



DES-1100-10MP

MANUAL

WEBSMART SWITCH

V1.0

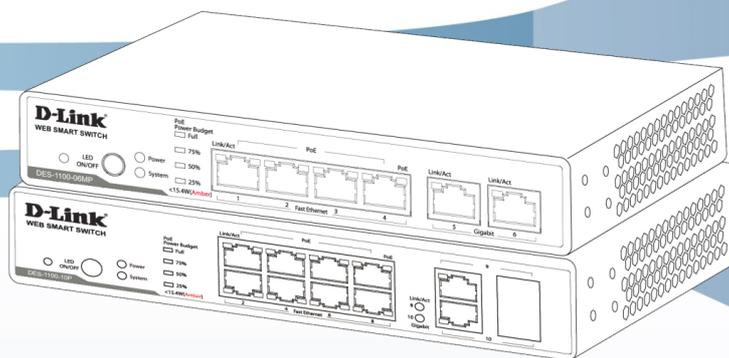


Table of Content

Getting Started	3
WEB Configuration	4
Home.....	4
System.....	5
Power Over Ethernet.....	6
LED Power Saving.....	8
Fundamentals.....	9
Security.....	19
Statistics.....	20
Advanced.....	21
Product Specification	25
1. External Interfaces.....	25
2. Port Functions.....	25
3. PoE Functions.....	25
4. Push Button.....	26
5. Power Supply -External Adaptor.....	26
6. System Information.....	26

Getting Started

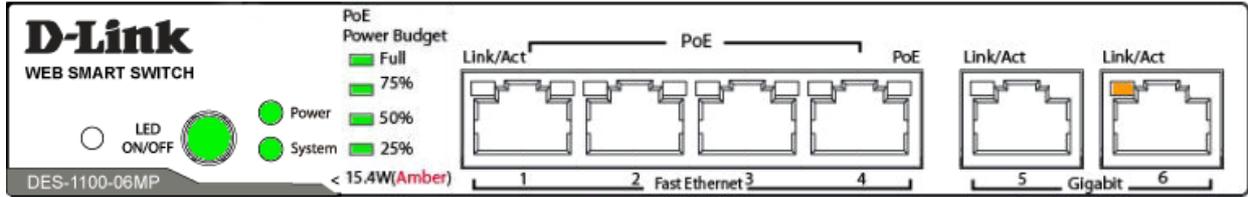


Fig. Front panel of DES-1100-06MP

✓ **Power on the Switch:**

Power on the Switch before plug in any Ethernet cable, system will go through Power-On-Self-Test (POST) with LEDs lighting in Green or Amber. Then, after completing the POST, LEDs will stay at the state as the table below..

LED Indication		Color / State	Description
Power		Green On	The device is powered on.
PoE Power Budget	Full	Green On	Power for POE is full, not been consumed yet.
	75%	Green On	
	50%	Green On	
	25%	Green On	
System		Amber On	Device passed POST and ready for login.

✓ **Log into the Switch:**

Connect PC to any port of the Switch via Ethernet cable. Make sure the LAN setting of PC

is set to work in the same subnet as Switch device which the default IP address is **10.90.90.90**.

Type IP address **10.90.90.90** in the WEB Browser of PC, you will then be asked to enter ID and Password so that you can log into the Switch device.

The default ID is **“admin”**.

The default Password is **“admin”**.

Press **“OK”**, you will log in and see the welcome page for **“Home”**.

WEB Configuration



D-Link
WEB SMART SWITCH

DES-1100-06MP

LED ON/OFF

PoE Power Budget
 Full
 75%
 50%
 25%
 < 15.4W(Amber)

Power
 System

Link/Act PoE PoE Link/Act Link/Act
 1 2 Fast Ethernet 3 4 5 Gigabit 6

System Information

Static IP	IP Address : 10.90.90.90	Subnet Mask: 255.0.0.0	Gateway : 10.90.90.254
System MAC address :	10:f0:13:f3:04:88	Port Definition : 4 Fast Ethernet + 2 Gigabit Ethernet	
System Description :	DES-1100-06MP		Firmware Version : DES-1100-06MP/A1_V1.0
Web Configuration Never logout			

PoE Configuration

System PoE Operation Status : On			System PoE Operation Temperature : 45 °C		
Max PoE Power Budget : 80 W			Current PoE Power Consumption : 0 W		
PoE Port	Status	Mode	Class	Priority	Power Consumption(Watt)
1	Enable	802.3at	---	Middle	0
2	Enable	802.3at	---	Middle	0
3	Enable	802.3at	---	Middle	0
4	Enable	802.3at	---	Middle	0

Basic Configuration

STP Mode : Disable	Root Bridge ID : --	
VLAN Mode : Port Base VLAN	QOS Priority : First-In-First-Out	IGMP Snooping : Disable
Loopback Detection : Disable	Time Interval : 1 Secs	Recover Time : 10 Secs

Fig. Web page of “Home”

- ✓ **“Home -> System Information”, “Home -> POE Configuration” and “Home -> Basic Configuration”** expose most of the important information which Installer or Network Administrator may need for realizing the status and configuration in a quick glance.

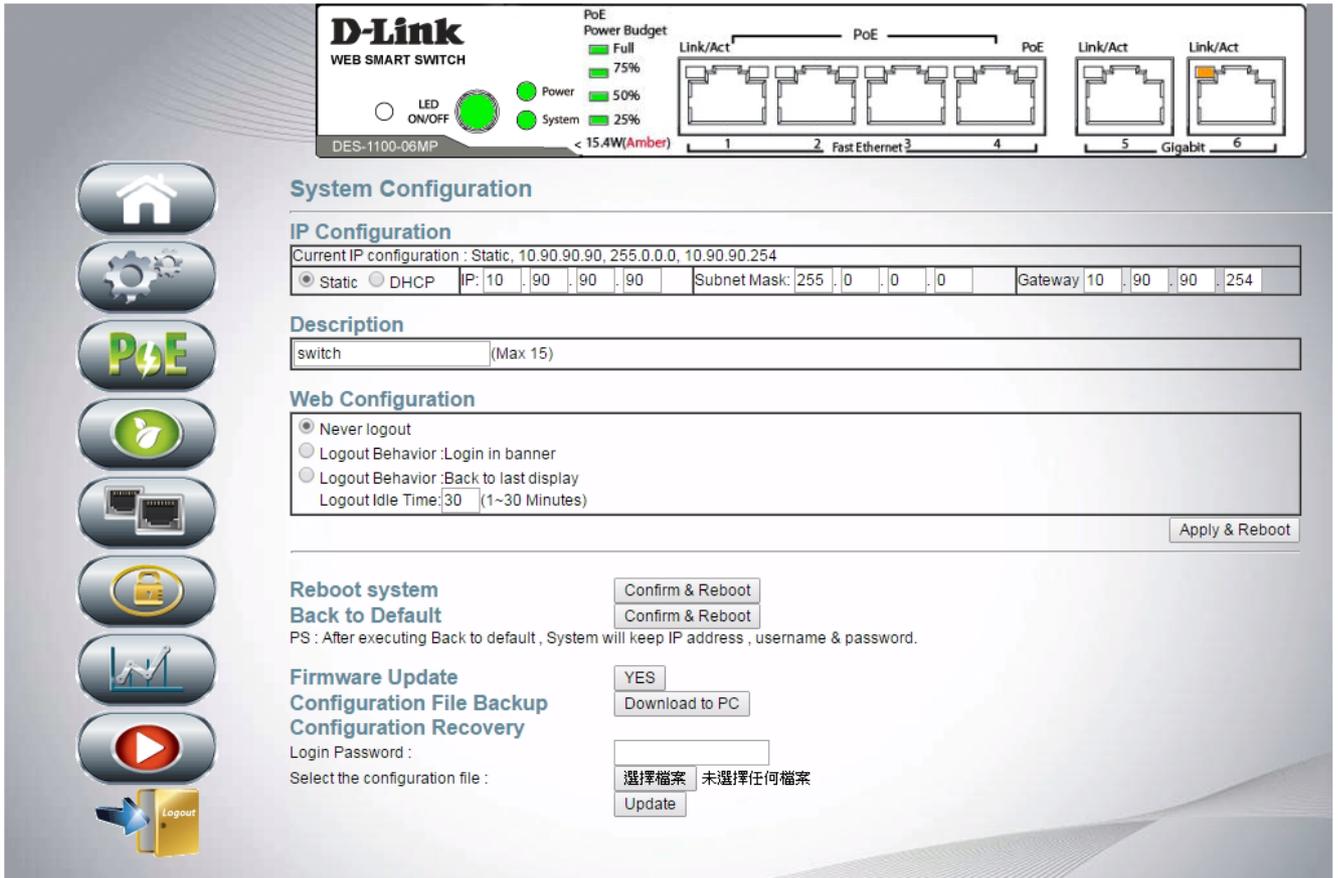
✓

No setting function is provided on this page.

Want to configure the Switch device? Kick an icon on the left side of the page.



System



D-Link WEB SMART SWITCH
DES-1100-06MP

LED ON/OFF Power System

PoE Power Budget: Full, 75%, 50%, 25%
Power: < 15.4W(Amber)

Link/Act PoE PoE Link/Act Link/Act
1 2 Fast Ethernet 3 4 5 Gigabit 6

System Configuration

IP Configuration

Current IP configuration : Static, 10.90.90.90, 255.0.0.0, 10.90.90.254

Static DHCP IP: 10 . 90 . 90 . 90 Subnet Mask: 255 . 0 . 0 . 0 Gateway 10 . 90 . 90 . 254

Description

switch (Max 15)

Web Configuration

Never logout
 Logout Behavior :Login in banner
 Logout Behavior :Back to last display
 Logout Idle Time: 30 (1~30 Minutes)

Apply & Reboot

Reboot system

Confirm & Reboot

Back to Default

Confirm & Reboot
 PS : After executing Back to default , System will keep IP address , username & password.

Firmware Update

YES
 Download to PC

Configuration File Backup

Configuration Recovery

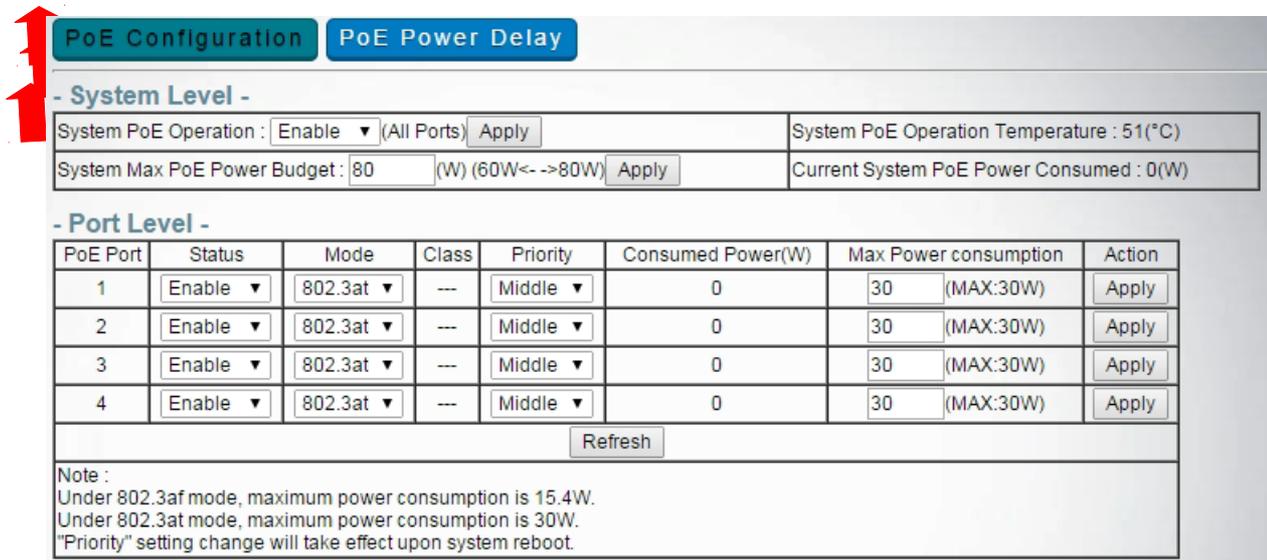
Login Password :
 Select the configuration file :
 選擇檔案 未選擇任何檔案
 Update

Logout

- ✓ In this page, user can re-set the IP address of this Switch device. Also you can give your Switch an easily-remembered name in **“System”-> “System Configuration”-> “Description”**.
- ✓ In **“System”-> “System Configuration”-> “Web Configuration”**, set **“Idle Time”** will make device automatically log out by the time you set.
- ✓ Click Yes on the **“Firmware Update”** will be requested to enter the password (default is “system”) and to specify the location of new firmware (xxxxx.bin). Simply follow the instructions to update the firmware which a few minutes are required for the process. During update, don’t turn off the power, message “uploading” will keep showing on the web page.



PoE Power Over Ethernet



PoE Configuration **PoE Power Delay**

- System Level -

System PoE Operation : (All Ports) System PoE Operation Temperature : 51(°C)

System Max PoE Power Budget : (W) (60W<- ->80W) Current System PoE Power Consumed : 0(W)

- Port Level -

PoE Port	Status	Mode	Class	Priority	Consumed Power(W)	Max Power consumption	Action
1	<input type="text" value="Enable"/>	<input type="text" value="802.3at"/>	---	<input type="text" value="Middle"/>	0	<input type="text" value="30"/> (MAX:30W)	<input type="button" value="Apply"/>
2	<input type="text" value="Enable"/>	<input type="text" value="802.3at"/>	---	<input type="text" value="Middle"/>	0	<input type="text" value="30"/> (MAX:30W)	<input type="button" value="Apply"/>
3	<input type="text" value="Enable"/>	<input type="text" value="802.3at"/>	---	<input type="text" value="Middle"/>	0	<input type="text" value="30"/> (MAX:30W)	<input type="button" value="Apply"/>
4	<input type="text" value="Enable"/>	<input type="text" value="802.3at"/>	---	<input type="text" value="Middle"/>	0	<input type="text" value="30"/> (MAX:30W)	<input type="button" value="Apply"/>

Note :
 Under 802.3af mode, maximum power consumption is 15.4W.
 Under 802.3at mode, maximum power consumption is 30W.
 "Priority" setting change will take effect upon system reboot.

- ✓ **“Power Over Ethernet ” -> “POE Configuration” -> “System Level” -> “System PoE Operation”**
 Disable and Apply will stop all POE activity of this Switch device.
 Default of “System PoE Operation” is Enable (of course, this is a POE Switch, isn't it?)
- ✓ **“Power Over Ethernet ” -> “POE Configuration” -> “System Level” -> “System Max PoE Power Budget”**
 User can define the POE power budget of the Switch device here. Note that POE power budget of DES-1100-06MP is 80 Watt, which is the Maximum power for POE usage.
- ✓ **“Power Over Ethernet ” -> “POE Configuration” -> “Port level” -> “Status”**
 If user want to disable Power Over Ethernet function of any specific port, set it here.
- ✓ **“Power Over Ethernet ” -> “POE Configuration” -> “Port level” -> “Priority”**
 - “Priority” setting (High, Middle, Low) decides the port's priority of feeding power to PD.
 This setting takes effect only upon the Switch device power-on.
 - If there are several ports share the same priority, port number takes over the

decision. The smaller the port number is, the higher the priority is. For instance, port 1 and port2 share the same priority "middle", port1 priority will be higher than port2.

Default setting here applies the same priority to every port, meaning port1 priority is the highest in this Switch device, followed by port2, then port3....



Power Over Ethernet



PoE Configuration
PoE Power Delay

PoE Powering Time Delay

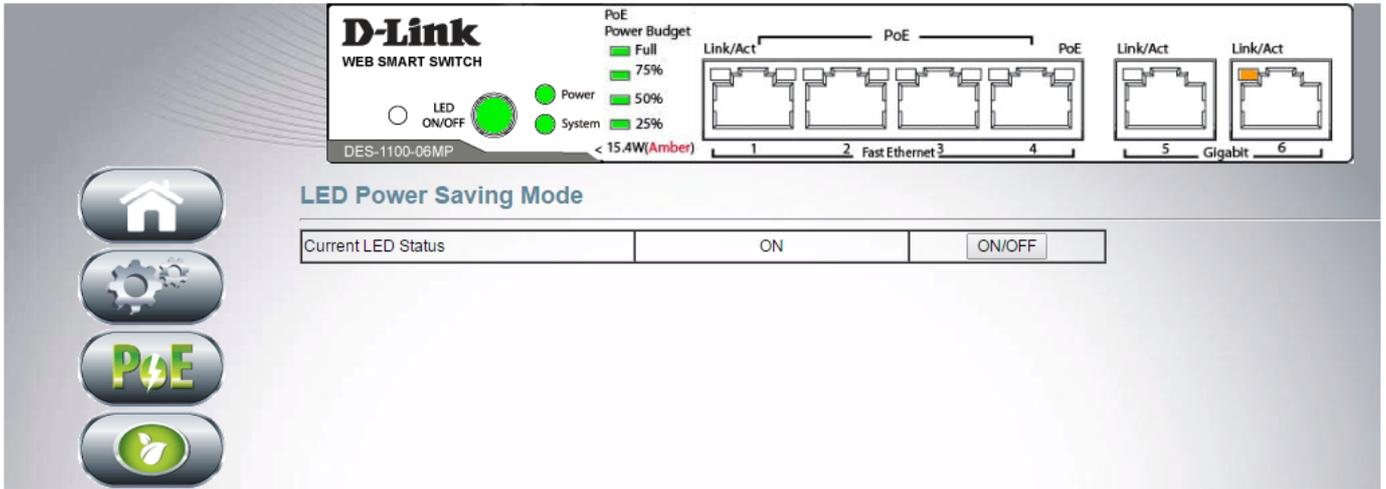
PoE Port	Delay	Powering delay time (Second 0~300)
1	Disable ▼	<input style="width: 40px;" type="text" value="0"/>
2	Disable ▼	<input style="width: 40px;" type="text" value="0"/>
3	Disable ▼	<input style="width: 40px;" type="text" value="0"/>
4	Disable ▼	<input style="width: 40px;" type="text" value="0"/>

Note: Powering Time "Delay" setting change will take effect upon system reboot.

- ✓ Enable **“Power Over Ethernet ”** -> **“POE Power Delay”** -> **“ PoE Powering Timer Delay”** -> **“Delay”** and set **“Powering delay time”** will postpone the port to feed power to PD. At most, a port can delay 300 seconds before its powering. This setting takes effect only upon the Switch device power-on.



LED Power Saving



D-Link WEB SMART SWITCH
DES-1100-06MP

PoE Power Budget
 Full
 75%
 50%
 25%
 < 15.4W(Amber)

LED ON/OFF
 Power
 System

LED Power Saving Mode

Current LED Status	ON	ON/OFF
--------------------	----	--------

Link/Act PoE PoE Link/Act Link/Act
 1 2 Fast Ethernet 3 4 5 Gigabit 6

- ✓ User can turn on or turn off LEDs of the front panel, except POWER LED. This green feature helps energy saving.
 If user sets “off”, meaning the LEDs of the front panel are turned off. However, in the WEB GUI, user still can see the LED lighting reflecting the real network connection. (only appears on the graphic user interface.)
- ✓ Note there is a push button “LED ON/OFF” on the front panel which can perform the same function.



Fundamentals

[PORT](#)
[VLAN](#)
[QoS](#)
[Loop Free](#)
[Trunking](#)

Port Link Status

Port	Link Status	Speed	Duplex	Flow Control	MAC Address Learning
1	●	100M	FULL	OFF	Enable
2	---	---	---	---	Enable
3	---	---	---	---	Enable
4	---	---	---	---	Enable
5	---	---	---	---	Enable
6	---	---	---	---	Enable

[Refresh](#)

Port Configuration

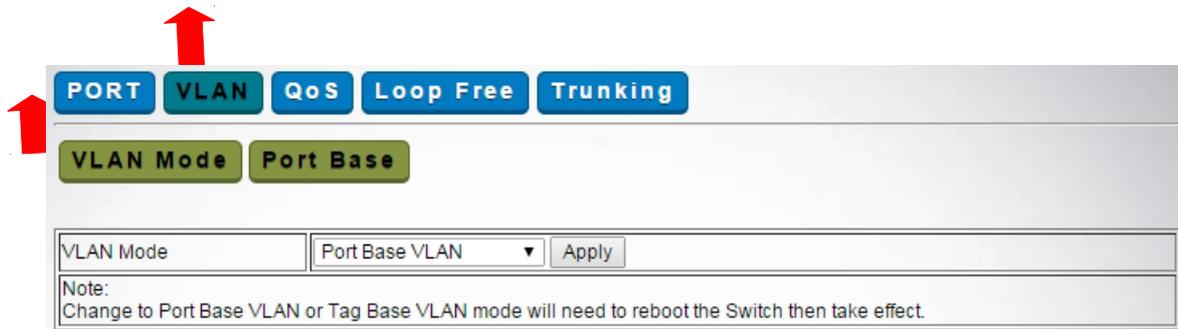
Port	Link	Auto-Negotiation	Speed	Duplex	Flow Control	MAC Address Learning
1	Enable ▼	Enable ▼	100M ▼	Full ▼	Enable ▼	Enable ▼
2	Enable ▼	Enable ▼	100M ▼	Full ▼	Enable ▼	Enable ▼
3	Enable ▼	Enable ▼	100M ▼	Full ▼	Enable ▼	Enable ▼
4	Enable ▼	Enable ▼	100M ▼	Full ▼	Enable ▼	Enable ▼
5	Enable ▼	Enable ▼	1G ▼	Full ▼	Enable ▼	Enable ▼
6	Enable ▼	Enable ▼	1G ▼	Full ▼	Enable ▼	Enable ▼

[Apply](#)

- ✓ In general application, these parameters are automatically negotiated between Switch and Client via IEEE802.3 standard.
- ✓ Note that Disable **“Fundamentals”** -> **“Port ”** -> **“Port Configuration”** -> **“Link”** will only disable the data path of that port. No impact on POE function. If user wants to disable POE function, go to **“Power Over Ethernet”** -> **“POE Configuration”** -> **“Port level”** -> **“Status”**.



Fundamentals



- ✓ **“Fundamentals”** -> **“VLAN ”** -> **“VLAN Mode ”** can select one of the three VLAN modes.

They are “Port Base VLAN”, “Tag Base VLAN”, and “IP Surveillance VLAN”.

Default VLAN mode is Port Base.

Note that change to different VLAN mode, the Switch will need to reboot then take effect.

During Switch reboot period, WEB GUI may have chance not getting response from Switch in time.

It is normal and depends on the setting of user’s laptop/desktop computer.



Fundamentals

PORT
VLAN
QoS
Loop Free
Trunking

VLAN Mode
Port Base

Name (max 8 characters) Add Rename

▼
Delete
Update
LoadDefault

Destination PORT	01	02	03	04	05	06
Select	<input type="checkbox"/>					

VLAN MEMBER						
Port Num	01	02	03	04	05	06
	-	-	-	-	-	-

- ✓ Default VLAN mode is Port Base. Click **“VLAN ”** -> **“ Port Base ”** to complete other settings.
- ✓ **What is Port Base VLAN?**
Ports that are assigned to a VLAN group will send and receive broadcast and multicast traffic within this virtual LAN only. A VLAN (user can add name to it) is an individual broadcasting domain. Generally, one VLAN group may be created for one function department (or sector...) which is not preferred to be influenced by the traffic from the other function department (or sector...).
- ✓ This Switch allows totally 8 port based VLANs to be created.



Fundamentals

PORT
VLAN
QoS
Loop Free
Trunking

VLAN Mode
Tag Base

VLAN Tag Mode Settings

VLAN Tag Mode	Tag/Untag base on Port ▼					
VID	1 ▼					
AddTag Type (Add VLAN Tag to output frames according to the pvid of selected port)	Port 01	Port 02	Port 03	Port 04	Port 05	Port 06
	<input type="radio"/> Add Tag <input checked="" type="radio"/> Don't Care <input type="radio"/> Remove Tag	<input type="radio"/> Add Tag <input checked="" type="radio"/> Don't Care <input type="radio"/> Remove Tag	<input type="radio"/> Add Tag <input checked="" type="radio"/> Don't Care <input type="radio"/> Remove Tag	<input type="radio"/> Add Tag <input checked="" type="radio"/> Don't Care <input type="radio"/> Remove Tag	<input type="radio"/> Add Tag <input checked="" type="radio"/> Don't Care <input type="radio"/> Remove Tag	<input type="radio"/> Add Tag <input checked="" type="radio"/> Don't Care <input type="radio"/> Remove Tag
Update						

VLAN Member Settings

1 ▼	VID(1~4094): 1	VLAN Name(Max 8 characters): CPU_CTRL				
Port	01	02	03	04	05	06
member select	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PVID select	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Add Delete Update						
Add: Enter a VID, select the VLAN member for this entry and then press this button to add a VLAN entry to the table. Del: Select a VID in the table and then press this button to remove a VID entry from the table. Update: Modify the existing VID entry, select VID and then press the button.						

VLAN Status

Port VID Map						
Port	01	02	03	04	05	06
VID	1	1	1	1	1	1
VLAN MEMBER						
VLAN Name(VID) \Port	01	02	03	04	05	06
CPU_CTRL(1)	v	v	v	v	v	v

✓ What is Tag Base VLAN

VLAN membership in a tagged VLAN is determined by information within the frames that are received on a port. The VLAN information within an Ethernet frame is referred to as a tag which contains the **VID** (VLAN ID). When the switch receives a frame with a VLAN tag, referred to as a tagged frame, the switch forwards the frame only to those ports that share the same VID.

- ✓ **PVID** is a Port VLAN ID that will be associated with an incoming untagged frame.
- ✓ This Switch allows totally 4094 tag base VLANs to be created.



Fundamentals

↑

PORT
VLAN
QoS
Loop Free
Trunking

VLAN Mode
IP Surveillance Base

Destination Port :	05 <input checked="" type="checkbox"/>	06 <input checked="" type="checkbox"/>		
Source Port :	01 <input checked="" type="checkbox"/>	02 <input checked="" type="checkbox"/>	03 <input checked="" type="checkbox"/>	04 <input checked="" type="checkbox"/>

The original setting of the VLAN Group will be cleared and replaced by this special structure if you enable this function.
 On the other hand, If you set the VLAN Group again, this special structure will be cleared and replaced by your newest setting.

✓ What is IP Surveillance Base VLAN?

Enable IP Surveillance VLAN, the port 01 ~ port 04 video stream can be carried only to the Destination port 05 or 06 individually. Source port (port 01~04) is not allowed to communicate to each other. So that network snooping is prevented.



Fundamentals

The screenshot shows the configuration page for QoS. The 'QoS' tab is selected. Under 'Priority Queue Configuration', the 'First-In-First-Out' mode is selected. The 'All-High-Before-Low' mode is also visible. The 'Weight-Round-Robin' mode is shown with 'High weight' and 'Low Weight' both set to 8. An 'Apply' button is at the bottom right.

- ✓ **“Fundamentals” -> “QoS” -> “Priority Queue Configuration” -> “First-In-First-Out”:**
The first packet put into the queue will be firstly switched out.
- ✓ **“Fundamentals” -> “QoS” -> “Priority Queue Configuration” -> “All-High-Before-Low”**
After all packets in the high-priority queue are switched out, packet in the low-queue can be then processed. No packet in the low-queue can be processed until high-queue is cleaned.
- ✓ **“Fundamentals” -> “QoS” -> “Priority Queue Configuration” -> “Weight-Round-Robin”**
Packet processing will be conducted in the manner like, for instance, process 8 packets of high queue, then, process 8 packets in the low queue. And then, back to processing packets in the high queue...it's so called round-robin. User can set weight (processed packet counts) to high and low queues.



Fundamentals

PORT
VLAN
QoS
Loop Free
Trunking

Priority Queue Configuration
COS Setting (Port, 802.1p ,IP TOS/DS)

Port No./Mode	Port Base	802.1p	IP TOS/DS
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Select Port Base, packet of the specific Port will be put into High queue.
 Select 802.1p, Switch will check 802.1p tag of the packet frame. If 802.1p tag is 4,5,6,7, the packet will be put into High queue; tag is 0,1,2,3, the packet will be put into Low queue
 Select IP TOS/DS, packet with ToS field lower than 001010 will be put into low queue.

✓ **“Fundamentals” -> “QoS” -> “CoS Setting (Port, 802.1p, IP TOS/DS)”**

This Switch provides 2 priority queues, High and Low, for packet store-and-forward.

This Switch provides 3 types of Class of Service, Port based, 802.1p based, and IP TOS/DS Based.

Check the CoS of a Port will enable the Switch to follow the CoS setting and put the packet into High or Low priority queue.

Select Port Base, packet of the specific Port will be put into High queue.

Select 802.1p, Switch will check 802.1p tag of the packet frame. If 802.1p tag is 4,5,6,7, the packet will be put into High queue; tag is 0,1,2,3, the packet will be put into Low queue

Select IP TOS/DS, packet with ToS field lower than 001010 will be put into low queue.

If there are more than one CoS are selected at one port, Switch follows the **IP TOS/DS** setting first, then **802.1p** setting the second, and physical **Port** setting the last.



Fundamentals

PORT **VLAN** **QoS** **Loop Free** **Trunking**

Loop Detection **STP**

Loop Detection Settings

System Loop Detection	Time Interval (1-32767)	Auto Recover Function	Recover Time (5-1000000)
Disable ▼	1 seconds	Disable ▼	10 seconds

Apply

Port Configuration Refresh

Port No.	Port Loop Detection	Loop Status
1	Disable ▼	--
2	Disable ▼	--
3	Disable ▼	--
4	Disable ▼	--
5	Disable ▼	--
6	Disable ▼	--

Apply

Note, the port in Blocked mode (loop is detected) will also be "Disabled". If "Auto Recover Function" is NOT enabled, meaning user needs to "manually" enable the port. Go page "Fundamental" -> "Port" -> "Port Configuration" to enable the port.

- ✓ To enable specific port's loop detection function, user must enable **"System Loop Detection"** first.
Once a port is blocked by detected loop condition, the port will stay in Blocked mode. (see **"Loop Status"**).
Note, the port in Blocked mode (loop is detected) will also be "Disabled". If **"Auto Recover Function"** is NOT enabled, (**"Fundamentals"** -> **"Loop Free"** -> **"Loop Detection"** -> **"Loop Detection Settings"** -> **Auto Recover Function**), meaning user needs to "manually" enable the port. Go page **"Fundamental"** -> **"Port"** -> **"Port Configuration"** to enable the port.
- ✓ **"Fundamentals"** -> **"Loop Free"** -> **"Loop Detection"** -> **"Loop Detection Settings"** -> **"Time Interval"** set the time interval that the Switch send out ARP for detecting loop.
(Enable **"System Loop Detection"** first.)

- ✓ If user wants to enable **“Auto Recover Function”**, user can also set **“Recover Time ”** which is the time interval before the blocked port is re-activated. (In case the port was in blocked state caused by loop condition.)



Fundamentals

↑

STP Root Information

Root ID	Hello Time	Max Age	Forward Delay
--	--	--	--

Spanning Tree Configuration

STP Mode:

Bridge ID	Bridge Priority	Hello Time(1~10)	Max Age(6~40)	Forward Delay(4~30)
0:00 00 00 00 00 00	32768 ▼	2 seconds	20 seconds	15 seconds

Port Configuration

Port	Path Cost 0(Auto) or 1~200000000	Priority	Role	Status	Designated Bridge	Designated Port
1	Actual :0(Auto) Config:0	128 ▼	--	Disable	--	--
2	Actual :0(Auto) Config:0	128 ▼	--	Disable	--	--
3	Actual :0(Auto) Config:0	128 ▼	--	Disable	--	--
4	Actual :0(Auto) Config:0	128 ▼	--	Disable	--	--
5	Actual :0(Auto) Config:0	128 ▼	--	Disable	--	--
6	Actual :0(Auto) Config:0	128 ▼	--	Disable	--	--

✓ **“Fundamentals” -> “Loop Free” -> “STP”**

Refer to “http://en.wikipedia.org/wiki/Spanning_Tree_Protocol” for STP protocol detail.



Fundamentals

↑

PORT
VLAN
QoS
Loop Free
Trunking

Trunking

System Priority	1	(1~65535)
Link Aggregation Algorithm	MAC Src&Dst ▼	

Member	Link Group 1				Link Group 2	
	P1	P2	P3	P4	P5	P6
	<input checked="" type="checkbox"/>					
	--	--	--	--	--	--
State	Disable ▼				Disable ▼	
Type	Static ▼				Static ▼	
Operation Key	1 (1~65535)				3 (1~65535)	
Time Out	Short Time Out ▼				Short Time Out ▼	
Activity	Passive ▼				Passive ▼	

Note that, in one Link Group, if any counter port of link partner does not support LACP, or LACP handshake does not success on the specific member port, packet won't be transmitted or received at that port.

- ✓ **“Fundamentals” -> “Trunking” -> “Link Aggregation Algorithm”**
 Traffic may be distributed over the member ports of the Trunking Group. The algorithm to distribute traffic can be based on “MAC Source Address” or “MAC Source & Destination Address”.
- ✓ **“Fundamentals” -> “Trunking” -> “Member”**
 User can set totally 2 trunks. However, member of Trunk Group 1 must come from port 1 ~ port 4;
 member of Trunk Group 2 must come from port 5 ~ port 6.
- ✓ **“Fundamentals” -> “Trunking” -> “Type”**
 Select “Static” or “LACP” protocol to create the truck group.
 LACP allows for the automatic detection of links in a Port Trunking Group. Note that, in one Link Group, if any counter port of link partner does not support LACP, or LACP handshake does not success on the specific member port, packet won't be transmitted or received at that port.

✓ **“Fundamentals” -> “Trunking” -> “Activity”**

“Active” LACP port is capable of processing and sending LACP control frames. This allows LACP compliant devices to negotiate the aggregated link so the group may be changed dynamically as needs require. **“Passive”** LACP port cannot initially send LACP control frames.



Security

Administrator

User Name: admin (Max:15) Password: (Max:15) Confirm:

Note: User Name & Password can only use "a-z","A-Z","0-9","_","+","-","=".

WEB Access Control

State: Disable

Allowed Port: 01 02 03 04 05 06

User select port which enable to access web management, unselect port can not access web management

MAC + Port Binding

Port No.(1-6) 01

MAC 1:

MAC 2:

MAC 3:

Binding Disable

Note: If you enable the MAC address binding function, the address leaning function will be disabled automatically.

Binding Table

Port	Binding Status	Binding MAC Address Table		
1	Disable			
2	Disable			
3	Disable			
4	Disable			
5	Disable			
6	Disable			

Note: The MAC address of current management connection is ec:f4:bb:09:39:9d at port 1.

- ✓ Change **“Security”** -> **“Administrator”** -> **“Username”** **“Password”** for logging into WEB GUI will take effect only after **“Apply & Reboot”** the Switch.
- ✓ For security concern, Enable **“Security”** -> **“WEB Access Control”** -> **“State”** and select **“Allowed Port”** will limit the access right of Ethernet port. Only the port been selected can access the WEB GUI.
Default Disable means every port can access to WEB GUI after login check.
- ✓ **“Security”** -> **“MAC + Port Binding”** allows user to bind specific port with up to 3 MAC addresses.
(Don't forget Enable the **“Security”** -> **“MAC + Port Binding”** -> **“Binding”**)
Any link partner device with different MAC address from the one listed in the **“Binding Table”** will not be allowed to enter into this Switch port. That also means the MAC Address Learning Function is not effective on the port.



Statistics

FDB Table
Packet Counter

Port Select: 01 ▼

MAC Address	Port No.	Entry Status
EC:F4:BB:09:39:9D	1	dynamic

- ✓ The **“Statistics”** -> **“FDB Table”** (Forwarding Database) table is to store the MAC addresses that have been learned and which the ports that MAC address was learned on.

FDB Table
Packet Counter

Counter Mode Selection: Transmit Packet & Receive Packet ▼

Port No.	Transmit Packet Receive Packet	
01	9024	10454
02	0	0
03	0	0
04	0	0
05	0	0
06	0	0

- ✓ **“Statistics”** □ **“Packet Counter”** records 4 kinds of packet count. They are
- Transmit Packet and Receive Packet
 - Collision counts and Transmit Packet
 - Drop Packet and Receive Packet
 - CRC error packet and Receive Packet



Advanced

↑

PORT DHCP Relay IGMP Snooping NTP

Port Mirroring Bandwidth Control Broadcast Storm Control

Dest Port	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
Monitored Packets	Disable ▾					
Source Port	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
Update						
Multi to Multi Sniffer function						

- ✓ **“Advanced” -> “Port” -> “Port Mirroring”** copies packets entering (Rx) or/and exiting (Tx) a port (source port) and sends the copies to a local interface (Destination Port) for monitoring purpose.

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PORT DHCP Relay IGMP Snooping NTP

Port Mirroring Bandwidth Control Broadcast Storm Control

Threshold 1-63

Enable Port	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
Update						

This value indicates the number of broadcast packet which is allowed to enter each port in one time unit. One time unit is 50us for Gigabit speed, 500 us for 100Mbps speed and 5000us for 10Mbps speed

Note: This effect may be not significant for long broadcast packet, since the broadcast packet count passing through the switch in a time unit is probably less than the specified number.

- ✓ **“Advanced” -> “Port” -> “Broadcast Storm Control” -> “Threshold”** specifies the allowed counts of Broadcast packet entering the port in 50us (1000Mbps Link Speed), 500us (100 Mbps Link Speed), or 5000us (10Mbps Link Speed)



Advanced



Port No	Tx Rate (0:Full Speed)	Rx Rate (0:Full Speed)	Resolution	Tx Bandwidth (Tx Rate*Resolution)	Rx Bandwidth (Rx Rate*Resolution)	Link Speed	Action
1	<input type="text" value="0"/> (0~255)	<input type="text" value="0"/> (0~255)	Low :32 Kbps	Full Speed	Full Speed	100M	<input type="button" value="Update"/>
2	<input type="text" value="0"/> (0~255)	<input type="text" value="0"/> (0~255)	Low :32 Kbps	Full Speed	Full Speed	---	<input type="button" value="Update"/>
3	<input type="text" value="0"/> (0~255)	<input type="text" value="0"/> (0~255)	Low :32 Kbps	Full Speed	Full Speed	---	<input type="button" value="Update"/>
4	<input type="text" value="0"/> (0~255)	<input type="text" value="0"/> (0~255)	Low :32 Kbps	Full Speed	Full Speed	---	<input type="button" value="Update"/>
5	<input type="text" value="0"/> (0~255)	<input type="text" value="0"/> (0~255)	Low :32 Kbps	Full Speed	Full Speed	---	<input type="button" value="Update"/>
6	<input type="text" value="0"/> (0~255)	<input type="text" value="0"/> (0~255)	Low :32 Kbps	Full Speed	Full Speed	---	<input type="button" value="Update"/>

Resolution :
 Load Default Value:

Note 1. Actual Tx/Rx Bandwidth=Tx/Rx Rate* Resolution.
 Note 2. If the Link Speed of the port is Lower than the Bandwidth you set, system follows the Link Speed.

✓ **“Advanced” -> “Port” -> “Bandwidth Control”**

To control the bandwidth of Switch port, here provides the method to set the bandwidth by selecting **“Tx Rate”** (Transmit), **“Rx Rate”** (Receive) and **“Resolution”**. Then, the multiplied result comes to **“Tx Bandwidth”** and **“Rx Bandwidth”** which indicates respectively the controlled egress and ingress bandwidth.

Note that if the Bandwidth user set is higher than the physical Link speed, meaning no control actually. System follows the Link speed.



Advanced

DHCP Relay Agent	
DHCP Relay State :	Disable ▼
DHCP Relay Hops Count Limit (1-16):	16
DHCP Relay Option 82 State :	Disable ▼
Update	

- ✓ **“Advanced” -> “DHCP Relay” -> “DHCP Relay Agent” -> “DHCP Relay Hops Count Limit”** allows the maximum number of hops (routers) that the DHCP messages can be relayed through to be set. If a packet’s hop count is more than the hop count limit, the packet is dropped. The range is between 1 and 16hops.
- ✓ If enable **” DHCP Relay Option 82”**, the relay agent will insert and remove DHCP relay information (option 82 field) in messages between DHCP servers and clients. When the relay agent receives the DHCP request, it adds the option 82 information and the IP address of the relay agent to the packet, and then it is sent on to the DHCP server. When the DHCP server (option 82 capable) receives the packet, it can implement policies like restricting the number of IP addresses that can be assigned to a single remote ID or circuit ID. Then the DHCP server echoes the option 82 field in the DHCP reply. Finally, the relay agent removes the option 82 field and forwards the packet to the switch port that connects to the DHCP client that sent the DHCP request.



Advanced

PORT DHCP Relay **IGMP Snooping** NTP

IGMP Snooping V1 & V2

IGMP Snooping	Disable ▾	IGMP Snooping V1 & V2 function enable
IGMP Leave Packet	Disable ▾	Leave packet will be forwarded to IGMP router ports.

Update

- ✓ **“Advanced” -> “IGMP Snooping”** is the process of listening to Internet Group Management Protocol (IGMP) network traffic. This feature allows a network switch to listen in on the IGMP conversation between host and router. By listening to these conversations the switch maintains a map of which links need which IP multicast streams. Multicasts may be filtered from the links which do not need them and thus controls which ports receive specific multicast traffic.
- ✓ When IGMP Snooping is enabled, user can choose whether send the **“IGMP Leave Packet”** to router or not. Disable **“IGMP Leave Packet”**, Switch will not send the “Leave” message to Router.

PORT DHCP Relay IGMP Snooping **NTP**

NTP Setting

NTP Enable	Disable ▾
System Time	--:--:--
NTP Server	#1 0.0.0.0
	#2 0.0.0.0
Time Zone	UTC 0:00 ▾

Update Refresh

- ✓ **“Advanced” -> “NTP”**
Enable “Network Time Protocol”, enter **“NTP Server”** IP address and specify **“Time Zone”** of where the Switch device is located. **Refresh** to get the **“System Time”**.

Product Specification

1. External Interfaces

- 4 10/100-T ports + 2 10/100/1000-T ports
(1st ~ 4th FE ports support PoE, 5th ~ 6th GE port does not support PoE.)
- Per port LED indicators.
- System and POE LED indicators.
- DC Inlet.
- Push button. (can turn off/on Port LED display for energy saving.)
- Factory Default button. (to reset system configuration to default value.)

2. Port Functions

Items	Specifications
10/100 base-T LAN	<ul style="list-style-type: none"> ■ Port 1-4 complies with : <ol style="list-style-type: none"> 1. IEEE 802.3 2. IEEE 802.3u ■ Support Half/Full-Duplex operation, Auto-negotiation, Auto MDI/MDIX ■ Support IEEE 802.3x Flow Control. (Full-Duplex mode)
10/100/1000 base-T LAN	<ul style="list-style-type: none"> ■ Port 5-6 complies with : <ol style="list-style-type: none"> 1. IEEE 802.3 2. IEEE 802.3u 3. IEEE 802.3ab ■ Support Half/Full-Duplex operation, Auto-negotiation, Auto MDI/MDIX ■ Support IEEE 802.3x Flow Control. (Full-Duplex mode)IEEE 802.3x, Flow Control support for Full-Duplex mode

3. PoE Functions

Item	Specifications
PoE Standard	IEEE 802.3af/at
PoE Capable Ports	Port 1~4
PoE Power Budget	Total 80W Per Device.

<p>PoE output power capacity</p>	<p>Maximum output: 30Watt per port.</p> <ol style="list-style-type: none"> Support PoE and PoE+. (IEEE 802.3af /at standard.) Automatically discover the connection of PD device. Automatically disable port if the port current is over 720mA. Via Web setting, working mode of each port can be configured. When port is in the Auto mode, output port power limit will be associated with PD Classification Value. Priority of POE port is configurable. (Default setting is lower port No. higher priority.) Follow the standard PSE pin-out standard of Alternative B. The maximum power used by power devices is defined by the following classification. When Port works in Auto Mode, the output port power limit will be associated with PD Classification Value. <table border="1" data-bbox="592 795 1364 1630"> <thead> <tr> <th>Class</th> <th>Usage</th> <th>Minimum Power Levels Output at the PSE</th> <th>Maximum Power Levels at the Powered Device</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Default</td> <td>15.4W</td> <td>0.44 to 12.95W</td> </tr> <tr> <td>1</td> <td>Optional</td> <td>4.0W</td> <td>0.44 to 3.84W</td> </tr> <tr> <td>2</td> <td>Optional</td> <td>7.0W</td> <td>3.84 to 6.49W</td> </tr> <tr> <td>3</td> <td>Optional</td> <td>15.4W</td> <td>6.49 to 12.95W</td> </tr> <tr> <td>4</td> <td>Optional</td> <td>30W</td> <td>12.95W to 25.5W</td> </tr> </tbody> </table>	Class	Usage	Minimum Power Levels Output at the PSE	Maximum Power Levels at the Powered Device	0	Default	15.4W	0.44 to 12.95W	1	Optional	4.0W	0.44 to 3.84W	2	Optional	7.0W	3.84 to 6.49W	3	Optional	15.4W	6.49 to 12.95W	4	Optional	30W	12.95W to 25.5W
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4. Push Button

Function	Location	Description
Factory Default	Inner Push Button, Front Panel	Pin the inner button 3 seconds then release, will reset system configuration back to factory default.
LED ON/OFF	Push Button, Front Panel	Push once will turn off all functioning LEDs except Power LED. Push again, turn on all functioning LEDs.

5. Power Supply -External Adaptor

Items	Specifications
Total Electrical Power	120W
AC Input Voltage	100V ~ 240V, 50/60Hz
DC Output	+54V: 2.22A (Max)

6. System Information

Items	Specifications
Power Consumption	13.4W
MTBF	7 years or more
FAN	Fanless