# ovolink



Web Interface Access

OL-S1000 series

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# PREFEACE

This user manual describes the configuration procedures to help for properly using of the OL-S1000 series switches. It contains descriptions on performance and characteristics of the switches as well as detailed description on settings. Please carefully read this manual before installation of the switch.

This documentation is suggested to use as a guideline for:

- Network planners.
- Field technical support and servicing engineers.
- Network administrators.

The following information describes the conventions used in the documentation

-Examples provided in this document might be using devices that different from your device model or software version. It is normal that the port numbers, sample outputs, screenshots, and other information in the examples differ from your device.

# ACCESSING THE SWITCH

### Web Interface Access

The switch' s web interface is accessible through the web-based authentication.

To manage your switch through a web browser in the host PC:

- 1) Make sure that the route between the host PC and the switch is available.
- 2) Launch a web browser.
- 3) Enter the switch' s IP address in the web browser' s address bar.

Default IP address is 192.168.1.240.

← → ♡ ŵ ① 192.168.1.240/login.asp

4) Enter the username and password in the pop-up login window.

Use **admin** for both, case sensitive, username and password in lower case letters.

5) Single click <Log in> or press Enter directly to enter the Web setting page

6) The typical web interface displays as below:

Switch Master Controller		
	System Login	
	Username: admin	
	Password:   Image: Cancel	

--View the switch' s running status and configure it in this interface.

For security, please modify the default login password after first time login.

#### SWITCH MASTER CONTROLLER

In Switch Master Controller, the system information and configuration of the system parameters and features can be viewed.

# System Management

Main functions provided on this page:

View the current software version, compilation time, MAC address and Serial Number; set up relevant parameters of the system, such as IP address, Subnet Mask, MAC address timeout, page timeout, etc.

Switch Master Controller						
System Management	System Information					
<ul> <li>System Information</li> </ul>	Software Version	v1.0.2				
<ul> <li>Password Modifition</li> </ul>	MAC Address	00:17:73:a0:05:88	Apply			
<ul> <li>Default Configuration</li> </ul>	Serial Number	01010107N00B300117	(App 2)			
<ul> <li>Reboot</li> <li>Software Upgrade</li> </ul>	IP Address	192. 168. 1. 240	Cancel			
Port Management	TP Subnet Mask	255. 255. 255. 0				
VLAN SNMP	Gateway	192.168.1.1				
QoS	Mac address timeout(s)	300				
Poe	Page timeout(m)	5				
ACL MAC ERPS Configuration Management Logout	Description: 1、MAC age timeout range 2、 Page timeout range sh	e should be between 45~458(s) iould be between 5~60(m)				

### **1.1 System Information**

Port and system status, information, configuration description and system time can be viewed here.

ystem Management	System Information					
System Information     Password Modifition     Default Configuration     Reboot     Software Upgrade     ort Management LAN MMP	Software Version MAC Address Serial Number IP Address TP Subnet Mask Gateway Mac address timeout(s)	v1.0.2 00:17:73:a0:05:88 01010107N00B300117 192: 168: 1. 240 265: 265: 265: 0 192: 168: 1. 1	Apply Cancel			
205 Poe ACL MAC ERPS Configuration Management Logout	Page timeout(m) Description: 1. MAC age timeout rang 2. Page timeout range sh	should be between 45~458(s) nould be between 5~60(m)				

Key items	Description
Software version	Display the version number of the currently running software and the software compilation time
MAC address	Display equipment MAC address
IP address	Set up equipment static IP address (192.168.1.240 by default)
Subnet mask	Set up subnet mask of equipment static IP address (255.255.255.0 by default)
Gateway	Set up the equipment gateway IP address (192.168.1.1 by default)
MAC address timeout	Set up dynamic MAC address table's aging time (300s by default)
Page timeout	WEB page timeout and exit time (5m by default)

## **1.2 Password modification**

Click on *System Management > Password modification* to load the following page:

System Management	Password Modifition		
<ul> <li>System Information</li> <li>Password Modifition</li> <li>Default Configuration</li> <li>Reboot</li> <li>Software Upgrade</li> <li>Port Management</li> <li>VLAN</li> <li>SNMP</li> <li>QoS</li> <li>Poe</li> <li>ACL</li> <li>MAC</li> <li>ERPS</li> <li>Configuration</li> <li>Management</li> <li>Logout</li> </ul>	User Name Admin User Password New Password Confirm Password Notice: Password will consider the uppercase an	Ind lowercase letter,and can't be empty!	Apply Cancel

Change WEB page log in password.

The passwords are case sensitive and should compose 3-12 characters and cannot be left blank.

System Management	Password Mo	difition	
System Information     System Information     Password Modifition     Default Configuration     Reboot     Software Upgrade Port Management VLAN SNMP QoS Poe ACL MAC ERPS Configuration Management Logout	User Name Admin User Password New Password Confirm Password Notice: Password will consi	admin         Image: Constraint of the second of the seco	Apply Cancel

After created new password, Click " **Apply** " and the following window will pop up.

system Management	Prompt Message		
<ul> <li>System Information</li> </ul>			
<ul> <li>Password Modifition</li> </ul>	Password is modified successfully		
<ul> <li>Default Configuration</li> </ul>		return	
Reboot			
<ul> <li>Software Upgrade</li> </ul>			
ort Management			
'LAN			
NMP			
loS			
00			
(CL			
IAC			
RPS			
onfiguration			
lanagement			
ogout			

### **1.3 Default Configuration**

Click on *System Management > Default Configuration* to load the following page:

Switch Master Controller						
System Management	Recovery Default Configuration					
System Information     Password Modifition	Press the button to recover the default configuration of switch It will take a few time to recover please waiting patiently don't operator the switch!					
Default Configuration     Reboot	Recovery					
Sonware Opgrade     Port Management     VI AN	Notice: After restoring the default configuration, switch will reboot with the default configuration. Please use the default password when logging in .If you choose to restore the IP address, and then please use the default IP address to manage.					
SNMP QoS						
Poe ACL						
MAC ERPS						
Configuration Management						
Logout						

Press "Recovery" to recover the default configuration of switch.

It takes a few minutes to recover, please waiting patiently without operate the switch.

After restoring the default configuration, switch will reboot with the default configuration. Use the default configuration when logging in.

To restore the IP address will need the default IP address to manage.

### 1.4 Reboot the switch

Click on *System Management > Reboot* to load the following page:

Save the current configuration before reboot the device.



### 1.5 Upgrading the software

Click on *Switch Master Controller > System Management> Software Upgrade* to load the following page:

Switch Master Controller							
System Management <ul> <li>System Information</li> <li>Password Modifition</li> </ul>	Software Upgrade Please select upgrade file(*.bin):		Browse				
<ul><li>Default Configuration</li><li>Reboot</li></ul>		Upgrade					
Software Upgrade Port Management VLAN SNMP QoS Poe ACL MAC ERPS Configuration Management Logout	Notice: Device will reboot after upgrade,please waiting						

Software version displayed on this page:

Switch Master Controller

 System Management
 System Information

 • System Information
 Software Version
 v1.0.2

Follow these steps to upgrade the software:

- 1) Click **<Browse>** and select the proper firmware upgrade file.
- 2) Click < Upgrade > to upgrade the system.
- 3) Device will reboot after upgrade.

Note:

- It takes a few minutes to upgrade, please waiting patiently without operate the switch.
- It is recommended to back up your configuration before to upgrade.
- New software will validate only after the switch rebooted.

• Avoid power off or closing the upgrading page during the software upgrading process. If the system cannot automatically jump to the upgrading access prompt page after the completion of upgrading (consider at 5-10mins depends on the network condition), please open a new page and enter IP address to log in the device.

In case of power off or the upgrading page being closed in the upgrading process, please power on again and enter <u>http://192.168.2.11</u> in the address bar to select the upgrading document for upgrading.

## Port Management

### 2.1 Port Setting

This page will display the state of attributes of ports.

Select the port for configuration and single click on **<Config>** to enter corresponding port setting page. Double click on boxes to do multiple selection on ports for batch configuration.

System Management	Port Setting									
• Port Management	Port	Select	Link Status	Speed/Duplex	Priority	Flow Control	Isolation	Open/Close	Storm Control	
Port Mirroring	1		Unknown	Negotiation	0	Close	Close	Open	100%	Kefresh
<ul> <li>Port Statistics</li> </ul>	2		100FDX	Negotiation	0	Close	Close	Open	100%	Config
Port Rate	3		Unknown	Negotiation	0	Close	Close	Open	100%	
VLAN SNMP	4		Unknown	Negotiation	0	Close	Close	Open	100%	
QoS	5		Unknown	Negotiation	0	Close	Close	Open	100%	
Poe	6		Unknown	Negotiation	0	Close	Close	Open	100%	
ACL	7		Unknown	Negotiation	0	Close	Close	Open	100%	
MAC	8		Unknown	Negotiation	0	Close	Close	Open	100%	
Configuration Management Logout										

Switch Master Controller						
System Management	Port Setting					
Port Management	Port	port 1				
<ul> <li>Port Setting</li> </ul>	Speed	Auto Negotiation	$\checkmark$	Apply		
Port Mirroring	Duplex Mode	Auto Negotiation	$\overline{}$			
Port Statistics     Port Pate	Open/Close	Open	~	Cancel		
	Priority	0	~			
SNMP	Flow Control	Close	$\checkmark$			
QoS	Isolation	Close	$\checkmark$			
Poe	Storm Control	100%	$\checkmark$			
ACL MAC ERPS Configuration						
Management						
Logout						

Parameter	Description
	Actual work rate and mode of the port
	Unknow
	No Linked
Link status	"100FDX" : 100M Full Duplex 100M full duplex
	"100HDX" : 100M Half Duplex
	"10FDX" : 10M Full Duplex
	"10HDX" : 10M Half Duplex

	Port rate can be selected:
	'10Mbps' : mandatory port rate at10M
	(100Mbps' : mandatory port rate at 100M
	'Auto-negotiation' : the port rate is subject to automatic negotiation between the selected port and the end port
Speed/Duplex	Duplex mode of the port can be selected:
	'Full Duplex': the port can receive a message when sending a message
	'Half Duplex' : the port can only sending or receiving a message at a time
	'Auto-negotiation' : the duplex state of the port shall be subject to automatic negotiation between the selected port and the end port by default. Both the port rate and duplex state are for auto- negotiation
Priority	The priority of the port is divided into level 0~7. 0 for the lowest and 7 for the highest. For messages without 802.1Q heading tag, the equipment will use the port priority as the 802.1P priority for the port in receiving the message and search local priority mapping table. It is based on the priority to mark the local priority for the message. By default, the port priority is 0.
Flow Control	When flow control function is opened for both the equipment and the switch at the opposite terminal, if the port with flow control function open has the problem of congestion: the equipment will send flow control to the opposite terminal to inform the opposite terminal to reduce message sending speed. After receiving the flow control frame, the opposite terminal will reduce the rate for sending messages to the equipment so as to avoid loss of messages. By default, flow control function is closed.
Open/Close	When the port is closed, message forwarding cannot be realized. By default ,the port is open.
Storm Control	Default 100%

## 2.2 Port Mirroring

Network traffic analyzing and troubleshooting network problems by using Mirroring function.

Mirroring allows the switch to send a copy of the traffic that passes through specified sources (ports, LAGs or the CPU) to a destination port. It does not affect the switching of network traffic on source ports, LAGs or the CPU.

Click on *Port Management> Port Mirror* to load the following page:

Monitoring ports and mirrored ports can be done on this page. By default, mirroring function cannot be used.

System Management	Port Mirr	or			
Port Management	Monitor Port	No Mirror 🗸			
Port Mirroring	Port	Mirror Direction	Port	Mirror Direction	Apply
Port Statistics	1	No Mirror 🗸 🗸	5	No Mirror $\sim$	Cancel
Port Rate	2	No Mirror $\checkmark$	6	No Mirror 🗸 🗸	
/LAN	3	No Mirror $\checkmark$	7	No Mirror 🗸 🗸	
SNMP	4	No Mirror 🗸 🗸	8	No Mirror 🗸 🗸	
ACL MAC ERPS	PS: 1、mirrored p	orts should have same mode			

The above page displays a mirroring session. Chose Monitor Port, Click **<Apply>** to configure this mirroring session on the following page:

Switch Master Co	ntroller				
System Management	Port Mirro	r			
Port Management     Port Setting	Monitor Port	1 ~			
Port Mirroring	Port	Mirror Direction	Port	Mirror Direction	Apply
<ul> <li>Port Statistics</li> </ul>	1	No Mirror 🗸 🗸	5	No Mirror 🗸	Cancel
Port Rate	2	No Mirror	6	No Mirror 🗸	
	3	Mirroring Ingress Port Mirroring Egress Port	7	No Mirror 🗸	
QoS	4	Mirroring In and Out Port	8	No Mirror 🗸	
Poe					
ACL	PS: 1 mirrored ports	should have same mode			
MAC					
Configuration					
Management					
Logout					

Key items	Description
Monitoring port	'Un-mirroring' means not to use the equipment mirroring function. A port once being set up as the monitoring port cannot be set up as the mirroring port.
Mirroring direction	'Un-mirroring' means that the port will not be mirrored; 'Mirroring ingress port' : only messages received by this port can be mirrored to the monitoring port; 'Mirroring egress port' : only messages sent by this port can be mirrored to the monitoring port; 'Mirroring ingress and egress port' : messages received and sent by the port will be mirrored to the monitoring port;

### **2.3 Port statistics**

Viewing IPv4 Multicast Statistics on Each Port.

Click on *Port Management> port statistics* to load the following page:

View information on total data package received/sent by various ports of the device.

(Main stage)

System Management	Port Statis	stics				
Port Management <ul> <li>Port Setting</li> </ul>	Port	Total number of packets sent	Total number of bytes sent	Total number of packets received	Total number of bytes received	
<ul> <li>Port Mirroring</li> <li>Port Statistics</li> </ul>	1 2	0 317	0 229111	0 2547	0 274724	Refresh
Port Rate VLAN	3	0	0	0	0	
SNMP QoS	6	0	0	0	0	
Poe ACL	8	0	0	0	0	
MAC ERPS						
Configuration Management						
Logout						

View the number of error packages received/ sent on the designated port by single

clicking on items corresponding to the port on the main page to enter corresponding statistic information page.

System Management	Port 1 Statis	tics			
Port Management					_
<ul> <li>Port Setting</li> </ul>	Receive Statistics		Sent Statistics		
<ul> <li>Port Mirroring</li> </ul>	Broadcast Packets	62	Broadcast Packets	0	Refresh
<ul> <li>Port Statistics</li> </ul>	Multicast Packets	62	Multicast Packets	0	Return
Port Rate	Unicast Packets	680	Unicast Packets	520	Recurn
VI AN	Error packets received	0	Error packets sent	119	
SNMP	Runts Error packets	0	Aborts Error packets	119	
005	Giants Error packets	0	Deferred Error packets	0	
200 200	CRC Error packets	0	Collisions Error packets	0	
ACL	Frame Error packets	0	Late collisions Error packets	0	
MAC	Aborts Error packets	0			
ERPS	Ignored Error packets	0			
Configuration					
wanagement					

Follow these steps to view port statistics on each port:

To get the real-time multicast statistics, enable Auto Refresh, or click <**Refresh**> to enable Auto Refresh or disable Auto Refresh. When enabled, the switch will automatically refresh the multicast statistics. Refresh Interval after Auto Refresh is enabled, specify the time interval for the switch to refresh the multicast statistics.

### 2.4 Port Rate

Click on *Port Management> port rate* to load the following page:

System Management	Port Lin	erate					
Port Management <ul> <li>Port Setting</li> </ul>	Port	IN Port Linerate Limit	Out Port Linerate Limit	Port	IN Port Linerate Limit	Out Port Linerate Limit	
Port Mirroring	1	Unrestricted	Unrestricted	5	Unrestricted	Unrestricted	Refresh
<ul> <li>Port Statistics</li> </ul>	2	Unrestricted	Unrestricted	6	Unrestricted	Unrestricted	
Port Rate	3	Unrestricted	Unrestricted	7	Unrestricted	Unrestricted	
VLAN	4	Unrestricted	Unrestricted	8	Unrestricted	Unrestricted	
SNMP QoS Poe ACL MAC ERPS Configuration Management Logout							

Explanation: port rate limit function cannot be used by default. Rate limit level is the level for rate limit at the port.

Rate limit level: range (0-127), 0 refers to no rate limit;

Actual rate: the port rate after rate limit. It is calculated based on the port rate limit level.

# • VLAN

In the VLAN Config section, Click on *Switch Master Controller> VLAN* to load the following page:

Switch Master Co	ontroller			
System Management	802.1Q VL	AN		
VLAN	VLAN ID	Port List	Delete	
• 802.1Q VLAN	1	1-8,	Delete	ate
PVID			Previous Next Ref:	resh
• Hybrid Port SNMP	VLAN Find			
QoS	VLAN ID		Find	
Poe				
MAC				
ERPS				
Management				
Logout				

## 3.1 802.1Q VLAN:

802.1Q Standard defines a kind of new frame format. A Tag field is added behind the standard Ethernet frame source address. This field refers to VLAN ID of different VLANs for identification. When data frame passing the switch, the switch will identify their VLAN based on the VLAN ID information tag.

Data frame of the VLAN will be communicated only in this VLAN.

System Management	802.1Q VLAN	
Port Management VLAN • 802.1Q VLAN • PVID • Hybrid Port SNMP QoS Poe ACL MAC ERPS Configuration Management Logout	Create VLAN         VLAN ID         All       1       2       3       4         J       5       6       7       8         Description: You can type on icon to change the port's status, click All icon will change all of the ports' status!         Non vlan member       Packets with that vlan can through the port.       Packets with that vlan will remove the vlan tag.	Apply Refresh

New VLAN (single click on '**Create**' button on the main page to enter the corresponding page. Enter the created VLAN info in the 'VLAN ID' textbox. Click on '**Apply'** to take effect.

Select to define if the port belongs to VLAN or not.

- 'T' means Packets with VLAN through port
- 'U' means Packets with VLAN will remove the VLAN tag

Blank means it does not belong to VLAN.

### 3.2 Port PVID under 802.1QVLAN mode

PVID: Designate tag vid for untagged messages in port inlet direction; such messages when going out from tag port will be tagged.

Tag vid=PVID.

By default, the port PVID is 1.

System Management	PVID					
Port Management	Port	PVID	Port	PVID		
VLAN	1	1	5	1		
<ul> <li>802.1Q VLAN</li> </ul>	2	1	6	1		
PVID	3	1	7	1		
<ul> <li>Hybrid Port</li> </ul>	4	1	8	1		
SNMP						
QoS						
Poe						
ACL						
MAC						
ERPS						
Configuration						
Management						
Logout						

### 3.3 Hybrid port.

All the ports of the device are Hybrid ports.

Following page shows VLAN allowed and tag control.

System Management	Hybrid Port	Hybrid Port				
Port Management	Hybrid Port	PVID	VLAN allowed			
• 802.1Q VLAN	1	1	Tagged: Untagged:1			
PVID     Hybrid Port	2	1	Tagged: Untagged:1			
SNMP	3	1	Tagged: Untagged:1			
QoS Poe	4	1	Tagged: Untagged:1			
ACL MAC	5	1	Tagged: Untagged:1			
ERPS Configuration	6	1	Tagged: Untagged:1			
Management	7	1	Tagged: Untagged:1			
Logoui	8	1	Tagged: Untagged:1			

Enter VLAN ID in the 'tagged VLAN' textbox and messages of such VLAN will allow passing the port and messages will have VLAN Tag when going out of the port;

Enter VLAN ID in the 'untagged VLAN' textbox and messages of such VLAN will allow passing the port. The message will NOT have VLAN Tag when going out the port.

PVID and VLAN allow passing must use the existing VLAN.

PVID is the default VLAN ID.



Access Interface

Select the interface to control the methods for users' accessing.

Manage the network devices via NMS.

Switch Master Co	ntroller								
System Management	SNMP								
Port Management VLAN	SNMP								
SNMP	SNMP Status	Open 🗸	Apply						
QoS	Largest packet	1522 Bytes	Cancel						
Poe	Location	China							
ACL	Contract								
MAC	Community Setting	9							
Configuration	Read Only	public							
Management	Read Write	private							
Logout									

ltem	Description							
SNMP Status	Open/close SNMP function; it is open by default.							
Largest Packet	Set up the size of the largest SNMP message package that can be received/sent by SNMP Agent.							
Location	In case of any fault of the switch, maintenance personnel is able to fast locate the failure, thus ensuring fast problem solving. System maintenance contact information is 'Blank' by default and physical location information of the equipment is originally set as 'China'							
Contact	The contact personnel that manages the device.							
Read Only	Community with read only rights can only inquire equipment information; by default, it is set as 'public'.							
Read Write	Community with read and write rights can							

# • QoS

The device supports simple QoS function. In case of network congestion, the system will control message forwarding order based on user settings on message priority trust mode and queue scheduling algorithm.

The device supports two kinds of message priority trust: 802.1p priority (COS) and DSCP. The equipment will map the messages to the designated queue based on the trust priority that being selected :

Four queues are supported in total;

Queue 1 at the lowest priority, whereby queue 4 at the highest priority.

stern management	QoS											
rt Management	Priorit Type											
	COS 🗸											Apply
MP S	Schedule Type											
		2										Cancel
	ong marona	•										
C	Priority	0	1	2	3	4	5	6	7	We	ight	
PS	Queue1(lowest)	۲	۲							1	$\sim$	
figuration	Queue2(general)	0	0	۲	۲		0	0	0	2	$\sim$	
nagement	Queue3(higher)		$\bigcirc$	$\bigcirc$	$\bigcirc$	۲	۲	$\bigcirc$	$\bigcirc$	4	$\sim$	
out	Queue4(highest)		$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	۲	۲	8	$\sim$	

802.1Q priority Type(COS)	Queue
0、1	0
2、3	1
4、5	2
6、7	3

System Management	QoS						
Port Management VLAN SNMP	Priorit Type						Apply
QoS	Schedule Type						Cancel
Poe	OHQ-WRR ●WRR						
ACL	Priority	0-15	16-31	32-47	48-63	Weight	
ERPS	Queue1(lowest)	۲	•	0	0	1 ~	
Configuration	Queue2(general)	0	۲	0	0	2 ~	
Management	Queue3(higher)	<b>•</b>	0	۲		4 ~	
ogout	Queue4(highest)	0	0	0	۲	8 ~	
	Description: 1: There are 64 priority priority queue: 0-15 cc priority 3:48-63 corresp 2: Four scheduling que	of COS being di presponds queu ponds queue prio pues in switches a	vided into four group e priority 1;16-31 con rity 4 are available with the	s,each group of 16 a responds queue prio weight value,the val	nd corresponds t rity 2;32-47 corre ue is divided into	o a scheduling sponds queue 31 levels.	

The four scheduled queues are available with 31 levels of weight value.

DSCP Priority	Queue
0~15	1
16~31	2
32~47	3
48~63	4
Key Item	Explanation
	Select priority trust mode of messages
	1. COS: according to 802.1p priority, key the message into the export queue of the port at corresponding priority
Priority Type	2. DSCP: according to DSCP priority, key the message into the export queue of the port at corresponding priority
	By default, the device will place messages into the export queue of the port at

	corresponding priority according to 802.1p
	Select the queue scheduling mode
Schedule Type	E.g.: if the weight ratio of queue 1, queue 2, queue 3 and queue 4 is 1: 2: 4: 8 and the queue scheduling mode is WRR, the port will send messages by the flow ratio of 1: 2: 4:8 in case of data message congestion in the queue 1, 2, 3 and 4 at a port; if the scheduling mode is selected to be HQ-WRR, the equipment will at first t o guarantee the prior sending of messages in queue 4 and then apply WRR scheduling for other 3 queues.
	By default, the equipment will use WRR queue
Weight	Set up the priority weight of the queue
	It is 1: 2: 4: 8 by default

# PoE Configurations

PoE Only for products that support PoE feature.

Allow all PoE-related traps, including:

Over-max-pwr-budget: Triggered when the total power required by the connected PDs exceed the maximum power defined by the PoE switch.

Port-pwr-change: Triggered when a port starts to supply power or stops supplying power.

Port-pwr-deny: Triggered when the switch powers off PDs on low-priority PoE ports. When the total power required by the connected PDs exceed the system power limit, the switch will power off PDs on low-priority PoE ports to ensure stable running of the other PDs.

Port-pwr-over-30w: Triggered when the power required by the connected PD exceeds

#### 30 watts.

Port-pwr-overload: Triggered when the power required by the connected PD exceeds the maximum power of the port can supply.

Port-short-circuit: Triggered when a short circuit is detected on a port.

Thermal-shutdown: Triggered when the PSE chip overheats. The switch will stop supplying power in this case.

Power over Ethernet (PoE) is a remote power supply function. With this function, the switch can supply power to the connected devices over twisted-pair cable. Some devices such as IP phones, access points (APs) and cameras may be located far away from the AC power source in the actual use. PoE can provide power for these devices without requiring to deploy power cables but a single cable to provide both data connection and electric powers.

IEEE 802.3af and 802.3at are both PoE standards. The standard process of PoE power supply contains powered-device discovery, power administration, disconnect detection and optional power-device power classification.

PSE Power sourcing equipment (PSE) is a device that provides power for PDs on the Ethernet, for example, the PoE switch. PSE can detect the PDs and determine the device power requirements.

PD Powered device (PD) is a device receiving power from the PSE, for example, IP phones and access points. According to whether PDs comply with IEEE standard, they can be classified into standard PDs and non-standard PDs. Both standard POE and Nonstandard PDs can be powered via our switches.

Choose the menu Switch Master Controller> PoE > PoE Global to load the following page.

System Management	POE Setting								
Port Management VLAN SNMP	Max Power(W)	130	Apply						
QoS Poe • Poe Global Setting			Cancel						
Poe Port Setting     Poe Status ACL MAC ERPS ERPS	Description: 1 \ Maxi 2 \ Before settin capacity, so as not to a	mum power ranges from 1 to 130W g the total power, please make sure that it does not exceed the maximum power supply affect the use!							
Configuration									

### 6.1 POE Global Setting

In the PoE Global setting section, you can view the Maximum power.

The Maximum power

Displays the maximum power the PoE switch can supply.

In addition, you can configure the global power. Click < Apply>.

Note: please make sure power not exceed global power limit.

### 6.2 POE port Setting

To set POE port, follow these steps:

- 1) Select the port that you want to configure
- 2) Click < Config>
- 3) Specify the parameters.
- 4) Click < Apply>

Port       Select       Open/Close       Legacy POE       Limit       Priority         VLAN       1       Open       Close       15(AF)       Low       Refresh         QOS       2       Open       Close       15(AF)       Low       Config         Poe       3       Open       Close       15(AF)       Low       Config         Poe       Fot Stating       5       Open       Close       15(AF)       Low         Poe Status       6       Open       Close       15(AF)       Low         ACL       7       Open       Close       15(AF)       Low         MAC       7       Open       Close       15(AF)       Low         Configuration       Maagement       Logout       Open       Close       15(AF)       Low	System Management	POE	POE Port Setting										
	System Management Port Management VLAN SNMP QoS Poe • Poe Global Setting • Poe Port Setting • Poe Port Setting • Poe Status ACL MAC ERPS Configuration Management Logout	Port 1 2 3 4 5 6 7 8	Select	Open/Close Open Open Open Open Open Open Open	Legacy POE Close Close Close Close Close Close Close	Limit 15(AF) 15(AF) 15(AF) 15(AF) 15(AF) 15(AF) 15(AF)	Priority Low Low Low Low Low Low	Refresh Config					
Switch Master Controller	Switch Master C	ontroll	er										

System Management	POE Port Setting								
Port Management	Port	Port 1							
VLAN	Open/Close POE	Open 🗸	Apply						
SNMP	Legacy POE	Close V							
Poe	Power Limit	15	Cancel						
<ul> <li>Poe Global Setting</li> </ul>	Priority	Low							
<ul> <li>Poe Port Setting</li> </ul>									
<ul> <li>Poe Status</li> </ul>									
ACL									
MAC									
ERPS									
Configuration									
Logout									
Logout									

Open/Close PoE

Enable or disable the PoE function for the corresponding port. The port can supply power to the PD when its status is OPEN.

• PoE Priority

Select the priority level for the corresponding port.

When the supply power exceeds the system power limit, the switch will power off PDs on low-priority ports to ensure stable running of other PDs.

• Power Limit

Specify the maximum power the corresponding port can supply.

• Power Limit Value (0.1w-30w)

### 6.3 PoE status

Click on Switch Master Controller> PoE > PoE Status to load the following

System Management	POE	Status								
Port Management	Global	Status								
SNMP	Max Power	130 W								Refresh
QoS Poe	Used Power	0 W								
<ul> <li>Poe Global Setting</li> </ul>	POE Num	8								
<ul> <li>Poe Port Setting</li> <li>Poe Status</li> </ul>	Port	Open/Close	Legacy POE	Power Supply	Temperature (degree)	Power(W)	Current (mA)	Voltage (V)	Power Level(V)	
ACL	1	Open	Close	Close	26	0	0	52	Unknown	
MAC	2	Open	Close	Close	27	0	0	52	Unknown	
ERPS	3	Open	Close	Close	26	0	0	52	Unknown	
Configuration	4	Open	Close	Close	26	0	0	52	Unknown	
Management	5	Open	Close	Close	26	0	0	52	Unknown	
Logout	6	Open	Close	Close	26	0	0	52	Unknown	
	7	Open	Close	Close	26	0	0	52	Unknown	
	8	Open	Close	Close	27	0	0	52	Unknown	

• Max Power

Specify the maximum power on the PoE switch.

• Used Power (w)

Displays the port's real-time power supply.

• POE Num:

Displays the number of POE ports.

• Open/Close

PoE Status displays the PoE function for corresponding port. The port can supply power to the PD when its status is OPEN.

Legacy PoE

Displays Legacy PoE Open or Close

• Power Supply

Displays current Power Supply Open or Close

• Temperature

Displays the port's real-time temperature

• Power

Displays the real-time system power consumption of the PoE switch.

• Current (mA)

Displays the port's real-time current.

• Voltage (v)

Displays the port's real-time voltage.

• Power Level

Displays the class of the linked PD. PoE Priority displays the priority level for the corresponding port.

## • ACL

#### Overview

ACL (Access Control List) filters traffic as it passes through a switch and permits/denies packet crossing specified interfaces or VLANs. It accurately identifies and processes the packets based on the ACL rules. ACL helps to limit network traffic, manage network access behaviors, forward packets to specified ports and more.

To configure ACL, follow these steps:

- 1) Configure a time range during which the ACL is running.
- 2) Create an ACL and configure the rules to filter different packets.
- 3) Bind the ACL to a port or VLAN to make it effective.

#### **Configuration Guidelines**

- A packet 'matches' an ACL rule when it meets the rule' s matching criteria. The resulting action will be either to 'permit' or 'deny' the packet that matches the rule.
- If no ACL rule is configured, the packets will be forwarded without being processed

by the ACL. If there is configured ACL rules and no matching rule is found, the packets will be dropped.

Switch Master Co	ntrolle	ſ					
System Management Port Management VLAN SNMP QoS Poe ACL • ACL Rules • ACL Bind MAC ERPS Configuration Management Logout	ACL RULE ID	ACTION	Source MAC Address / Wildcard Mask	Destination MAC Address / Wildcard Mask	Delete	Create Refresh	

### 7.1 Create ACL Rules

MAC ACL: MAC ACL uses source and destination MAC address for matching operations.

Switch Master Controller				
System Management	CREATE ACL RULE			
VLAN SNMP QoS Poe	Create RULE RULE ID ACTION Source MAC Address	drop V	Apply Cancel	
ACL Rules     ACL Bind MAC ERPS Configuration Magnetics	Source MAC Wildcard Mask Destination MAC Address Destination MAC Wildcard Mask			
Management				

h

Follow these steps to configure the MAC ACL rule:

1) In the MAC ACL Rule section, configure the following parameters:

Rule ID

Enter an ID number to identify the rule. It should not be the same as any current

rule ID in the same ACL. For the convenience of inserting new rules to an ACL, it is suggested to set the appropriate interval between rule IDs.

#### Action

Select an action to be taken when a packet matches the rule.

None: The packets will forward normally.

Drop: The packets will discard.

Source-MAC/Mask

Enter the source MAC address with a mask.

A value of 1 in the mask indicates that the corresponding bit in the address will be matched.

Destination-MAC/Mask

Enter the destination MAC address with a mask.

6) Click <**Apply**>.

### 7.2 ACL Bind

To bind the ACL to a port or a VLAN, the received packets on the port or in the VLAN will then match and process according to the ACL rules. An ACL takes effect only after it is bound to a port or VLAN.

Note:

• Different types of ACLs cannot be bound to the same port or VLAN.

• Multiple ACLs of the same type can be bound to the same port or VLAN. The switch matches the received packets using the ACLs in order.

The ACL that is bound earlier has a higher priority.

Binding the ACL to a Port, Click on Switch Master Controller> ACL > ACL Bind > Port Binding and click to load the following page. Follow these steps to bind the ACL to a Port:

1) Choose ID or Name to be used for matching the ACL. Select an ACL from the dropdown list.

- 2) Specify the port to be bound.
- 3) Click <**Create**>.

Switch Master Controller					
Switch Master Co System Management Port Management VLAN SNMP QoS Poe ACL • ACL Rules • ACL Bind MAC ERPS Configuration Management Logout	Ntroller ACL BIN RULE ID	ACTION		Port List	

MAC

Mac Address Configurations

• Dynamic address

Dynamic addresses are addresses learned by the switch automatically and the switch regularly ages out those that are not in use. The switch removes the MAC address entries related to a network device if no packet is received from the device within the aging time. Specify the aging time if needed.

• Static address

Static addresses are manually added to the address table and do not age. For relatively fixed connection and frequently visited server, to manually set the MAC address of the server as a static entry to enhance the forwarding efficiency of the switch.

# 8.1 Dynamic MAC

Switch Master Controller							
System Management	DYNAMIC	MAC					
Port Management	Vlan ID	Mac Address		Port	Delete		
SNMP QoS Poe ACL MAC • Dynamic Address • Static Address ERPS Configuration Management Logout	1	68:f7:28:dc:d1:96	Previous page Total Pages:1	2 Next page Current Page:1	Delete	Refresh	

# 8.2 Static Mac

Switch Master Controller							
System Management	STATIC	MAC					
Port Management	VLAN ID		Mac Address		Port	Delete	
SNMP				Previous page	Next page		Create
QoS							Refresh
ACI							
MAC							
Dynamic Address							
Static Address EDDS							
Configuration							
Management							
Logoul							

ystem Management	ADD STATIC M	AC	
ort Management	Static MAC		
JAN NMP	Vlan ID		Apply
oS	Mac Address		Cancel
De CL	Port		
AC			
Dynamic Address     Static Address			
RPS			
onfiguration			
anagement gout			
3			

Note:

• In the same VLAN, once an address is configured as a static address, it cannot be set as a filtering address. Vice versa.

• Multicast or broadcast addresses cannot be set as static addresses.

• Ports in LAGs (Link Aggregation Group) are not supported for static address configuration

# • ERPS

In a loop, data will be transmitted in cycle by ports in the loop, thus forming data congestion. When open the loop for detection, the port forming the loop will be automatically blocked off. Select to enable this function in the 'loop detection' drop box. By default, it is closed.

### **9.1 ERPS**

Switch Master Controller				
System Management Port Management	ERPS ERPS	elose	Apply	
SNMP QoS Poe ACL MAC ERPS • ERPS • ERPS		open	Cancel	
ERPS RING Configuration Management Logout				

### 9.2 ERPS RING

Switch Master Controller					
System Management	CREATE ERPS RING				
Port Management	Create Ring				
SNMP	Ring ID			Apply	
QoS	ERPS Type	major 🗸		Cancel	
ACI	Major Ringld				
MAC	Node Type	normal $\checkmark$			
ERPS	Control Vlan		Range:1-4094		
ERPS     ERPS RING	WTR		Range:1-12(min)		
Configuration	Revertive Mode	true $\vee$			
Management	Ring Port	NO V			
Logoui	Ring Port	NO V			

# Configuration Management

After configuration of all items on the setting page, be sure to save your configuration.

Unsaved configuration will be lost due to reboot or other operation.

System Management	Configuration Managen	nent	
Port Management	Export Configuration		
SNMP QoS	Export current config file:	Export	
00	Recover Configuration		
MAC	Import File:		Browse
ERPS Configuration Management	Save Configuration	Recover	
ogout	Save Configuration:	Save	
	Notice: Recover configuration and save configu	ration will take a few time,please waiting	g patiently,don't operator the switch

Item	Description
Export	Single click 'Export' to select the configuration file backup path to save the current equipment configuration in the computer. You may restore configuration by this fire (*.cfg) in the future)
Recover	Single click 'Browse' to select formally backed up file (*.cfg). Single click 'restore' and confirm to restore the equipment to the previous configuration (the configuration takes effect after automatic reboot)
Save	Single click "Save" to save current configuration information so that it will not be lost after reboot

Note:

- 1. A long period of time may be required for configuration import and export. Please wait with patient and don' t operate the switch.
- 2. Please don' t close the power supply of the switch in the configuration import and export process.

# Log out

If you have completed the setting of all configuring items and completed the saving operation, you may single click "Logout" in the navigation bar and click "Yes" to exit the Web setting page.

