicast, Multicast, Link Aggregation, and Anti Dos Attack. The main content area has a 'Vlan Status' header with 'Apply' and 'Reset' buttons. Below this is a 'Vlan List' input field. A table displays the current VLAN configuration:

| VID | status | TagPort | UntagPort  | Operation |
|-----|--------|---------|------------|-----------|
| 1   | static |         | eth1-eth54 | Delete    |

Below the table is a pagination bar showing '< 1 > To 1 Page Sure All 1 Num 10 Num / Page |'.

#### 【Parameters & Descriptions】

| Parameter   | Description                              |
|-------------|------------------------------------------|
| VLAN Status | View all VLANs configured in the device. |
| VLAN List   | Add VID.                                 |

## 4.2.1.2 VLAN Port

To set a VLAN port, select **L2 Layer Application>VLAN>VLAN Port** in the navigation bar.

**VLAN Port Configuration Interface**

**Navigation:** Basic Setup > L2 Layer Application > VLAN > VLAN Port

**Configuration Fields:**

- PVID:
- acceptFrameTypes: All
- portMode: Hybrid
- ingressFilter: ☒
- Action: Tagged
- vian list:

**Table:**

| Port   | PVID | acceptFrameT... | portMode | TagVlan | UntagVlan | ingressFilter | Operation |
|--------|------|-----------------|----------|---------|-----------|---------------|-----------|
| e8/0/1 | 1    | All             | Hybrid   |         | 1         | enable        | Delete    |
| e8/0/2 | 1    | All             | Hybrid   |         | 1         | enable        | Delete    |
| e8/0/3 | 1    | All             | Hybrid   |         | 1         | enable        | Delete    |
| e8/0/4 | 1    | All             | Hybrid   |         | 1         | enable        | Delete    |
| e8/0/5 | 1    | All             | Hybrid   |         | 1         | enable        | Delete    |

### 【Parameters & Descriptions】

| Parameter        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PVID             | The PVID of the port can be modified; the default port PVID is "1".                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| AcceptFrameTypes | Choose the following kinds: All, Tagged only and Untagged only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PortMode         | <p>Choose the following modes:</p> <p><b>Hybrid:</b> The port can be either a tagged member or untagged member in the VLAN and can be a member port for multiple VLANs. Used to connect switches to each other and to computers.</p> <p><b>Trunk:</b> The port can only be a tagged member in the VLAN and can be a member port for multiple VLANs. Typically used to connect switches to each other.</p> <p><b>Access:</b> The port belongs to one VLAN. The port can only be an untagged member in the VLAN and the port can only be in one VLAN, not multiple. Commonly used to connect computer ports.</p> |
| IngressFilter    | Click the box to enable the port filtering function. When the function is enabled and the port settings are to only receive Tagged messages, Untagged messages will be discarded if the port receives them; otherwise, it can be forwarded. The default port filtering function is enabled.                                                                                                                                                                                                                                                                                                                    |
| Action           | There are three attributes: Remove, Tagged, and Untagged.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

### 4.2.1.3 IP Subnet VLAN

To set the IP subnet VLAN priority, IP address/mask, VLAN, and priority, select **L2 Layer Application>VLAN>IP Subnet VLAN** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter              | Description                                          |
|------------------------|------------------------------------------------------|
| IP Subnet VLAN Precede | Select Enable or Disable.                            |
| IP Address/Mask        | Set the IP address and mask.                         |
| VLAN                   | Set VLAN ID. The value ranges from 1 to 4094.        |
| Level                  | Set the VLAN priority. The value ranges from 0 to 7. |

### 4.2.2 MAC Address Forwarding

To set the MAC address, VID, MAC type, and port (non-blackhole MAC), select **L2 Layer Application>MAC Address Forwarding** in the navigation bar.

**【Parameters & Descriptions】**

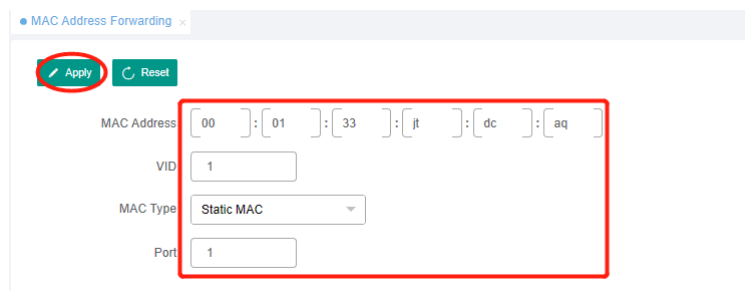
| Parameter | Description                                                       |
|-----------|-------------------------------------------------------------------|
| MAC Type  | Types are: Static MAC, Dynamic MAC, Blackhole MAC, Permanent MAC. |

**【Instructions】**

Blackhole MAC: If a PC's MAC address is configured on a switch to be a blackhole MAC, then the PC's packets will be discarded by the switch and not forwarded to the network.

**【Configuration Example】**

1. Click L2 Layer Application > MAC Address Forwarding.
2. MAC Address Forwarding.



MAC Address Forwarding x

**Apply** **Reset**

MAC Address [00] : [01] : [33] : [it] : [dc] : [aq]

VID [1]

MAC Type Static MAC

Port [1]

## 4.2.3 Port Isolation

To set and delete the forwarding port, select **L2 Layer Application>Port Isolation** in the navigation bar.

Port Isolation configuration page showing the following settings:

- From Port: e0/0/1
- To Port: e0/0/1
- From Forward Port: e0/0/1
- To Forward Port: e0/0/1

| Port    | Forwarding Domain | Operating |
|---------|-------------------|-----------|
| e0/0/1  | eth1-eth54        | Delete    |
| e0/0/2  | eth1-eth54        | Delete    |
| e0/0/3  | eth1-eth54        | Delete    |
| e0/0/4  | eth1-eth54        | Delete    |
| e0/0/5  | eth1-eth54        | Delete    |
| e0/0/6  | eth1-eth54        | Delete    |
| e0/0/7  | eth1-eth54        | Delete    |
| e0/0/8  | eth1-eth54        | Delete    |
| e0/0/9  | eth1-eth54        | Delete    |
| e0/0/10 | eth1-eth54        | Delete    |

### 【Parameters & Descriptions】

| Parameter                          | Description                                                                             |
|------------------------------------|-----------------------------------------------------------------------------------------|
| From Port, To Port                 | Select the configured port range.                                                       |
| From Forward Port, To Forward Port | Configure the forwarding port range for the selected port.                              |
| Delete                             | Restore the default configuration of the current port. Most ports are forwarding ports. |

## 4.2.4 ERPS Protocol

To configure Global ERPS status, select **L2 Layer Application>ERPS Protocol** in the navigation bar.

### 【Parameters & Descriptions】

| Parameter               | Description                                                                                                              |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Global ERPS status      | Enable or Disable the ERPS function globally.                                                                            |
| Instance                | Instance ID: The value ranges from 0 to 15.                                                                              |
| Meg Level               | The value ranges from 0 to 7.                                                                                            |
| Ring ID                 | Value range: 1 to 239.<br>Ring level: Default primary ring.                                                              |
| Control VLAN            | In the ERPS ring, the control VLAN is used to transmit ERPS packets and must be set to a VLAN not created on the device. |
| Protected-instance List | The service VLAN to be protected is the VLAN mapping in the MSTP instance. The value ranges from 0 to 15.                |
| Ring Port0              | The port number of the ERPS link.                                                                                        |
| Ring Port1              | The port number of the ERPS link.                                                                                        |
| Ring Active             | The ERPS ring was enabled.                                                                                               |

### 【Information】

An ERPS ring has only one RPL owner port, as determined by the user configuration, to prevent loops in the ERPS ring by blocking the RPL owner port from forwarding user traffic. When the device where the RPL owner port resides receives a fault message and learns that other nodes or links on the ERPS ring are faulty, the device automatically releases the RPL owner port and recovers the receiving and sending of traffic through the port to ensure that traffic is not interrupted.

## 4.2.5 LLDP Protocol

To enable or disable Global LLDP, Trap, set Hello-time or Hold-time, choose port(s), or choose the Mode and management address, select **L2 Layer Application>LLDP Protocol** in the navigation bar.

**LLDP Protocol Configuration**

Global Lldp: ☐ Enable ☒ Disable

Trap: ☐ Enable ☒ Disable

Hello-time: ☒ Default  second (5-32768)

Hold-time: ☒ Default  second (2-10)

**Port Selection:**

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 |

Mode:

Management Address:

Vlan Id:

| Port   | Mode | Management Address | Neighbours |
|--------|------|--------------------|------------|
| e8/0/1 | RxTx |                    | 0          |
| e8/0/2 | RxTx |                    | 0          |
| e8/0/3 | RxTx |                    | 0          |
| e8/0/4 | RxTx |                    | 0          |

### 【Parameters & Descriptions】

| Parameter          | Description                                                                |
|--------------------|----------------------------------------------------------------------------|
| Global LLDP        | Select Enable or Disable.                                                  |
| Trap               | Select Enable or Disable.                                                  |
| Hello-time         | The value ranges from 5 to 32768 seconds. The default value is 30 seconds. |
| Hold-time          | The value ranges from 2 to 10 seconds. The default value is 4 seconds.     |
| Port               | You can select one or more ports at the same time.                         |
| Mode               | Four modes are available: Tx, Rx, TxRx, and Disable.                       |
| Management Address | Select VLAN interface or SuperVLAN interface.                              |

## 4.2.6 Static Multicast

To set the MAC address, VLAN number, and port number, select **L2 Layer Application>Static Multicast** in the navigation bar.

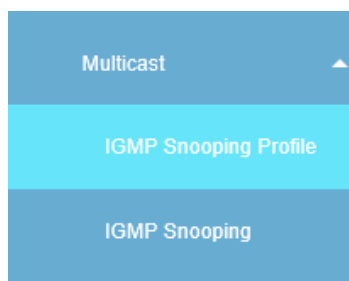
The screenshot shows the 'Static Multicast' configuration page. The left sidebar contains a navigation menu with the following items: Basic Setup, L2 Layer Application (expanded), VLAN, MAC Address Forwarding, Port Isolation, ERPS Protocol, LLDP Protocol, Static Multicast (selected), Multicast, Link Aggregation, Anti Dos Attack, L3 Layer Application, Security Application, Network Management, Device Management, Spanning Tree Protocol, and System Management. The main configuration area includes an 'Apply' button, a 'Reset' button, a MAC Address field (hex format), a VLAN Id field, a 'Select all' button, and a 'Cancel' button. Below these is a grid of 54 ports arranged in two rows of 27. The bottom section contains a table with the following columns: Index, Mac Address, Vlan, Port, and Operating. The table is currently empty, displaying 'No data'.

### 【Parameters & Descriptions】

| Parameter   | Description                     |
|-------------|---------------------------------|
| MAC Address | Set the MAC address.            |
| VLAN Id     | Set the VLAN Id.                |
| Port        | Select a static multicast port. |

## 4.2.7 Multicast

To configure an IGMP Snooping Profile and IGMP Snooping, select **L2 Layer Application>Multicast** in the navigation bar.



### 4.2.7.1 IGMP Snooping Profile

To set the Profile ID, set a configuration restriction, provide a configuration description, or set an input format, select **L2 Layer Application>Multicast>IGMP Snooping Profile** in the navigation bar.

 The screenshot shows the 'IGMP Snooping Profile' configuration page. On the left is a navigation menu with 'Multicast' expanded to show 'IGMP Snooping Profile' and 'IGMP Snooping'. The main area has two sections. The top section is for 'IGMP Snooping Profile' with fields for 'Profile Id', 'Profile Limit' (radio buttons for 'permit' and 'deny'), and 'Profile Description'. Below this is a table with columns 'Profile Id', 'Profile Limit', 'Description', and 'Operation', currently showing 'No data'. The bottom section is for 'IGMP Snooping' with fields for 'Profile Id', 'Input Format' (dropdown menu), 'Start Address', 'End Address', and 'VLAN'. Below this is another table with columns 'Profile Id', 'Start Address', 'End Address', 'VLAN', and 'Operation', also showing 'No data'.

#### 【Parameters & Descriptions】

| Parameter     | Description                                                |
|---------------|------------------------------------------------------------|
| Profile Id    | ID ranges from 1 to 128.                                   |
| Profile Limit | Preview rules can be Allowed or Denied.                    |
| Input Format  | The preview address can be an IP address or a MAC address. |

### 4.2.7.2 IGMP Snooping

To enable the function, the querier or IGMP route port forwarding, or to configure other settings such as host timeout, Enable VLAN, Fast Leave, Multicast VLAN, Maximum Group Limit, and Filter Setting ID, select **L2 Layer Application>Multicast>IGMP Snooping** in the navigation bar.

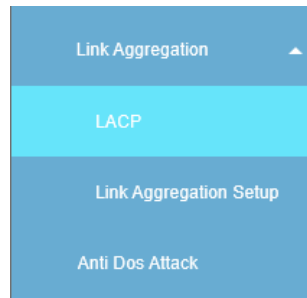
The screenshot shows the IGMP Snooping configuration page. The left sidebar has a navigation menu with the following items: Basic Setup, L2 Layer Application (expanded), VLAN, MAC Address Forwarding, Port Isolation, ERPS Protocol, LLDP Protocol, Static Multicast, Multicast (expanded), IGMP Snooping Profile, IGMP Snooping (selected), Link Aggregation, Anti Dos Attack, L3 Layer Application, Security Application, Network Management, and Device Management. The main content area is titled 'IGMP Snooping' and contains two sections. The top section has 'Apply' and 'Reset' buttons, followed by 'Enable' (checkbox), 'Querier' (checkbox), 'IGMP Route Port Forward' (checkbox), 'Host Timeout' (input field with value 0 and unit 秒), and 'Enable VLAN' (input field). The bottom section has 'Select all' and 'Cancel' buttons, followed by a 'Please select the port:' label and a grid of 54 port icons (2 rows of 27 ports each, numbered 1 to 54). Below the grid are 'Apply' and 'Reset' buttons, followed by 'Fast leave' (checkbox), 'Multicast VLAN' (input field), 'MAX Group Limit' (input field), and 'Profile ID' (input field).

#### 【Parameters & Descriptions】

| Parameter               | Description                                                                                     |
|-------------------------|-------------------------------------------------------------------------------------------------|
| Enable                  | Enable IGMP Snooping.                                                                           |
| Querier                 | Enable the IGMP Snooping timer query.                                                           |
| IGMP Route Port Forward | Enable the routing and forwarding function.                                                     |
| Host Timeout            | The dynamic IPv6 multicast aging time is specified.                                             |
| Fast leave              | Enable the quick port exit function.                                                            |
| Multicast VLAN          | Configuring an IPv6 Multicast VLAN (1 to 4094).                                                 |
| MAX Group Limit:        | Configure the maximum number of IPv6 multicast packets that a port can learn (1024 by default). |

## 4.2.8 Link Aggregation

For settings related to LACP and Link Aggregation Setup, select **L2 Layer Application>Link Aggregation** in the navigation bar.



### 4.2.8.1 LACP

To set the system priority, load balancing policy, aggregation group number, and aggregation group mode, select **L2 Layer Application>Link Aggregation>LACP** in the navigation bar.

• LACP >

**Apply** **Reset**

System Priority:

Load-balance Mode:

---

**Apply** **Reset**

Group ID:

Active: ☐

Eth-trunk Mode:

---

**Delete all** **Refresh**

| Groupid | Active  | Static_status | Enable port | Sync port | Aggregate ID | Operation              |
|---------|---------|---------------|-------------|-----------|--------------|------------------------|
| 1       | disable | -             | -           | -         | -            | <a href="#">Delete</a> |
| 2       | disable | -             | -           | -         | -            | <a href="#">Delete</a> |
| 3       | disable | -             | -           | -         | -            | <a href="#">Delete</a> |
| 4       | disable | -             | -           | -         | -            | <a href="#">Delete</a> |
| 5       | disable | -             | -           | -         | -            | <a href="#">Delete</a> |
| 6       | disable | -             | -           | -         | -            | <a href="#">Delete</a> |
| 7       | disable | -             | -           | -         | -            | <a href="#">Delete</a> |
| 8       | disable | -             | -           | -         | -            | <a href="#">Delete</a> |
| 9       | disable | -             | -           | -         | -            | <a href="#">Delete</a> |

#### 【Parameters & Descriptions】

| Parameter         | Description                                                                                                                                  |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| System Priority   | Configure the system priority of the aggregation group. The default priority is 32768 (priority range: 1 to 65535).                          |
| Load-balance Mode | Configure the load balancing policy. The default value is src-mac (including src-mac, dst-mac, src-dst-mac, src-ip, dst-ip, and src-dst-ip). |
| Group ID          | Add a port to a specified aggregation group (T1 to T16).                                                                                     |
| Eth-trunk Mode    | There are Dynamic and Static modes.                                                                                                          |

## 4.2.8.2 Link Aggregation Setup

To set the aggregation group ID, Port LACP mode, and port priority, select **L2 Layer Application>Link Aggregation>Link Aggregation Setup** in the navigation bar.

**Link Aggregation Setup**

Select all Cancel

Please select the port:

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 |

Apply Reset

Group ID: T1

Port LACP Mode: passive

Port Priority:

| Port   | Group ID | Port LACP Mode | Priority | Operation |
|--------|----------|----------------|----------|-----------|
| e0/0/1 | -        | -              | -        | Delete    |
| e0/0/2 | -        | -              | -        | Delete    |
| e0/0/3 | -        | -              | -        | Delete    |
| e0/0/4 | -        | -              | -        | Delete    |
| e0/0/5 | -        | -              | -        | Delete    |
| e0/0/6 | -        | -              | -        | Delete    |
| e0/0/7 | -        | -              | -        | Delete    |
| e0/0/8 | -        | -              | -        | Delete    |

### 【Parameters & Descriptions】

| Parameter      | Description                                                                                                                                                                                        |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Group ID       | Add the port to the specified Aggregation Group ID.                                                                                                                                                |
| Port LACP Mode | The LACP mode of a port can be active or passive.<br>Active mode: In active mode, the port initiates LACP negotiation.<br>Passive mode: In passive mode, a port responds only to LACP negotiation. |
| Port Priority  | The priority ranges from 1 to 65535.                                                                                                                                                               |

## 4.2.9 Anti Dos Attack

To set the maximum load length of ICMPv4, the maximum load length of ICMPv6, the minimum fragment size detection of IPv6, and minimum TCP header length of the first fragment of a TCP packet, select **L2 Layer Application>Anti Dos Attack** in the navigation bar.

The screenshot shows the 'Anti Dos Attack' configuration page. The left sidebar has a navigation menu with the following items: Basic Setup, L2 Layer Application (expanded), VLAN, MAC Address Forwarding, Port Isolation, ERPS Protocol, LLDP Protocol, Static Multicast, Multicast, Link Aggregation, Anti Dos Attack (selected), L3 Layer Application, and Security Application. The main content area has a tab titled 'Anti Dos Attack' with 'Apply' and 'Reset' buttons. Below these are the following settings:

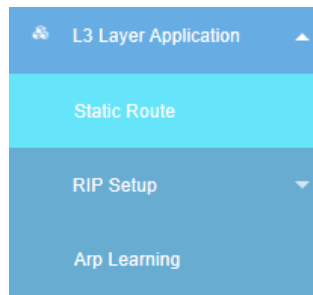
- Src mac and dst mac equal ☐
- Src ip and dst ip equal ☐
- UDP with sport and dport equal ☐
- TCP with sport and dport equal ☐
- ICMPv4 payload maximum length ☐
- ICMPv6 payload maximum length ☐
- TCP control flags and sequence equal 0 ☐
- TCP syn packets sport 0-1023, applies to unfragmented packets ☐
- Enable dos attack ip first fragments ☐
- Check minimum size of ipv6 fragments ☐
- Fragmented icmp packets ☐
- TCP fragments with offset value of 1(\*8) ☐
- TCP with SYN & FIN bits ☐
- TCP with FIN,URG and PSH bits,and sequence equal 0 ☐
- TCP first fragments with minimum tcp header length ☐

### 【Parameters & Descriptions】

| Parameter                                          | Description                               |
|----------------------------------------------------|-------------------------------------------|
| ICMPv4 payload maximum length                      | The value contains 0 to 16384 characters. |
| ICMPv6 payload maximum length                      | The value contains 0 to 16384 characters. |
| Check minimum size of ipv6 fragments               | The fragment size ranges from 0 to 16384. |
| TCP first fragments with minimum TCP header length | The value contains 0 to 255 characters.   |

## 4.3 L3 Layer Application

Choose L3 Layer Application, and the following page appears. There are **Static Route**, **RIP Setup** and **Arp Learning** configuration web pages.



### 4.3.1 Static Route

To set the destination IP address, IP mask, and next hop, select **L3 Layer Application>Static Route** in the navigation bar.

The screenshot shows the 'Static Route' configuration page. On the left is a navigation sidebar with 'L3 Layer Application' expanded and 'Static Route' selected. The main content area has a tab 'Static Route' and two buttons: 'Add' and 'Reset'. Below these are three input fields: 'Destination IP Address' (0.0.0.0), 'IP Subnet Mask' (0.0.0.0), and 'Gateway IP Address' (0.0.0.0). At the bottom is a table with columns: Index, Destip, Mask, Nexthop, Interface, and Operation. The table is currently empty, showing 'No data'.

## 4.3.2 RIP Setup

To set RIP Global Setup and RIP Interface Setup, select **L3 Layer Application>RIP Setup**.

The screenshot displays the 'RIP Global Setup' configuration page. On the left is a navigation menu with categories: Basic Setup, L2 Layer Application, L3 Layer Application (expanded), Static Route, RIP Setup (expanded), RIP Global Setup (selected), RIP Interface Setup, and Arp Learning. Below these are Security Application, Network Management, Device Management, Spanning Tree Protocol, and System Management. The main content area is titled 'RIP Global Setup' and includes an 'Apply' button. The 'RIP Mode' is set to 'Disable'. Below this is an 'Add' button and a 'Delete' button, followed by an 'IP Address' input field. The 'RIP Version' is set to '2'. The 'Default Metric of Redistribute Routes' is set to '1'. The 'Redistribute Route' is set to 'Connected'. The 'Metric' is set to '1'. The 'Aggregate Address' is set to 'Disable'. The 'Control Distribution of Default Route' is set to 'Disable'. The 'Static Route' is set to 'Disable'. The 'Distance' is set to '1'. The 'Routing Table Update Timer' is set to '5'. The 'Routing Information Timeout Timer' is set to '5'. The 'Garbage Collection Timer' is set to '5'. Each timer has a range indicator: Range<1-16> for Default Metric, Range<0-16> for Metric, Range<1-255> for Distance, and Range<5-65535> for the three timers.

**RIP Global Setup**

**Apply**

RIP Mode ☐ Enable ☒ Disable

**Add** **Delete**

IP Address

**Apply** **Reset**

RIP Version ☒ Enable ☐ Disable

Default Metric of Redistribute Routes  Range<1-16>

Redistribute Route ☐ Enable ☒ Disable

Metric  Range<0-16>

Aggregate Address ☐ Enable ☒ Disable  (Network Address<e.g., 35.0.0.0/8>)

Control Distribution of Default Route ☐ Enable ☒ Disable

Static Route ☐ Enable ☒ Disable  (Network Address<e.g., 35.0.0.0/8>)

Distance  Range<1-255>

Routing Table Update Timer  Range<5-65535>

Routing Information Timeout Timer  Range<5-65535>

Garbage Collection Timer  Range<5-65535>

### 4.3.2.1 RIP Global Setup

To configure RIP Mode, IP Address, Default Metric of Redistribute Routes, Metric, Aggregate Address, Static Route, Distance, Routing Table Update Timer, Routing Information Timeout Timer, Garbage Collection Timer, and so on, select **L3 Layer Application>RIP Setup>RIP Global Setup** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter                             | Description                                                     |
|---------------------------------------|-----------------------------------------------------------------|
| RIP Mode                              | Set RIP Mode as Enable or Disable.                              |
| IP Address                            | Add IP Address.                                                 |
| RIP Version                           | Set RIP Version as Enable or Disable.                           |
| Default Metric of Redistribute Routes | Set Default Metric of Redistribute Routes, ranges from 1 to 16. |
| Redistribute Route                    | Set Redistribute Route Enable or Disable.                       |
| Metric                                | Set Metric ranges from 1 to 16.                                 |
| Distance                              | Set Distance ranges from 1 to 255.                              |
| Routing Table Update Timer            | Set Routing Table Update Timer, ranges from 5 to 65535.         |
| Routing Information Timeout Timer     | Set Routing Information Timeout Timer, ranges from 5 to 65535.  |
| Garbage Collection Timer              | Set Garbage Collection Timer, ranges from 5 to 65535.           |

### 4.3.2.2 RIP Interface Setup

To configure RIP Interface Setup, select **L3 Layer Application>RIP Setup>RIP Interface Setup** in the navigation bar.

The screenshot displays the 'RIP Interface Setup' configuration page. On the left, a navigation sidebar lists various system settings, with 'RIP Interface Setup' highlighted. The main configuration area includes a top section with 'Add' and 'Delete' buttons, followed by input fields for 'MD5 Key Chain', 'MD5 Key ID' (with a range of 0-255), and 'MD5 Password'. Below these is a table with columns for 'MD5 Key ID' and 'MD5 Password', featuring a 'Refresh' button and a 'No data' message. The bottom section contains 'Apply' and 'Reset' buttons, and a series of configuration options: 'Interface' (set to VLAN-IF1), 'Send RIP Version' (with 'Enable' and 'Disable' radio buttons), 'Receive RIP Version' (with 'Enable' and 'Disable' radio buttons), 'Authentication Mode' (set to 'Simple Authentication'), 'Authentication Password' (with a hint to fill in the password for simple authentication or the key name for MD5 authentication), and 'Split Horizon' (with 'Enable' and 'Disable' radio buttons).

#### 【Parameters & Descriptions】

| Parameter               | Description                                                                                                                   |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| MD5 Key ID              | Setting MD5 Key ID, ranges from 0 to 255.                                                                                     |
| Authentication Password | Setting Authentication Password: fill in the password for simple authentication; fill in the key name for MD5 authentication. |

### 4.3.3 Arp Learning

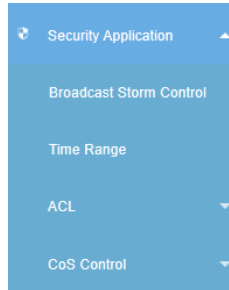
To set the aging time, IP address, MAC address, VLAN, and Port, select **L3 Layer Application>Arp Learning**.

#### 【Parameters & Descriptions】

| Parameter | Description                                    |
|-----------|------------------------------------------------|
| Age Time  | The aging time, ranges from 3 to 2880 minutes. |

## 4.4 Security Application

Choose Security Application, and the following page appears. There are **Broadcast Storm Control**, **Time Range**, **ACL** and **CoS Control** configuration web pages.



### 4.4.1 Broadcast Storm Control

To set values for broadcast, multicast, and unicast, select **Security Application>Broadcast Storm Control** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter | Description                                                       |
|-----------|-------------------------------------------------------------------|
| Broadcast | Broadcast rate limit (pps [multiples: 1] / kbps [multiples: 16]). |
| Multicast | Multicast rate limit (pps [multiples: 1] / kbps [multiples: 16]). |
| Unicast   | Unicast rate limit (pps [multiples: 1] / kbps [multiples: 16]).   |

## 4.4.2 Time Range

To set the time range name, time type, start period, and end period, select **Security Application>Time Range** in the navigation bar.

The screenshot shows the 'Time Range' configuration page. On the left is a navigation menu with categories like Basic Setup, L2 Layer Application, L3 Layer Application, Security Application (expanded), Broadcast Storm Control, Time Range (highlighted), ACL, CoS Control, Network Management, Device Management, Spanning Tree Protocol, and System Management. The main content area has a tab for 'Time Range' and buttons for 'Add' and 'Reset'. Below these are input fields for 'Time Range Name' (with a hint 'String Range<1-32>'), 'Time Type' (a dropdown menu currently showing 'absolute'), 'Start Time' (with fields for year, month, and day), and 'End Time' (with fields for year, month, and day). At the bottom, there is a 'Time list' section with a 'Please select' dropdown, 'Delete list' and 'Refresh' buttons, and a table with columns 'Absolute' and 'Periodic'. The table currently shows 'No data'.

### 【Parameters & Descriptions】

| Parameter       | Description                                             |
|-----------------|---------------------------------------------------------|
| Time Range Name | Name time range; the value contains 1 to 32 characters. |
| Time Type       | Choose absolute time or periodic time.                  |

## 4.4.3 ACL

To set IP ACL, MAC ACL, Hybrid ACL and Policy Rule, select **Security Application>ACL** in the navigation bar.



### 4.4.3.1 IP ACL

To set an IP name, Subitem, a Time Range, Active, IPv4/v6, IP Protocol, and DSCP/Tos, select **Security Application>ACL>IP ACL** in the navigation bar.

 The screenshot shows the "IP ACL" configuration page. On the left is a navigation sidebar with categories like Basic Setup, L2 Layer Application, L3 Layer Application, Security Application, Network Management, Device Management, Spanning Tree Protocol, and System Management. Under "Security Application", the "ACL" menu is expanded, showing "IP ACL" (highlighted), "MAC ACL", "Hybrid ACL", and "Policy Rule". The main content area has "IP ACL" selected. It contains configuration fields: Name (range 1-999), Subitem (range 0-127), Time Range (None), Active (Permit), IPv4/v6 (IPv4), IP Protocol (null, with a radio button for "Others" and range 0-255), Fragments (checkbox), DSCP/Tos (null), Source IP Address/Mask (0.0.0.0 / 0.0.0.0), and Destination IP Address/Mask (0.0.0.0 / 0.0.0.0). Below these fields are "Delete all" and "Refresh" buttons. At the bottom is a table with columns: Index, Name, Active, Type, Rule, Subitem, and Operation. The table is currently empty, showing "No data".

#### 【Parameters & Descriptions】

| Parameter   | Description                                                                                                                                      |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Name        | The range from 1 – 999.                                                                                                                          |
| Subitem     | The range from 0 – 127.                                                                                                                          |
| Active      | Choose to permit or deny.                                                                                                                        |
| IPv4/v6     | Choose IPv4 or IPv6.                                                                                                                             |
| IP Protocol | IPv4 protocols include null, gre, icmp, igmp, ipinip, ospf, tcp and udp.<br>IPv6 protocols include null, gre, icmpv6, ipinip, ospf, tcp and udp. |
| DSCP/Tos    | The value can be null, DSCP, or Tos/Precedence.                                                                                                  |

### 4.4.3.2 MAC ACL

To set the Name, Subitem, Time range, Active, Source MAC address, Destination MAC address, Priority, VLAN, and Ethernet Type, select **Security Application>ACL>MAC ACL** in the navigation bar.

The screenshot displays the MAC ACL configuration page. The left sidebar contains the following menu items: Basic Setup, L2 Layer Application, L3 Layer Application, Security Application (expanded), Broadcast Storm Control, Time Range, ACL (expanded), IP ACL, MAC ACL (selected), Hybrid ACL, Policy Rule, CoS Control, Network Management, Device Management, Spanning Tree Protocol, and System Management. The main configuration area includes the following fields:

- Name:** Text input field with a range of 1000-1999.
- Subitem:** Text input field with a range of 0-127.
- Time Range:** Dropdown menu with 'None' selected.
- Active:** Dropdown menu with 'Permit' selected.
- Source MAC Address:** Radio button for 'any' (selected) and a text input for a specific MAC address.
- Dest MAC Address:** Radio button for 'any' (selected) and a text input for a specific MAC address.
- Cos:** Radio button for 'any' (selected) and a dropdown menu for a specific priority value.
- VLAN:** Radio button for 'any' (selected) and a text input for a specific VLAN ID with a range of 1-4094.
- Ethernet Type:** Radio button for 'any' (selected) and a dropdown menu for 'Others' with a range of 0-FFFF.

Below the configuration fields is a table with the following columns: Index, Name, Active, Type, Rule, Subitem, and Operation. The table currently displays 'No data'.

#### 【Parameters & Descriptions】

| Parameter          | Description                                     |
|--------------------|-------------------------------------------------|
| Name               | The range of 1000 – 1999.                       |
| Subitem            | The range of 0 – 127.                           |
| Active             | Choose to permit or deny.                       |
| Source MAC Address | Set source MAC address.                         |
| Dest MAC Address   | Set destination MAC address.                    |
| Cos                | The priority ranges from 0 to 7.                |
| VLAN               | Set the VLAN. The value ranges from 1 to 4094.  |
| Ethernet Type      | The Ethernet type can be any, arp, ip, or rarp. |

### 4.4.3.3 Hybrid ACL

To set a Name, Subitem, Time Range, Active, IPv4/v6, Source MAC address, Destination MAC Address, Priority, and VLAN, select **Security Application>ACL>Hybrid ACL** in the navigation bar.

The screenshot displays the 'Hybrid ACL' configuration page. The left sidebar shows the navigation menu with 'Hybrid ACL' selected. The main area contains configuration fields for Name, Subitem, Time Range, Active, IPv4/v6, Source MAC Address, Mask, Dest MAC Address, Mask, Cos, and VLAN. Below the fields is a table with columns: Index, Name, Active, Type, Rule, Subitem, and Operation. The table is currently empty, showing 'No data'.

#### 【Parameters & Descriptions】

| Parameter          | Description                                    |
|--------------------|------------------------------------------------|
| Name               | The range of 2000 – 2999.                      |
| Subitem            | The range of 0 – 127.                          |
| Active             | Choose to permit or deny.                      |
| IPv4/v6            | Choose to IPv4 or IPv6.                        |
| Source MAC Address | Set source MAC address.                        |
| Dest MAC Address   | Set destination MAC address.                   |
| Cos                | The priority ranges from 0 to 7.               |
| VLAN               | Set the VLAN. The value ranges from 1 to 4094. |

### 4.4.3.4 Policy Rule

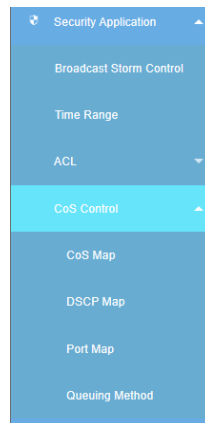
To set Global/Port, IP-ACL, MAC-ACL, Hybrid-ACL, Active, DSCP, Priority, Redirect, Mirror, Rate Limit, Insert VLAN, and rewrite VLAN, select **Security Application>ACL>Policy Rule** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter    | Description                                            |
|--------------|--------------------------------------------------------|
| Active       | Activate the configured policy.                        |
| DSCP         | The range of 0 – 63.                                   |
| Priority     | The priority ranges from 0 to 7.                       |
| Redirect     | The value can be CPU or port. The default CPU is used. |
| Mirror       | The value can be CPU or port. The default CPU is used. |
| Rate Limit   | Set rate limit.                                        |
| Insert VLAN  | Insert VLAN ranges from 1 to 4094.                     |
| Rewrite VLAN | Rewrite VLAN ranges from 1 to 4094.                    |

## 4.4.4 CoS Control

To set CoS MAP, DSCP MAP, Port MAP, and Queue Method, select **Security Application>CoS Control** in the navigation bar.



### 4.4.4.1 CoS MAP

To set groups, priorities, queue types, and so on, select **Security Application>CoS Control>CoS MAP** in the navigation bar.

 A screenshot of the 'CoS Map' configuration page. The left sidebar shows the navigation tree with 'CoS Map' selected. The main area has a title bar 'CoS Map' with 'Apply' and 'Reset' buttons. Below are three dropdown menus: 'Group' (set to 1), 'Priority' (set to 0), and 'Queue Type' (set to 0). A table below shows a mapping of Priority (0-7) to Queue Type (0-7). The table has two columns: 'Priority' and 'Queue Type'. The rows show a 1:1 mapping from 0 to 7. At the bottom of the table is a pagination bar showing '< 1 > To 1 Page Sure All 8 Num 10 Num / Page >'.

#### 【Parameters & Descriptions】

| Parameter  | Description                                |
|------------|--------------------------------------------|
| Group      | Set the group number and select the group. |
| Priority   | The priority ranges from 0 to 7.           |
| Queue Type | Queue Type ranges from 0 to 7.             |

#### 4.4.4.2 DSCP MAP

To set the DSCP status, Group, DSCP Value, and Queue Type, select **Security Application>CoS Control>DSCP MAP** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter   | Description                             |
|-------------|-----------------------------------------|
| DSCP Status | The DSCP status is enabled or disabled. |
| DSCP Value  | DSCP Value ranges from 0 to 63.         |
| Queue Type  | Queue Type ranges from 0 to 7.          |

#### 4.4.4.3 Port Map

To set ports, groups, and mapping types, select **Security Application>CoS Control>Port MAP** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter | Description                              |
|-----------|------------------------------------------|
| Port      | Select the port to be mapped.            |
| Map Type  | There are QueueMap, CoSMap, and DSCPMap. |

#### 4.4.4.4 Queuing Method

To set groups and modes, select **Security Application>CoS Control>Queuing Method** in the navigation bar.

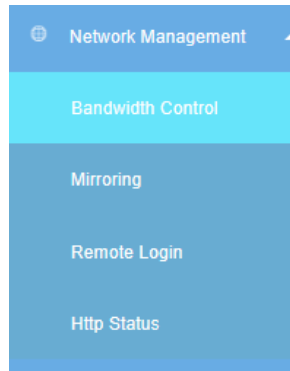
The screenshot shows the 'Queuing Method' configuration page. The left sidebar contains a navigation menu with the following items: Basic Setup, L2 Layer Application, L3 Layer Application, Security Application (expanded), Broadcast Storm Control, Time Range, ACL, CoS Control (expanded), CoS Map, DSCP Map, Port Map, and Queuing Method (selected). The main content area has a title bar 'Queuing Method' with 'Apply' and 'Reset' buttons. Below the title bar, there are two dropdown menus: 'Group' set to '1' and 'Mode' set to 'SP'.

#### 【Parameters & Descriptions】

| Parameter | Description                                             |
|-----------|---------------------------------------------------------|
| Mode      | There are five modes: SP, WRR, SP+WRR, WFQ, and SP+WFQ. |

## 4.5 Network Management

Choose Network Management, and the following page appears. There are **Bandwidth Control**, **Mirroring**, **Remote Login** and **Http Status** configuration web pages.



### 4.5.1 Bandwidth Control

To set the port, Ingress Rate, and Egress Rate, select **Network Management>Bandwidth Control** in the navigation bar.

| Port   | Ingress Rate(unit:16kbps) | Egress Rate(unit:16kbps) |
|--------|---------------------------|--------------------------|
| e0/0/1 | disable                   | disable                  |
| e0/0/2 | disable                   | disable                  |
| e0/0/3 | disable                   | disable                  |

#### 【Parameters & Descriptions】

| Parameter    | Description                                                 |
|--------------|-------------------------------------------------------------|
| Ingress Rate | Set the Ingress Rate. If the value is 0, set it to disable. |
| Egress Rate  | Set the Egress Rate. If the value is 0, set it to disable.  |

## 4.5.2 Mirroring

To set the mirror group, destination port, and direction, select **Network Management>Mirroring** in the navigation bar.

The screenshot shows the 'Mirroring' configuration page. On the left is a navigation menu with options: Basic Setup, L2 Layer Application, L3 Layer Application, Security Application, Network Management (expanded), Bandwidth Control, Mirroring (selected), Remote Login, Http Status, Device Management, Spanning Tree Protocol, and System Management. The main content area has a 'Mirroring' tab. At the top are 'Select all' and 'Cancel' buttons. Below is a prompt 'Please select the source port:' followed by a grid of 54 port icons arranged in two rows of 27. The first row contains ports 1 through 53, and the second row contains ports 2 through 54. Below the grid are 'Add' and 'Reset' buttons. Further down are three fields: 'Group' with a dropdown set to '1', 'Destination Port' with an empty input field, and 'Direction' with a dropdown set to 'Ingress'. At the bottom is a table with columns 'port', 'direction', and 'operation'. The table is currently empty, showing 'No data'. Above the table are 'Delete all' and 'Refresh' buttons, and a table icon in the top right corner.

### 【Parameters & Descriptions】

| Parameter        | Description                                                                                                |
|------------------|------------------------------------------------------------------------------------------------------------|
| Group            | Select mirror group.                                                                                       |
| Destination Port | Select any port other than the source port.                                                                |
| Direction        | Configure the direction of the mirrored packet. The direction can be inbound, outbound, and bidirectional. |

## 4.5.3 Remote Login

To set the remote Settings and the maximum number of users, select **Network Management>Remote Login** in the navigation bar.

### 【Parameters & Descriptions】

| Parameter      | Description                                                                                                               |
|----------------|---------------------------------------------------------------------------------------------------------------------------|
| Telnet         | Select whether to enable remote Settings (after Telnet is enabled remotely, it is automatically disabled 24 hours later). |
| MAX User Limit | Setting remote as maximum user (0 – 5).                                                                                   |
| SSH            | Select whether to enable SSH Settings (after SSH is enabled, it is automatically disabled 24 hours later).                |
| SSH Port       | Port 22 is the default.                                                                                                   |

## 4.5.4 Http Status

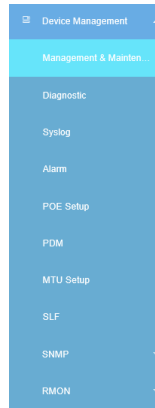
To set the Http Status, Port and Web Timeout, select **Network Management>Http Status** in the navigation bar.

### 【Parameters & Descriptions】

| Parameter   | Description                                 |
|-------------|---------------------------------------------|
| Http Status | Select Http or Https.                       |
| Port        | Setting port.                               |
| Web Timeout | Web Timeout ranges from 60 to 3600 seconds. |

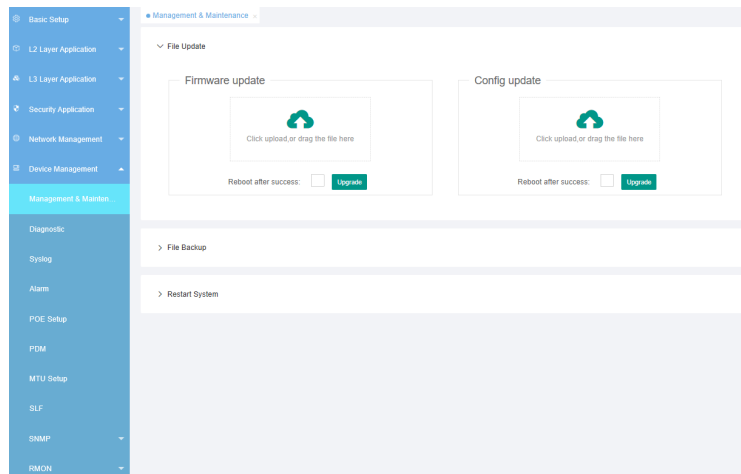
## 4.6 Device Management

Choose **Device Management**, and the following page appears. There are **Management & Maintenance**, **Diagnostic**, **Syslog**, **Alarm**, **PoE Setup**, **PDM**, **MTU Setup**, **SLF**, **SNMP** and **RMON** configuration web pages.



### 4.6.1 Management & Maintenance

To set file update, file backup, and system restart, select **Device Management>Management & Maintenance** in the navigation bar.

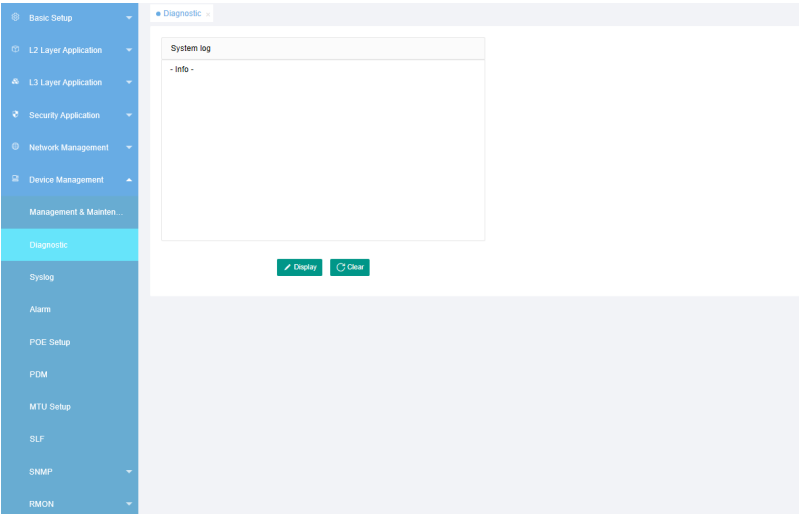


#### 【Parameters & Descriptions】

| Parameter      | Description                                                                           |
|----------------|---------------------------------------------------------------------------------------|
| File Update    | Update firmware and configuration files (optionally restart after successful update). |
| File Backup    | Back up configuration files and log files.                                            |
| Restart System | There are two restart types: Restart and Factory Settings reset.                      |

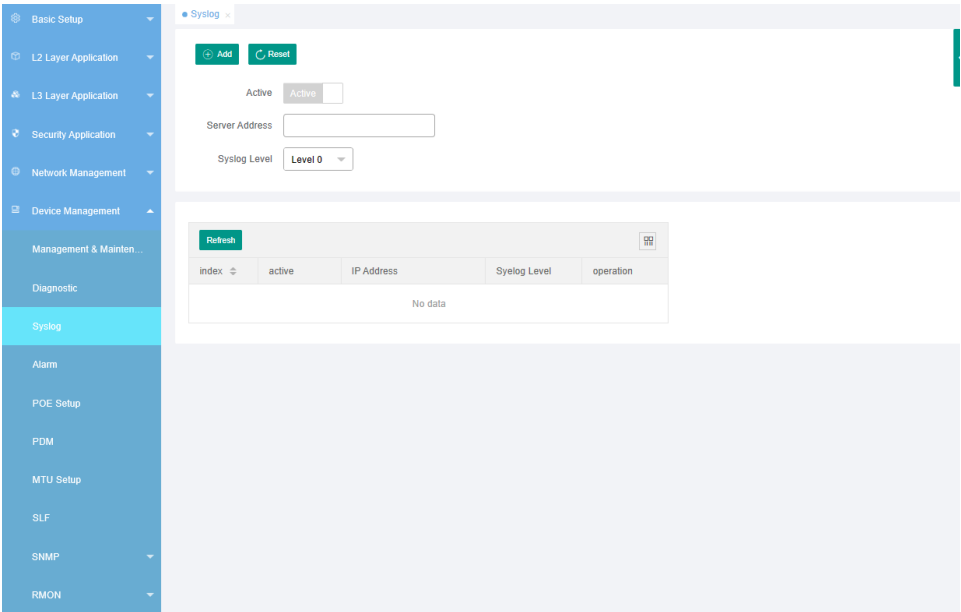
### 4.6.2 Diagnostic

In the navigation bar, select **Device Management>Diagnostic**. Click the display button to display the system log; click the Clear button to clear system logs.



### 4.6.3 Syslog

To enable the log function and the log function of the corresponding module globally, and to set the log server address and log level, select **Device Management>Syslog** in the navigation bar.



## 4.6.4 Alarm

To set a CPU alarm, Busy and Unbusy thresholds, Activation, traffic overload and normal traffic thresholds, select **Device Management>Alarm** in the navigation bar.

**Alarm**

Apply Reset

CPU Alarm: ☒

Busy:  Mbps %

UnBusy:  Mbps %

Select All Cancel

Please select the port:

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 |

Apply Reset

Enable: ☐

Exceed Threshold:

Normal Threshold:

Delete All Refresh

| Port   | Status | Exceed Threshold | Normal Threshold | Operation              |
|--------|--------|------------------|------------------|------------------------|
| e9/9/1 | enable | 850              | 600              | <a href="#">delete</a> |

### 【Parameters & Descriptions】

| Parameter        | Description                                                                          |
|------------------|--------------------------------------------------------------------------------------|
| CPU Alarm        | Click to enable/disable the CPU alarm function.                                      |
| Busy             | Set the busy hour threshold.                                                         |
| UnBusy           | Set the unbusy hour threshold.                                                       |
| Enable           | Status On or Off.                                                                    |
| Exceed Threshold | The threshold of a GE port ranges from 1 to 1000.                                    |
| Normal Threshold | The normal traffic threshold should be smaller than the excessive traffic threshold. |

## 4.6.5 PoE Setup

To set relevant parameters for PoE, select **Device Management>PoE Setup** in the navigation bar.

### 【Parameters & Descriptions】

| Parameter        | Description                                                                                  |
|------------------|----------------------------------------------------------------------------------------------|
| Power Limit      | The PoE power supply of a switch can be limited.                                             |
| PoE Enable       | Enable or Disable the PoE power supply for a port. The default value is Enable.              |
| Port Power Limit | Limit the port power.                                                                        |
| Priority         | The priority can be low, critical, or high. The default priority is low.                     |
| Standard         | The IEEE 802.3af and IEEE 802.3at modes can be configured. The default mode is IEEE 802.3at. |

## 4.6.6 PDM (Powered Device Monitor)

To set relevant parameters for the PDM function, select **Device Management>PDM** in the navigation bar.

**PDM**

Select All Cancel

Please select the port:

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 |

Apply Reset

PDM Enable: ☒

PD IP Address:

Poll Interval:  S Range<10-300>

Retry Count:  Range<0-5>

Waiting Time:  S Range<30-300>

Action:

Refresh

| Port   | PDM Status | PD IP Address | Poll Interval | Retry Count | Waiting Time | Action |
|--------|------------|---------------|---------------|-------------|--------------|--------|
| e0/0/1 | Disabled   | 0.0.0.0       | 30            | 2           | 90           | Both   |
| e0/0/2 | Disabled   | 0.0.0.0       | 30            | 2           | 90           | Both   |
| e0/0/3 | Disabled   | 0.0.0.0       | 30            | 2           | 90           | Both   |
| e0/0/4 | Disabled   | 0.0.0.0       | 30            | 2           | 90           | Both   |

### 【Parameters & Descriptions】

| Parameter     | Description                                                                 |
|---------------|-----------------------------------------------------------------------------|
| PDM Enable    | Enable or Disable the PDM for a port. The default value is Enable.          |
| Poll Interval | Set Poll Interval, range is from 10 to 300.                                 |
| Retry Count   | Set Retry Count, range is from 0 to 5.                                      |
| Waiting Time  | Set Waiting Time, range is from 30 to 300.                                  |
| Action        | Options are Both, Notify, Reboot-PD and Nothing. The default value is Both. |

## 4.6.7 MTU Setup

To set relevant parameters for MTU, select **Device Management>MTU Setup** in the navigation bar.

### 【Parameters & Descriptions】

| Parameter  | Description                                 |
|------------|---------------------------------------------|
| MTU Config | Set MTU value, range is from 1522 to 12288. |

## 4.6.8 SLF

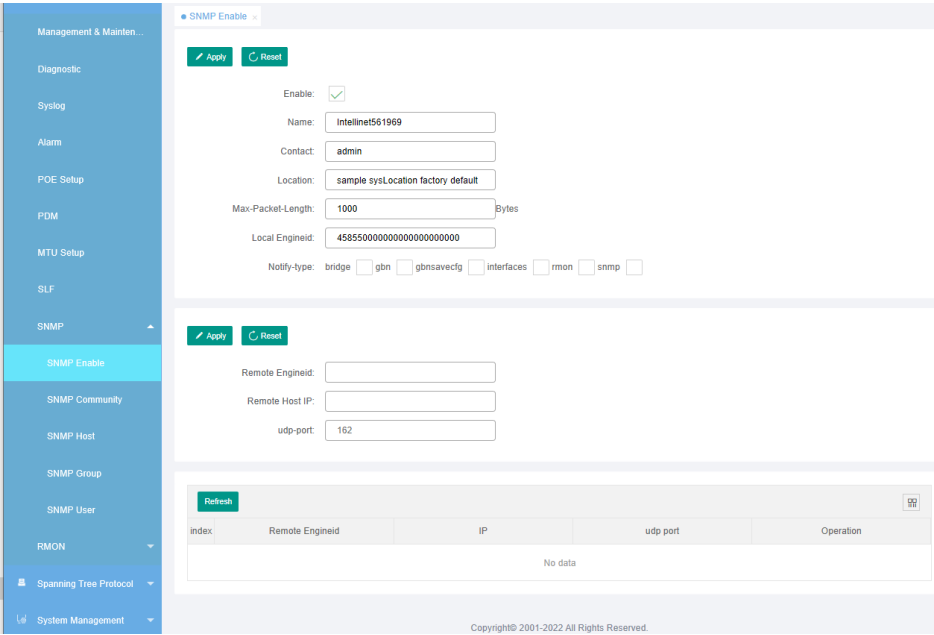
To set Enable or Disable packet discarding with unknown source MAC addresses, select **Device Management>SLF** in the navigation bar.

### 【Parameters & Descriptions】

| Parameter                            | Description                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Source MAC unknown message discarded | Enable or disable this function.                                                                                    |
| Delete                               | Restore the default port Settings and disable the function of discarding packets with unknown source mac addresses. |

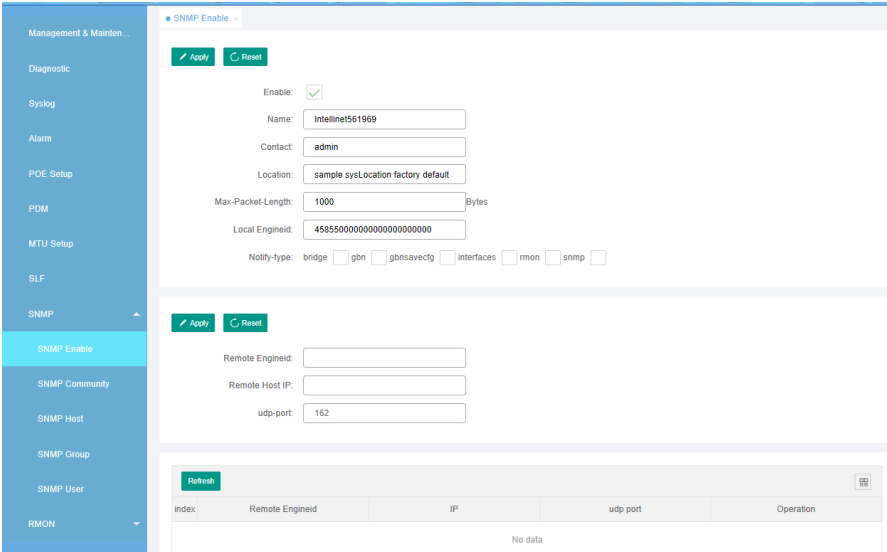
4.6.9 SNMP

To set global SNMP, SNMP community, SNMP host, SNMP group, and SNMP user, select **Device Management>SNMP** in the navigation bar.



4.6.9.1 SNMP Enable

To enable or disable the function, set the switch system name, administrator information, switch location, maximum packet length, local engine ID, remote engine ID, remote host IP address, and remote udp port, select **Device Management>SNMP>SNMP Enable** in the navigation bar.



【Parameters & Descriptions】

| Parameter | Description                                                |
|-----------|------------------------------------------------------------|
| Enable    | Click to enable the function. The default value is Enable. |

### 4.6.9.2 SNMP Community

To set the community name, read/write permission, and activation, select **Device Management>SNMP>SNMP Community** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter        | Description                                                                                          |
|------------------|------------------------------------------------------------------------------------------------------|
| Community        | Community character string, equivalent to the communication password between the NMS and SNMP agent. |
| Access privilege | The value can be Read-only or Read-write.                                                            |
| Activation       | The value can be Permit or Deny.                                                                     |

### 4.6.9.3 SNMP Host

To set the host IP address, version information, SNMP security name, udp port, and notification type, select **Device Management>SNMP>SNMP Host** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter | Description                          |
|-----------|--------------------------------------|
| Host IP   | Set the IP address of the trap host. |
| Version   | The version can be v1, v2c, or v3.   |

### 4.6.9.4 SNMP Group

To set the group name, security level, device context, notification view name, read access view name, and write access view name, select **Device Management>SNMP>SNMP Group** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter      | Description                                         |
|----------------|-----------------------------------------------------|
| Group name     | SNMP group name.                                    |
| Security level | The security levels are noauthpriv, auth, and priv. |

### 4.6.9.5 SNMP User

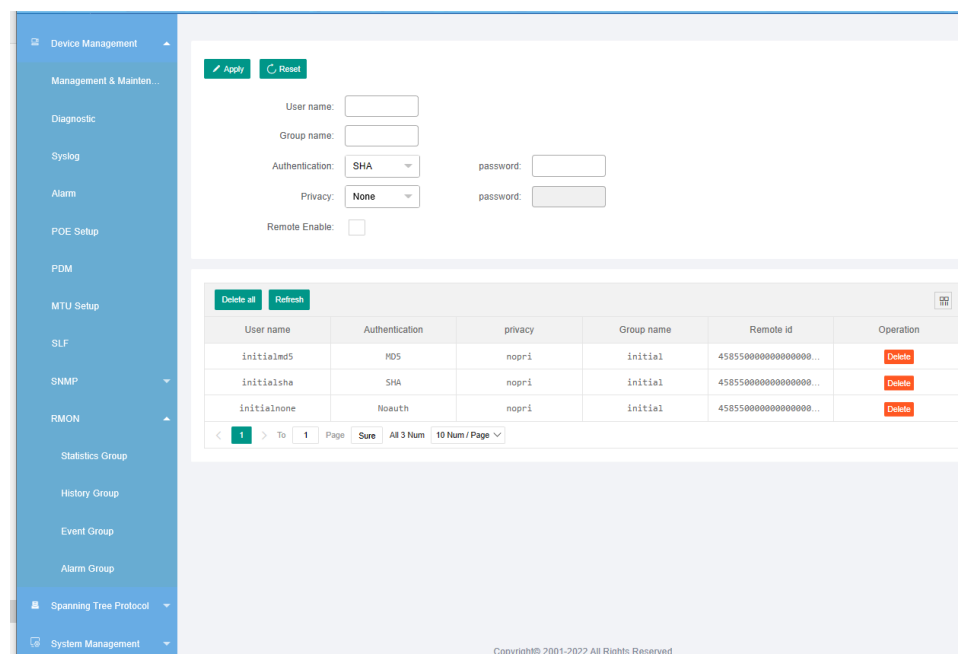
To set the user name, group name, authentication mode, encryption mode, password, and remote function, select **Device Management>SNMP>SNMP User** in the navigation bar.

#### 【Parameters & Descriptions】

| Parameter      | Description                                   |
|----------------|-----------------------------------------------|
| User name      | SNMP name.                                    |
| Authentication | MD5 and SHA - Specify the security level.     |
| Privacy        | DES encryption protocol .                     |
| password       | Authentication password and Privacy password. |

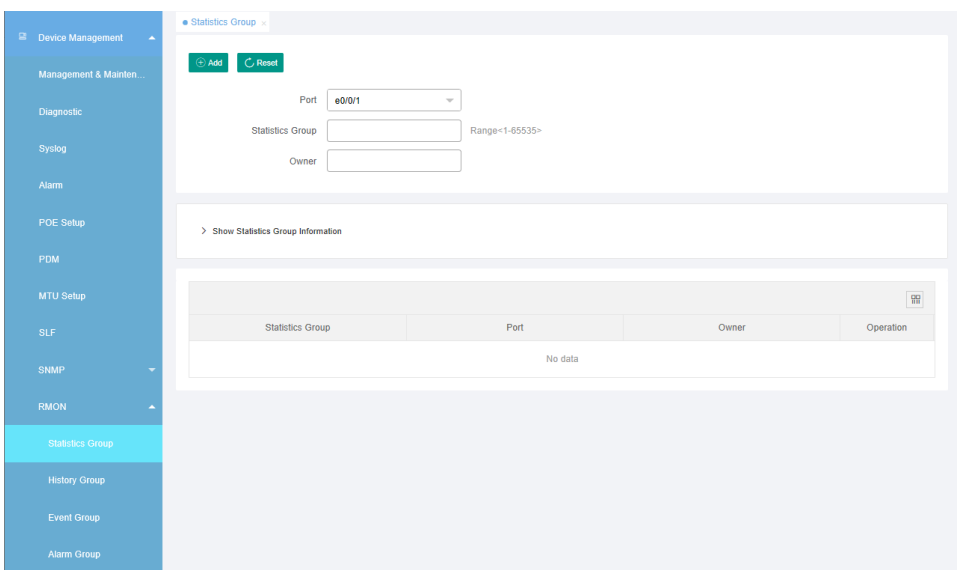
4.6.10RMON

To set statistics group, history group, event group, and alarm group, select **Device Management>RMON** in the navigation bar.



4.6.10.1 Statistics Group

To set ports, statistics groups, owners, and so on, select **Device Management>RMON>Statistics Group** in the navigation bar.



【Parameters & Descriptions】

| Parameter        | Description                       |
|------------------|-----------------------------------|
| Port             | Select any port on the switch.    |
| Statistics Group | The value ranges from 1 to 65535. |
| Owner            | The user sets the owner name.     |

## 4.6.10.2 History Group

To set ports, history groups, number of records, sampling intervals, owners, and so on, select **Device Management>RMON>History Group** in the navigation bar.

The screenshot shows the 'History Group' configuration page. On the left is a navigation menu with 'Device Management' expanded, showing options like 'Management & Mainline...', 'Diagnostic', 'Syslog', 'Alarm', 'POE Setup', 'PDM', 'MTU Setup', 'SLF', 'SNMP', 'RMON' (expanded), 'Statistics Group', 'History Group' (selected), 'Event Group', and 'Alarm Group'. The main area has a tab 'History Group' with 'Add' and 'Reset' buttons. Below are input fields for 'Port' (set to 'e0/0/1'), 'History Group' (with range '<1-65535>'), 'Buckets' (with range '<1-65535>'), 'Sample Interval' (with range '(seconds) <1-3600>'), and 'Owner'. Below the form is a section 'History Group Information' containing a table with columns: History Group, Port, Buckets, Sample Interval, Owner, and Operation. The table is currently empty, showing 'No data'.

### 【Parameters & Descriptions】

| Parameter       | Description                                                         |
|-----------------|---------------------------------------------------------------------|
| Port            | Select any port on the switch.                                      |
| History Group   | Set the History Group. The value ranges from 1 to 65535.            |
| Buckets         | Set the Buckets. The value ranges from 1 to 65535.                  |
| Sample Interval | Set the sampling interval. The value ranges from 1 to 3600 seconds. |
| Owner           | The user sets the owner name.                                       |

### 4.6.10.3 Event Group

To set Event Groups, Descriptions, Event Types, Owners, and so on, select **Device Management>RMON>Event Group** in the navigation bar.

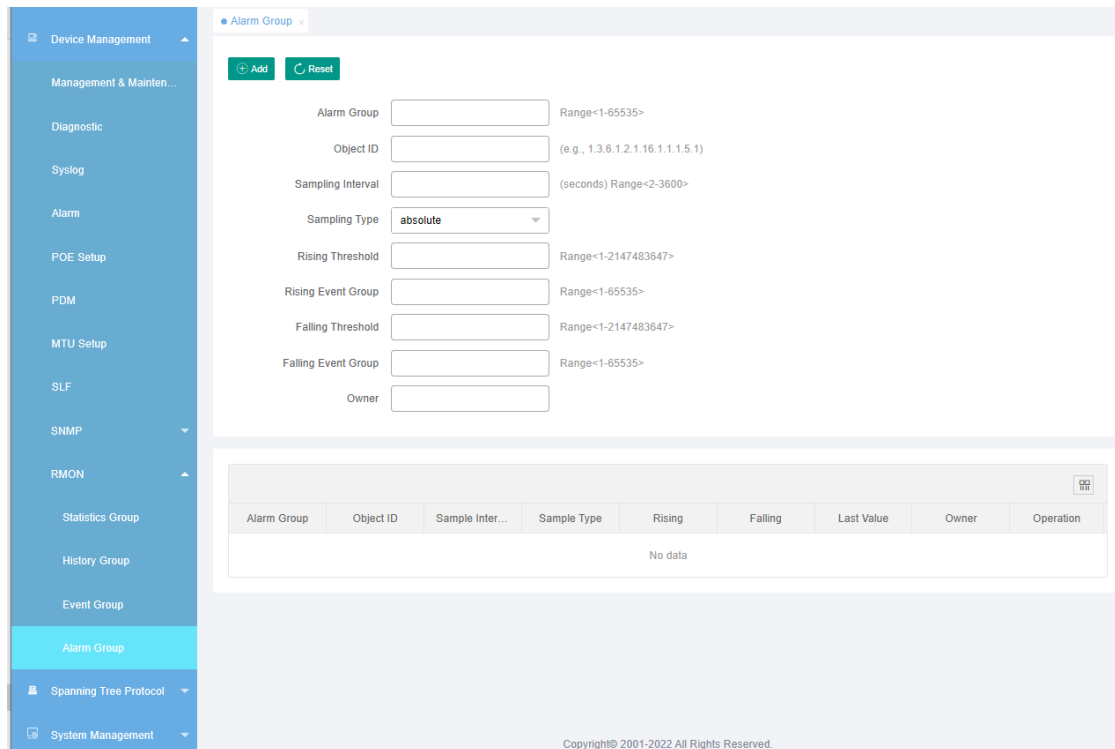
The screenshot shows the 'Event Group' configuration page. On the left is a navigation menu with 'Device Management' expanded, showing options like 'Management & Maintenance', 'Diagnostic', 'Syslog', 'Alarm', 'POE Setup', 'PDM', 'MTU Setup', 'SLF', 'SNMP', 'RMON' (selected), 'Statistics Group', 'History Group', 'Event Group' (highlighted), 'Alarm Group', 'Spanning Tree Protocol', and 'System Management'. The main content area has a tab 'Event Group' with 'Add' and 'Reset' buttons. Below these are input fields for 'Event Group' (with a range hint 'Range<1-65535>'), 'Description', 'Event Type' (set to 'None'), and 'Owner'. A section titled 'RMON Event Log Information' contains a table with columns: Event Group, Description, Event Type, Trap Community, Owner, and Operation. The table is currently empty, showing 'No data'. The footer of the page reads 'Copyright© 2001-2022 All Rights Reserved.'

#### 【Parameters & Descriptions】

| Parameter   | Description                                            |
|-------------|--------------------------------------------------------|
| Event Group | Set the Event Group. The value ranges from 1 to 65535. |
| Event Type  | The Log, Trap, and log-trap events are available.      |

## 4.6.10.4 Alarm Group

To set an Alarm Group, Object ID, Sampling Interval, Sampling Type, Rise Threshold, Rise Event Group, Fall Threshold, Fall Event Group, and Owner, select **Device Management>RMON>Alarm Group** in the navigation bar.

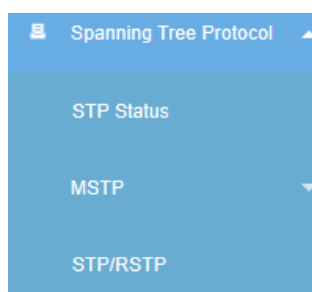


### 【Parameters & Descriptions】

| Parameter           | Description                                            |
|---------------------|--------------------------------------------------------|
| Alarm Group         | Set the Alarm Group. The value ranges from 1 to 65535. |
| Object ID           | The value ranges from 2 to 3600 seconds.               |
| Sampling Type       | There are two types: absolute and delta.               |
| Rising Threshold    | The value ranges from 1 to 2147483647.                 |
| Rising Event Group  | The value ranges from 1 to 65535.                      |
| Falling Threshold   | The value ranges from 1 to 2147483647.                 |
| Falling Event Group | The value ranges from 1 to 65535.                      |

## 4.7 Spanning Tree Protocol

Choose **Spanning Tree Protocol**, and the following page appears. There are **STP Status**, **MSTP** and **STP Status** configuration web pages.



### 4.7.1 STP Status

To set the generated tree mode and global spanning tree state, select **Spanning Tree Protocol>STP Status** in the navigation bar.

**STP Status**

**Apply**

Spanning Tree Mode: **Rapid Spanning Tree**

Global Spanning Tree status: ☐ Enable ☒ Disable

Global Spanning Tree:  Our Bridge ID:

Root Bridge ID:  Root Path Cost:

Hello Time (second):  Max Age (second):

Forwarding Delay (second):  Topology Changed Times:

| Port   | Active  | Role       | State      |
|--------|---------|------------|------------|
| e0/0/1 | enabled | Designated | Forwarding |
| e0/0/2 | enabled | Designated | Forwarding |
| e0/0/3 | enabled | Designated | Forwarding |
| e0/0/4 | enabled | Designated | Forwarding |
| e0/0/5 | enabled | Designated | Forwarding |
| e0/0/6 | enabled | Designated | Forwarding |
| e0/0/7 | enabled | Designated | Forwarding |
| e0/0/8 | enabled | Designated | Forwarding |
| e0/0/9 | enabled | Designated | Forwarding |

#### 【Parameters & Descriptions】

| Parameter                   | Description                                                                             |
|-----------------------------|-----------------------------------------------------------------------------------------|
| Spanning Tree Mode          | IEEE compatible spanning tree, rapid spanning tree, multiple spanning tree three modes. |
| Global Spanning Tree status | Enable or disable the global spanning tree.                                             |

## 4.7.2 MSTP

To set MSTP global, MSTP instance, MSTP port, MSTP instance port, and MSTP guard, select **Spanning Tree Protocol>MSTP** in the navigation bar.

The screenshot shows the 'MSTP Global' configuration page. The left sidebar has a tree view with 'Spanning Tree Protocol' expanded, showing 'STP Status', 'MSTP', 'MSTP Global' (selected), and 'MSTP Instance'. The main content area has a title bar 'MSTP Global' with 'Apply' and 'Reset' buttons. Below are input fields for: Hello Time (2, range 1-10s), Max Age (20, range 6-40s), FwdDelay (15, range 4-30s), Time Factor (3, range 1-10s), Max Hop (20, range 1-255), Revision (0, range 0-65535), and Region Name (empty text box).

### 4.7.2.1 MSTP Global

To set the sending period, maximum aging time, forwarding delay, timeout factor, maximum hop count, area modification level, and area name, select **Spanning Tree Protocol>MSTP>MSTP Global** in the navigation bar.

This is an identical screenshot to the one above, showing the 'MSTP Global' configuration page with the same navigation sidebar and configuration fields.

#### 【Parameters & Descriptions】

| Parameter   | Description                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------------------|
| Hello Time  | The value ranges from 1 to 10 seconds.                                                                                       |
| Max Age     | If the port does not receive any packet within this period (6-40 seconds), the port initiates a topology change.             |
| FwdDelay    | Port status switching time (4 to 30 seconds).                                                                                |
| Time Factor | The value ranges from 1 to 10 seconds.                                                                                       |
| Max Hop     | This parameter specifies the maximum number of hops supported by BPDUs in the spanning tree. The value ranges from 1 to 255. |
| Revision    | The range correction level ranges from 0 to 65535.                                                                           |

### 4.7.2.2 MSTP Instance

To set the instance ID, bridge priority, and VLAN list, select **Spanning Tree Protocol>MSTP>MSTP Instance** in the navigation bar.

| Instance | Priority | Vlan list | Operation |
|----------|----------|-----------|-----------|
| 0        | 32768    | 1-4094    | Delete    |
| 1        | 32768    |           | Delete    |
| 2        | 32768    |           | Delete    |
| 3        | 32768    |           | Delete    |
| 4        | 32768    |           | Delete    |
| 5        | 32768    |           | Delete    |
| 6        | 32768    |           | Delete    |

#### 【Parameters & Descriptions】

| Parameter       | Description                                                             |
|-----------------|-------------------------------------------------------------------------|
| Instance        | The value ranges from 0 to 15.                                          |
| Bridge Priority | Set the bridge priority. The default bridge instance priority is 32768. |
| VLAN List       | The VLAN list ranges from 1 to 4094.                                    |

### 4.7.2.3 MSTP Port

To enable or disable the function, set the connection type, external path cost, port boundary mode, digest listening feature compatible with Cisco and so on, select **Spanning Tree Protocol>MSTP>MSTP Port** in the navigation bar.

| Port | PortEnable | Link-Type | External Cost | PortFast | config-digest-sno | Operation |
|------|------------|-----------|---------------|----------|-------------------|-----------|
|------|------------|-----------|---------------|----------|-------------------|-----------|

#### 【Parameters & Descriptions】

| Parameter              | Description                                                   |
|------------------------|---------------------------------------------------------------|
| PortEnable             | Click to enable or disable the MSTP function.                 |
| Link-Type              | There are three link types: auto, point-to-point, and shared. |
| External Cost          | Configure port external path cost (default: 200000).          |
| PortFast               | There are three modes: autoedge, disable, and edgeport.       |
| config-digest-snooping | Specifies whether the status is enabled.                      |

### 4.7.2.4 MSTP Instance Port

To set the instance number, port priority, internal path cost, etc., select **Spanning Tree Protocol>MSTP>MSTP Instance Port** in the navigation bar.

**MSTP Instance Port**

Select All Cancel

Please select the port

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 |

Apply Reset

Instance: 0

Port Priority: 128

Internal Cost: Internal Cost default value ☒

| Port   | Priority | Internal Cost | Operation |
|--------|----------|---------------|-----------|
| e0/0/1 | 128      | 200000        | Delete    |
| e0/0/2 | 128      | 200000        | Delete    |
| e0/0/3 | 128      | 200000        | Delete    |

#### 【Parameters & Descriptions】

| Parameter     | Description                                               |
|---------------|-----------------------------------------------------------|
| Instance      | The value ranges from 0 to 15                             |
| Port Priority | Set the port instance priority. The default value is 128. |
| Internal Cost | Configure the port internal path cost (default: 200000).  |

4.7.2.5 MSTP Guard

To set BPDU filtering, BPDU protection, loop protection, and root protection for a port, select **Spanning Tree Protocol>MSTP>MSTP Guard** in the navigation bar.

Basic Setup

L2 Layer Application

L3 Layer Application

Security Application

Network Management

Device Management

Spanning Tree Protocol

STP Status

MSTP

MSTP Global

MSTP Instance

MSTP Port

MSTP Instance Port

MSTP Guard

MSTP Guard

ApplyReset

Bpdu-Filter:☐

Root-Guard:block-port

Flap-Guard:☐

Tc-Protection:☒

Max-flaps:5

Tc-Protection-Threshold:6

Max-flaps-time:10s

Tc-Protection-Interval:10s

Flap-Recovery:30s

Select AllCancel

Please select the port:

1357911131517192123252729313335373941434547495153

24681012141618202224262830323436384042444648505254

ApplyReset

Bpdu-Guard:☐

Bpdu-Filter:☐

loop-Guard:☐

root-Guard:☐

【Parameters & Descriptions】

| Parameter   | Description               |
|-------------|---------------------------|
| Bpdu-Filter | Select whether to enable. |
| Bpdu-Guard  | Select whether to enable. |
| root-Guard  | Select whether to enable. |
| loop-Guard  | Select whether to enable. |

### 4.7.3 STP/RSTP

To set the bridging priority, sending period, maximum aging time, forwarding delay, timeout factor, enable/disable, priority, path cost, link type, and boundary status, select **Spanning Tree Protocol>STP/RSTP** in the navigation bar.

The screenshot displays the configuration interface for STP/RSTP. The left sidebar shows the navigation menu with 'Spanning Tree Protocol' expanded and 'STP/RSTP' selected. The main area has two tabs: 'STP/RSTP' (active) and 'STP Status'. The 'STP/RSTP' tab contains fields for Bridge Priority (32768), Hello Time (2), MAX Age (20), Forwarding Delay (15), and Time Factor (3). The 'STP Status' tab contains a grid of 54 ports (2 rows by 27 columns) and fields for Active (checked), Priority (128), Path Cost, Path Cost Default Value (checked), Link Type (auto), and Portfast Mode (autoedge).

#### 【Parameters & Descriptions】

| Parameter        | Description                                                                                                        |
|------------------|--------------------------------------------------------------------------------------------------------------------|
| Bridge Priority  | Set the bridge priority. The default bridge instance priority is 32768.                                            |
| Hello Time       | The value ranges from 1 to 10 seconds.                                                                             |
| MAX Age          | If the port does not receive any packet within this period (6 – 40 seconds), the port initiates a topology change. |
| Forwarding Delay | Port status switching time (4 to 30 seconds).                                                                      |
| Time Factor      | The value ranges from 1 to 10 seconds.                                                                             |
| Active           | Whether the port function is enabled.                                                                              |
| Priority         | Set the port instance priority. The default value is 128.                                                          |
| Path Cost        | Configure port path cost (default: 200000).                                                                        |
| Link Type        | The port link type can be auto, point-to-point, or shared.                                                         |
| Portfast Mode    | The port status can be autoedge, disable, or edgeport.                                                             |

## 4.8 System Management

Choose **System Management**, and the following page appears. There are **Ping** and **CPU Statistics** configuration web pages.

The screenshot shows the 'Ping' configuration page. On the left is a navigation menu with options: Basic Setup, L2 Layer Application, L3 Layer Application, Security Application, Network Management, Device Management, Spanning Tree Protocol, System Management, Ping (highlighted), and CPU Statistics. The main content area has a 'Ping' tab. At the top are 'Start' and 'Reset' buttons. Below are input fields: 'Ping Type' (set to IPv4), 'Target Address' (empty), 'Packet Number' (set to 5, with a range of 1-2147483647), and 'Time Out' (set to 1, with a range of 1-60 seconds). At the bottom are 'Stop' and 'Empty' buttons, and a 'Ping Information' table which is currently empty.

### 4.8.1 Ping

To set the Ping type, destination address, number of packets, and timeout period, select **System Management>Ping** in the navigation bar.

This is a duplicate of the screenshot above, showing the 'Ping' configuration page with the same navigation menu and configuration fields.

#### 【Parameters & Descriptions】

| Parameter      | Description                                |
|----------------|--------------------------------------------|
| Ping Type      | The value is IPv4 or IPv6.                 |
| Target Address | The Ping destination address is specified. |
| Packet Number  | The value ranges from 1 to 2147483647.     |
| Time Out       | The value ranges from 1 to 60 seconds.     |

## 4.8.2 CPU Statistics

To check the CPU idle rate to learn the data packets, broadcast, multicast, unicast, and byte information of each port, select **System Management>CPU Statistics** in the navigation bar.

### 【Parameters & Descriptions】

| Parameter          | Description               |
|--------------------|---------------------------|
| Watch Dog Status   | Select Enable or Disable. |
| CPU Busy Threshold | Set CPU Busy Threshold.   |

## 5 Appendix: Technical Specifications

| Hardware Specifications |            |                                                                                                                                                                                                                   |
|-------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards and Protocols |            | IEEE 802.3i, IEEE 802.3u, IEEE 802.3az, IEEE 802.3af, IEEE 802.3ae, IEEE 802.3at, IEEE 802.3z, IEEE 802.3x                                                                                                        |
| Network Media           |            | 10Base-T: UTP category 3, 4, 5 cable (maximum 100 m)<br>100Base-Tx: UTP category 5, 5e cable (maximum 100 m)<br>1000Base-T: UTP category 5e, 6 cable (maximum 100 m)<br>1000Base-X: MMF, MF<br>10GBase-X: MMF, MF |
| Transfer Method         |            | Store-and-Forward                                                                                                                                                                                                 |
| Switching Capacity      |            | 216 Gbps                                                                                                                                                                                                          |
| Packet Forwarding       |            | 160.704 Mpps                                                                                                                                                                                                      |
| Packet Buffer           |            | 16 Mbit                                                                                                                                                                                                           |
| MAC Address Table       |            | 32 K                                                                                                                                                                                                              |
| Jumbo Frame             |            | 12 KByte                                                                                                                                                                                                          |
| Number of Ports         | 561846     | 24 x 10/100/1000 Mbps ports, 4 x 1000/10000 Mbps SFP+ ports, 1 x Console port                                                                                                                                     |
|                         | 561853     | 48 x 10/100/1000 Mbps ports, 4 x 1000/10000 Mbps SFP+ ports, 1 x Console port                                                                                                                                     |
|                         | 561969     | 48 x 10/100/1000 Mbps ports, 6 x 1000/10000 Mbps SFP+ ports, 1 x Console port                                                                                                                                     |
|                         | 562171     | 8 x 10/100/1000 Mbps ports, 2 x 1000/10000 Mbps SFP+ ports, 1 x Console port                                                                                                                                      |
|                         | 562188     | 16 x 10/100/1000 Mbps ports, 4 x 1000/10000 Mbps SFP+ ports, 1 x Console port                                                                                                                                     |
| PoE Ports(RJ45)         | 561846     | 24 x PoE ports compliant with 802.3at/af                                                                                                                                                                          |
|                         | 561853     | Not available                                                                                                                                                                                                     |
|                         | 561969     | 48 x PoE ports compliant with 802.3at/af                                                                                                                                                                          |
|                         | 562171     | 8 x PoE ports compliant with 802.3at/af                                                                                                                                                                           |
|                         | 562188     | 16 x PoE ports compliant with 802.3at/af                                                                                                                                                                          |
| Power Pin Assignment    |            | 1/2 (+), 3/6 (-)                                                                                                                                                                                                  |
| PoE Budget              | 561846     | 370 W                                                                                                                                                                                                             |
|                         | 561853     | Not available                                                                                                                                                                                                     |
|                         | 561969     | 450 W                                                                                                                                                                                                             |
|                         | 562171     | 120 W                                                                                                                                                                                                             |
|                         | 562188     | 370 W                                                                                                                                                                                                             |
| Indicators              | Per Port   | 10/100 Mbps Link/Act: Green, 1000 Mbps Link/Act: Green, PoE: Green                                                                                                                                                |
|                         | Per Device | Power: Green, SYS: Green                                                                                                                                                                                          |
| Power Supply            |            | AC 100 – 240 V / 50 – 60 Hz 520 W internal power                                                                                                                                                                  |

|                             |        |                                                                                                                                                                                          |
|-----------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Consumption           |        | Maximum: 550 W (220 V / 50 Hz)                                                                                                                                                           |
| Dimensions<br>( W x D x H ) | 561846 | 440 x 208 x 44 mm (17.32 x 8.19 x 1.73 in.)                                                                                                                                              |
|                             | 561853 | 440 x 330 x 44 mm (17.32 x 12.99 x 1.73 in.)                                                                                                                                             |
|                             | 561969 | 440 x 330 x 44 mm (17.32 x 12.99 x 1.73 in.)                                                                                                                                             |
|                             | 562171 | 280 x 230 x 44 mm (11.02 x 9.06 x 1.73 in.)                                                                                                                                              |
|                             | 562188 | 440 x 208 x 44 mm (17.32 x 8.19 x 1.73 in.)                                                                                                                                              |
| Environment                 |        | Operating Temperature: 0 – 45°C (32 – 113°F)<br>Storage Temperature: -40 – 70°C (-40 – 158°F)<br>Operating Humidity: 10 – 90% non-condensing<br>Storage humidity: 5 – 90% non-condensing |

| Software Specification                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                 |                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>L2 Function</b> <ul style="list-style-type: none"> <li>• Ethernet Set</li> <li>• STP/RSTP/MSTP</li> <li>• Storm-suppression</li> <li>• Port mirror</li> <li>• Port rate limit</li> <li>• MAC filter</li> <li>• Link Aggregation (static, LACP)</li> <li>• Jumbo Frame</li> </ul> | <b>L3 Function</b> <ul style="list-style-type: none"> <li>• IP interface</li> <li>• ARP proxy</li> <li>• L3 forwarding</li> <li>• Ping</li> <li>• OSPF, RIP</li> <li>• IPv4, IPv6 static route</li> <li>• IP Routing</li> </ul> | <b>Security Policy</b> <ul style="list-style-type: none"> <li>• count</li> <li>• ACL</li> <li>• QoS</li> <li>• Flow-control</li> </ul>                                |
| <b>VLAN</b> <ul style="list-style-type: none"> <li>• Port based VLAN</li> <li>• 802.1Q VLAN</li> <li>• GVRP</li> </ul> Based MAC/protocol/IP subnet/policy VLAN <ul style="list-style-type: none"> <li>• VLAN-translation</li> </ul>                                                | <b>Security</b> <ul style="list-style-type: none"> <li>• Radius</li> <li>• Tacacs+</li> <li>• Dos-attack</li> <li>• dot1x</li> <li>• Arp-attack</li> <li>• Port-security</li> </ul>                                             | <b>Application Protocol</b> <ul style="list-style-type: none"> <li>• DHCP Relay</li> <li>• DHCP snooping</li> <li>• DHCP Client/Server</li> <li>• FTP/TFTP</li> </ul> |
| <b>Management</b> <ul style="list-style-type: none"> <li>• WEB</li> <li>• Telnet</li> <li>• SSH</li> <li>• Console</li> </ul>                                                                                                                                                       | <b>Other</b> <ul style="list-style-type: none"> <li>• LLDP</li> <li>• IGMP Snooping</li> <li>• MLD Snooping</li> <li>• Support IPMC</li> <li>• IGMP, PIM</li> <li>• SNMPV1, V2c, V3</li> <li>• RMON (1, 2, 3, 9)</li> </ul>     |                                                                                                                                                                       |

## 6 Additional Information

### 6.1 WASTE ELECTRICAL & ELECTRONIC EQUIPMENT

#### DISPOSAL OF ELECTRIC AND ELECTRONIC EQUIPMENT

(Applicable In the E.U. and Other European Countries With Separate Collection Systems)

**ENGLISH:** This symbol on the product or its packaging



means that this product must not be treated as unsorted household waste. In accordance with EU

Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE), this electrical product must be disposed of in accordance with the user's local regulations for electrical or electronic waste. Please dispose of this product by returning it to your local point of sale or recycling pickup point in your municipality.

**DEUTSCH:** Dieses auf dem Produkt oder der Verpackung angebrachte Symbol zeigt an, dass dieses Produkt nicht mit dem Hausmüll entsorgt werden darf. In Übereinstimmung mit der Richtlinie 2012/19/EU des Europäischen Parlaments und des Rates über Elektro- und Elektronik-Altgeräte (WEEE) darf dieses Elektrogerät nicht im normalen Hausmüll oder dem Gelben Sack entsorgt werden. Wenn Sie dieses Produkt entsorgen möchten, bringen Sie es bitte zur Verkaufsstelle zurück oder zum Recycling-Sammelpunkt Ihrer Gemeinde.

**ESPAÑOL:** Este símbolo en el producto o su embalaje indica que el producto no debe tratarse como residuo doméstico. De conformidad con la Directiva 2012/19/EU de la UE sobre residuos de aparatos eléctricos y electrónicos (RAEE), este producto eléctrico no puede desecharse se con el resto de residuos no clasificados. Deshágase de este producto devolviéndolo a su punto de venta o a un punto de recolección municipal para su reciclaje.

**FRANÇAIS:** Ce symbole sur le produit ou son emballage

signifie que ce produit ne doit pas être traité comme un déchet ménager. Conformément à la Directive 2012/19/EU sur les déchets d'équipements électriques et électroniques (DEEE), ce produit électrique ne doit en aucun cas être mis au rebut sous forme de déchet municipal non trié. Veuillez vous débarrasser de ce produit en le renvoyant à son point de vente ou au point de ramassage local dans votre municipalité, à des fins de recyclage.

**POLSKI:** Jeśli na produkcie lub jego opakowaniu umieszczono ten symbol, wówczas w czasie utylizacji nie wolno wyrzucać tego produktu wraz z odpadami komunalnymi. Zgodnie z Dyrektywą Nr 2012/19/EU w sprawie zużytego sprzętu elektrycznego i elektronicznego (WEEE), niniejszego produktu elektrycznego nie wolno usuwać jako nie posortowanego odpadu komunalnego. Prosimy o usunięcie niniejszego produktu poprzez jego zwrot do punktu zakupu lub oddanie do miejscowego komunalnego punktu zbiórki odpadów przeznaczonych do recyklingu.

**ITALIANO:** Questo simbolo sul prodotto o sulla relativa confezione indica che il prodotto non va trattato come un rifiuto domestico. In ottemperanza alla Direttiva UE 2012/19/EU sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE), questa prodotto elettrico non deve essere smaltito come rifiuto municipale misto. Si prega di smaltire il prodotto riportandolo al punto vendita o al punto di raccolta municipale locale per un opportuno riciclaggio.

## 6.2 WARRANTY

### Go to [Intellinet-network.com](http://Intellinet-network.com)

**EN MÉXICO:** Póliza de Garantía Intellinet Network Solutions — Datos del importador y responsable ante el consumidor • IC Intracom México, S.A.P.I. de C.V. • Av. Interceptor Poniente # 73, Col. Parque Industrial La Joya, Cuautitlán Izcalli, Estado de México, C.P. 54730, México. • Tel. (55)1500-4500 • La presente garantía cubre los siguientes productos contra cualquier defecto de fabricación en sus materiales y mano de obra. A. Garantizamos los productos de limpieza, aire comprimido y consumibles, por 60 días a partir de la fecha de entrega, o por el tiempo en que se agote totalmente su contenido por su propia función de uso, lo que suceda primero. B. Garantizamos los productos con partes móviles por 3 años. C. Garantizamos los demás productos por 5 años (productos sin partes móviles), bajo las siguientes condiciones: 1. Todos los productos a que se refiere esta garantía, ampara su cambio físico, sin ningún cargo para el consumidor. 2. El comercializador no tiene talleres de servicio, debido a que los productos que se garantizan no cuentan con reparaciones, ni refacciones, ya que su garantía es de cambio físico. 3. La garantía cubre exclusivamente aquellas partes, equipos o sub-ensambles que hayan sido instaladas de fábrica y no incluye en ningún caso el equipo adicional o cualesquiera que hayan sido adicionados al mismo por el usuario o distribuidor. • Para hacer efectiva esta garantía bastará con presentar el producto al distribuidor en el domicilio donde fue adquirido o en el domicilio de IC Intracom México, S.A.P.I. de C.V., junto con los accesorios contenidos en su empaque, acompañado de su póliza debidamente llenada y sellada por la casa vendedora (indispensable el sello y fecha de compra) donde lo adquirió, o bien, la factura o ticket de compra original donde se mencione claramente el modelo, número de serie (cuando aplique) y fecha de adquisición. Esta garantía no es válida en los siguientes casos: Si el producto se hubiese utilizado en condiciones distintas a las normales; si el producto no ha sido operado conforme a los instructivos de uso; o si el producto ha sido alterado o tratado de ser reparado por el consumidor o terceras personas.

## 6.3 REGULATORY STATEMENTS

### FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense. Any changes or modifications made to this equipment without the approval of the manufacturer could result in the product not meeting the Class A limits, in which case the FCC could void the user's authority to operate the equipment.

## CE

**ENGLISH** : This device complies with the requirements of CE 2014/30/EU (UKCA Electromagnetic Compatibility Regulations 2016) and / or 2014/35/EU (UKCA Electrical Equipment [Safety] Regulations 2016). The Declaration of Conformity for is available at:

**DEUTSCH** : Dieses Gerät entspricht der CE 2014/30/EU und / oder 2014/35/EU. Die Konformitätserklärung für dieses Produkt finden Sie unter:

**ESPAÑOL** : Este dispositivo cumple con los requerimientos de CE 2014/30/EU y / o 2014/35/EU. La declaración de conformidad esta disponible en:

**FRANÇAIS** : Cet appareil satisfait aux exigences de CE 2014/30/EU et / ou 2014/35/EU. La Déclaration de Conformité est disponible à:

**POLSKI** : Urządzenie spełnia wymagania CE 2014/30/EU I / lub 2014/35/EU. Deklaracja zgodności dostępna jest na stronie internetowej producenta:

**ITALIANO** : Questo dispositivo è conforme alla CE 2014/30/EU e / o 2014/35/EU. La dichiarazione di conformità è disponibile al:



| North America                                                      | Asia & Africa                                                                                       | Europe                                                             |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| IC Intracom America<br>550 Commerce Blvd.<br>Oldsmar, FL 34677 USA | IC Intracom Asia<br>4-F, No. 77, Sec. 1, Xintai 5th Rd.<br>Xizhi Dist., New Taipei City 221, Taiwan | IC Intracom Europe<br>Löhbacher Str. 7, D-58553<br>Halver, Germany |

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