D-Link

Building Networks for People

DGS-1100-10MP/26MP/10MPP/26MPP

Web UI Reference Guide
Surveillance Mode

Ver. 1.02

FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the 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 this user's guide, 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.

CE Mark Warning

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Warnung!

Dies ist ein Produkt der Klasse A. Im Wohnbereich kann dieses Produkt Funkstoerungen verursachen. In diesem Fall kann vom Benutzer verlangt werden, angemessene Massnahmen zu ergreifen.

Precaución!

Este es un producto de Clase A. En un entorno doméstico, puede causar interferencias de radio, en cuyo case, puede requerirse al usuario para que adopte las medidas adecuadas.

Attention!

Ceci est un produit de classe A. Dans un environnement domestique, ce produit pourrait causer des interférences radio, auquel cas l`utilisateur devrait prendre les mesures adéquates.

Attenzione!

Il presente prodotto appartiene alla classe A. Se utilizzato in ambiente domestico il prodotto può causare interferenze radio, nel cui caso è possibile che l`utente debba assumere provvedimenti adeguati.

VCCI Warning

この装置は、クラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

May, 2015

Table of Contents

1. Introduction

This manual's command descriptions are based on the software release 1.00. The commands listed here are the subset of commands that are supported by the DGS-1100 MP/MPP Series switch.

Audience

This reference manual is intended for network administrators and other IT networking professionals responsible for managing the switch by using the Web User Interface (Web UI). The Web UI is the secondary management interface to the DGS-1100 MP/MPP Series switch, which will be generally be referred to simply as 'the switch' within this manual. This manual is written in a way that assumes that you already have the experience and knowledge of Ethernet and modern networking principles for Local Area Networks.

Standard Mode and Surveillance Mode

The DGS-1100 MP/MPP Series switches support Standard Mode and Surveillance Mode Web UI types. Standard Mode is used to manage the network and system elements of the switch. Surveillance Mode is a dedicated user interface designed for monitoring and managing the surveillance and IP security devices on your network.

To switch between the two types of interfaces, you can re-run the Smart Wizard that is presented when you access the web interface of the device. For more information, please refer to the Web UI Interface Guide for the appropriate mode.

Other Documentation

The documents below are a further source of information in regards to configuring and troubleshooting the switch. All the documents are available either from the CD, bundled with this switch, or from the D-Link website. Other documents related to this switch are:

- *Getting started Guide*
- *D-Link Network Assistant (DNA) User Guide*
- *D-Link DGS-1100 MP/MPP Series Standard Mode Web UI Reference Guide*

Conventions

Convention	Description
Boldface Font	Indicates a button, a toolbar icon, menu, or menu item. For example: Open the **File** menu and choose **Cancel**. Used for emphasis. May also indicate system messages or prompts appearing on screen. For example: **You have mail**. Bold font is also used to represent filenames, program names and commands. For example: use the **copy** command.
Initial capital letter	Indicates a window name. Names of keys on the keyboard have initial capitals. For example: Press Enter.
Menu Name > Menu Option	Indicates the menu structure. **Device > Port > Port Properties** means the **Port Properties** menu option under the **Port** menu option that is located under the **Device** menu.
Blue Courier Font	This convention is used to represent an example of a screen console display including example entries of CLI command input with the corresponding output.

Notes, Notices, and Cautions

Below are examples of the three types of indicators used in this manual. When administering your switch using the information in this document, you should pay special attention to these indicators. Each example below provides an explanatory remark regarding each type of indicator.

NOTE: A note indicates important information that helps you make better use of your device.

NOTICE: A notice indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

CAUTION: A caution indicates a potential for property damage, personal injury, or death.

2. Product Introduction

The DGS-1100 MP/MPP series Smart Switch is the world's first PoE switch with ONVIF support. This allows it to recognize ONVIF devices and integrate seamlessly with your surveillance network. Various power budgets, support for high powered PoE standards (MPP series) and 6 KV surge protection make the DGS-1100 MP/MPP series a critical part of your surveillance infrastructure.

The DGS-1100 MP/MPP series switches can change modes between 'Smart Switch' and 'Surveillance Switch' modes, making them suitable for a variety of applications. A new generation of web user interface design make surveillance options more accessible than ever and the standard web interface ensures that advanced technology is made available in an easy-to-use interface.

The DGS-1100 MPP series provides multiple PoE ports that support IEEE 802.3bt, allowing the latest PTZ (Pan, Tilt, and Zoom) cameras to be used with the switch. Automatic identification of IP surveillance devices, video traffic optimization and health diagnostic features makes the DGS-1100 MP/MPP series ideal for IP surveillance applications.

DGS-1100-10MP

8-Port 10/100/1000 Mbps + 2-Port SFP 1000 Mbps PoE switch
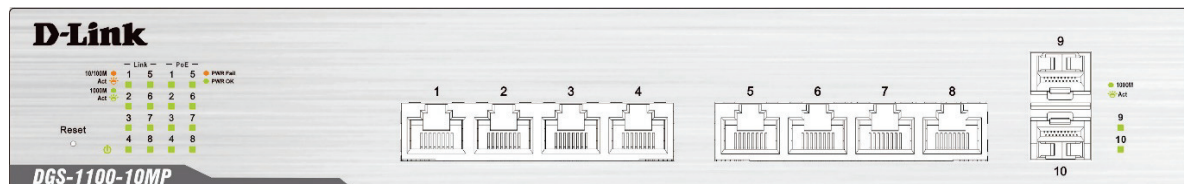
Front Panel

Figure 2-1 - DGS-1100-10MP Front Panel

Power LED: The Power LED lights up when the switch is connected to a power source.

Link/Act/Speed LED (Ports 1-8):

> Solid Green: When there is a secure 1000Mbps connection at the port.

> Blinking Green or Amber: Indicates that the switch is either sending or receiving data to the port.

> Solid Amber: Indicates that the port is running at 10/100Mbps.

> Light off: No link.

PoE Mode (Ports 1- 8):

> Green: Indicates that PoE mode is active.

> Amber: Indicates that there is an issue with the PoE mode activating properly.

> Light off: Indicates that PoE mode is not active.

Link/Act/Speed LED (Ports 9-10):

> Solid Green: There is a secure 1000Mbps connection at the port.

> Blinking Green: There is reception or transmission occurring at the port.

> Light off: No link.

Reset: By pressing the Reset button until the power LED turns amber, the switch will change back to the default configuration and all changes will be lost.

Rear Panel

Figure 2-2 – DGS-1100-10MP Rear Panel

Power: The power port is where to connect the AC power cord.

CAUTION: The SFP ports should use UL listed Optical Transceiver product, Rated Laser Class I. 3.3Vdc.

CAUTION: This equipment is to be connected only to PoE networks without routing to the outside plant.

DGS-1100-10MPP

8-Port 10/100/1000 Mbps + 2-Port SFP 1000 Mbps PoE switch
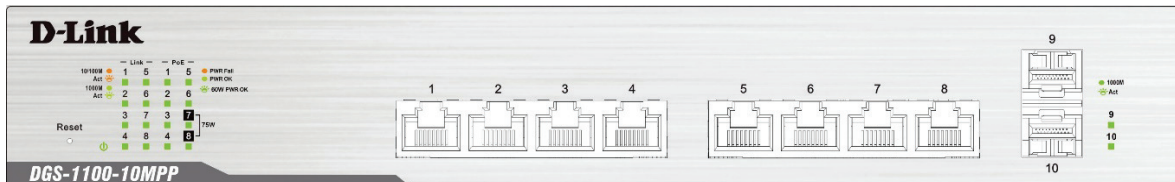
Front Panel

Figure 2-3 – DGS-1100-10MPP Front Panel

Power LED: The Power LED lights up when the switch is connected to a power source.

Link/Act/Speed LED (Ports 1-8):

Solid Green: When there is a secure 1000Mbps connection at the port.

Blinking Green or Amber: Indicates that the switch is either sending or receiving data to the port.

Solid Amber: Indicates that the port is running at 10/100Mbps.

Light off: No link.

PoE Mode (Ports 1- 8):

Green: Indicates that PoE mode is active.

Amber: Indicates that there is an issue with the PoE mode activating properly.

Light off: Indicates that PoE mode is not active.

Link/Act/Speed LED (Ports 9-10):

Solid Green: There is a secure 1000Mbps connection at the port.

Blinking Green: There is reception or transmission occurring at the port.

Light off: No link.

Reset: By pressing the Reset button until the power LED turns amber, the switch will change back to the default configuration and all changes will be lost.

Rear Panel

Figure 2-4 – DGS-1100-10MPP Rear Panel

Power: Connect the supplied AC power cable to this port.

CAUTION: The SFP ports should use UL listed Optical Transceiver product, Rated Laser Class I. 3.3Vdc.

CAUTION: This equipment is to be connected only to PoE networks without routing to the outside plant.

DGS-1100-26MP

24-Port 10/100/1000 Mbps + 2-Port Combo 1000BASE-T/SFP PoE switch
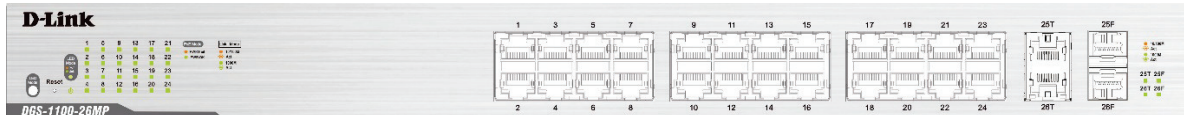
Front Panel

Figure 2-5 – DGS-1100-26MP Front Panel

Power LED: The Power LED lights up when the switch is connected to a power source.

Link/Act/Speed LED (Ports 1-24):

Solid Green: When there is a secure 1000Mbps connection at the port.

Blinking Green or Amber: Indicates that the switch is either sending or receiving data to the port.

Solid Amber: Indicates that the port is running at 10/100Mbps.

Light off: No link.

PoE Mode (Ports 1- 24):

Green: Indicates that PoE mode is active.

Amber: Indicates that there is an issue with the PoE mode activating properly.

Light off: Indicates that PoE mode is not active.

Link/Act/Speed LED (Ports 25-26):

Solid Green: There is a secure 1000Mbps connection at the port.

Blinking Green: There is reception or transmission occurring at the port.

Solid Amber: Indicates that the port is running at 10/100Mbps.

Light off: No link.

LED Mode Button: Pressing this button will change the LED behavior from Link mode, and PoE Mode.

Reset: By pressing the Reset button until the power LED turns amber, the switch will change back to the default configuration and all changes will be lost.

NOTE: The LED behavior for ports 1- 24 will switch between Link mode and PoE mode when the PoE mode is active.

Rear Panel

Figure 2-6 – DGS-1100-26MP Rear Panel

Power: Connect the supplied AC power cable to this port.

 CAUTION: The SFP ports should use UL listed Optical Transceiver product, Rated Laser Class I. 3.3Vdc.

 CAUTION: This equipment is to be connected only to PoE networks without routing to the outside plant.

DGS-1100-26MPP

24-Port 10/100/1000 Mbps + 2-Port Combo 1000BASE-T/SFP PoE switch
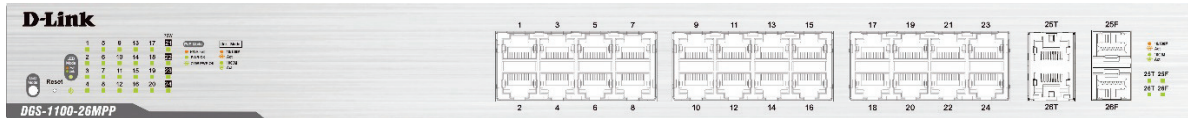
Front Panel

Figure 2-7 – DGS-1100-26MPP Front Panel

Power LED: The Power LED lights up when the switch is connected to a power source.

Link/Act/Speed LED (Ports 1-24):

Solid Green: When there is a secure 1000Mbps connection at the port.

Blinking Green or Amber: Indicates that the switch is either sending or receiving data to the port.

Solid Amber: Indicates that the port is running at 10/100Mbps.

Light off: No link.

PoE Mode (Ports 1- 24):

Green: Indicates that PoE mode is active.

Amber: Indicates that there is an issue with the PoE mode activating properly.

Light off: Indicates that PoE mode is not active.

Link/Act/Speed LED (Ports 25-26):

Solid Green: There is a secure 1000Mbps connection at the port.

Blinking Green: There is reception or transmission occurring at the port.

Solid Amber: Indicates that the port is running at 10/100Mbps.

Light off: No link.

LED Mode Button: Pressing this button will change the LED behavior from Link mode, and PoE Mode.

Reset: By pressing the Reset button until the power LED turns amber, the switch will change back to the default configuration and all changes will be lost.

> **NOTE:** The LED behavior for ports 1- 24 will switch between Link mode and PoE mode when the PoE mode is active.
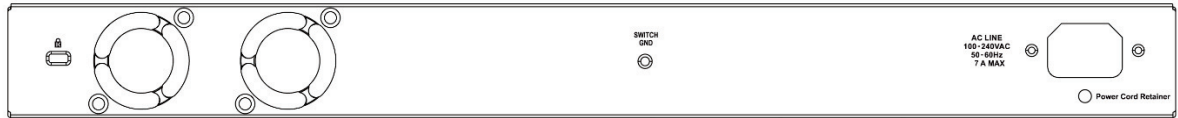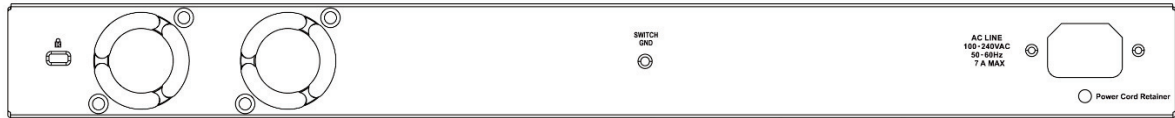
Rear Panel

Figure 2-8 – DGS-1100-26MPP Rear Panel

Power: Connect the supplied AC power cable to this port.

CAUTION: The SFP ports should use UL listed Optical Transceiver product, Rated Laser Class I. 3.3Vdc.

CAUTION: This equipment is to be connected only to PoE networks without routing to the outside plant.

3. Hardware Installation

This chapter provides unpacking and installation information for the D-Link switch.

Step 1: Unpacking

Open the shipping carton and carefully unpack its contents. Please consult the packing list located below to make sure all items are present and undamaged. If any item is missing or damaged, please contact your local D-Link reseller for a replacement.

Packing Contents

- One D-Link DGS-1100 MP/MPP Series switch
- One AC power cord
- Four rubber feet
- Screws and two mounting brackets
- One accessory kit for a ground screw
- One Multi-lingual Getting Started Guide
- One CD with User Manual

Step 2: Switch Installation

For safe switch installation and operation, it is recommended that you:

- Visually inspect the power cord to see that it is secured fully to the AC power connector.
- Make sure that there is proper heat dissipation and adequate ventilation around the switch.
- Do not place heavy objects on the switch.

Desktop or Shelf Installation

When installing the switch on a desktop or shelf, the rubber feet included with the device must be attached on the bottom at each corner of the device's base. Allow enough ventilation space between the device and the objects around it.

Figure 3-1 – Attach the adhesive rubber pads to the bottom

Rack Installation

The switch can be mounted in an EIA standard size 19-inch rack, which can be placed in a wiring closet with other equipment.

CAUTION: Ensure the power cable is disconnected before installing the switch.

To install, attach the mounting brackets to the switch's side panels (one on each side) and secure them with the screws provided.

Figure 3-2 – Attach the mounting brackets to the switch

Then, use the screws provided with the equipment rack to mount the switch in the rack.
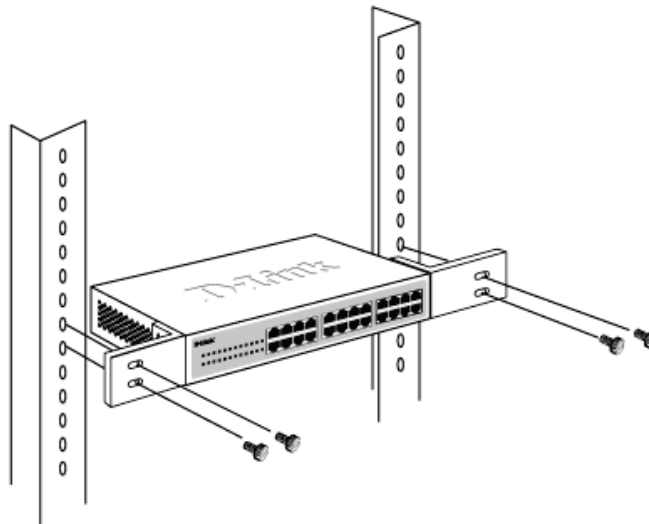

Figure 3-3 – Mount the switch in the rack or chassis

Please be aware of following safety Instructions when installing:

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

Step 3: Plugging in the AC Power Cord

Users may now connect the AC power cord into the rear of the switch and to an electrical outlet (preferably one that is grounded and surge protected).
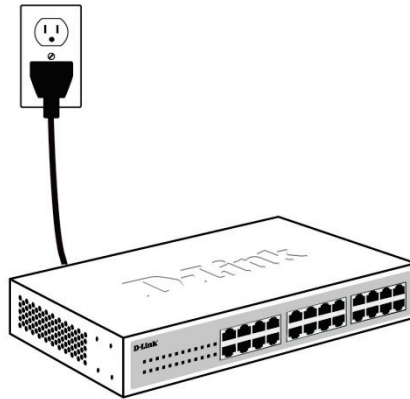

Figure 3-4 – Plugging the switch into an outlet

Power Failure

As a precaution, the switch should be unplugged in case of power failure. When power is resumed, the switch should be plugged back in.

Grounding the Switch

This section describes how to connect the DGS-1100 MP/MPP Series switch to ground. You must complete this procedure before powering your switch.

Required Tools and Equipment

- Ground screws (included in the accessory kit): One M4 x 6 mm (metric) pan-head screw
- Ground cable (not included in the accessory kit): The grounding cable should be sized according to local and national installation requirements. Depending on the power supply and system, a 12 to 6 AWG copper conductor is required for U.S installation. Commercially available 6 AWG wire is recommended. The length of the cable depends on the proximity of the switch to proper grounding facilities.
- A screwdriver (not included in the accessory kit)

Follow these steps to ground the switch:

Step 1: Verify that the switch is not connected to a power supply.

Step 2: Use the ground cable to place the #8 terminal lug ring on top of the ground-screw opening, as seen in the figure below.

Step 3: Insert the ground screw into the ground-screw opening.

Step 4: Using a screwdriver, tighten the ground screw to secure the ground cable to the switch.

Step 5: Attach the terminal lug ring at the other end of the grounding cable to an appropriate grounding stud or bolt on rack where the switch is installed.

Step 6: Verify if the connections at the ground connector on the switch and the rack are securely attached.
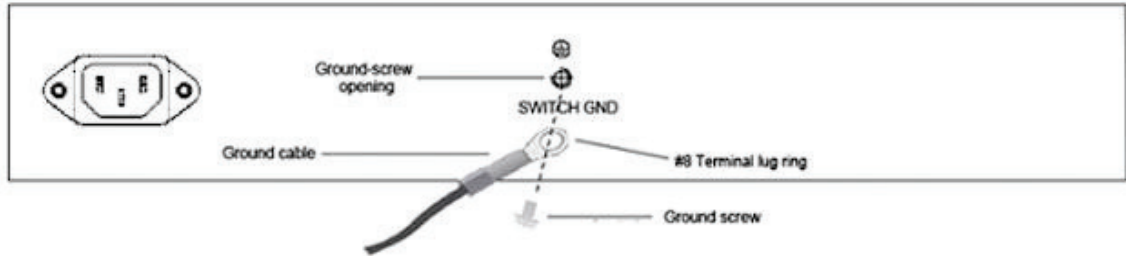

Figure 3-5 – Ground cable, screw and #8 terminal lug rings

CAUTION: This equipment is to be connected only to PoE networks without routing to the outside plant.

4. Web-based Switch Configuration

Management Options
Connecting using the Web User Interface
Logging onto the
Smart Wizard
Web User Interface

Management Options

The switch provides multiple access platforms that can be used to configure, manage and monitor networking features available on the switch. Currently there are three management platforms available and they are described below.

Web-based Management Interface

After successfully installing the switch, the user can configure the switch, monitor the LED panel, and display statistics graphically using a Web browser, such as Microsoft® Internet Explorer, Opera Firefox, Safari, or Google Chrome.

SNMP-based Management

The switch can be managed with an SNMP-compatible console program. The switch supports SNMP version 1.0, and version 2c. The SNMP agent decodes the incoming SNMP messages and responds to requests with MIB objects stored in the database. The SNMP agent updates the MIB objects to generate statistics and counters.

D-Link Network Assistant

DNA (D-Link Network Assistant) included on the installation CD is a program for discovering DGS-1100 MP/MPP Series switches with the same L2 network segment connected to your PC. This tool can support windows 2000, XP, Vista, and Windows 7.

Connecting using the Web User Interface

Most software functions of the DGS-1100 MP/MPP Series switches can be managed, configured and monitored via the embedded web-based (HTML) interface. Manage the switch from remote stations anywhere on the network through a standard web browser. The web browser acts as a universal access tool and can communicate directly with the switch using the HTTP or HTTPS protocol.

You need the following equipment to begin the web configuration of your device:

- A PC with a RJ-45 Ethernet connection
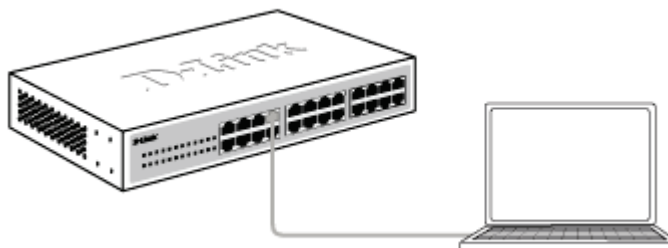- A standard Ethernet cable

Figure 4-1 – Connecting to a DGS-1100 MP/MPP Series switch

Connect the Ethernet cable to any of the ports on the front panel of the switch and to the Ethernet port on the PC.

Logging onto the Web User Interface

To access the Web UI, simply open a web browser and enter the switch's default IP address into the address bar. Make sure that the IP address of the management PC is in the same subnet as the IP address of the switch you are trying to connect to.

NOTE: The default IP address of the switch is **10.90.90.90**, with a subnet mask of **255.0.0.0**.

NOTE: The default username is '**admin**' and password is '**admin**'.

After successfully connecting to the Web UI, the Smart Wizard will be launched.

Smart Wizard

The Smart Wizard is a configuration utility that is launched the first time the Web UI is accessed. It allows users to configure basic settings such as the switch mode, management IP and password. It can also be used to switch between Standard Mode and Surveillance Mode Web UI types.

Step 1 – Web Mode

The initial page allows the user to choose between Standard Mode and Surveillance Mode on the switch. This can be changed at any time by returning to the Smart Wizard.

For more information on the Standard Mode features of the switch, please refer to the Standard Mode Web UI Reference Guide.
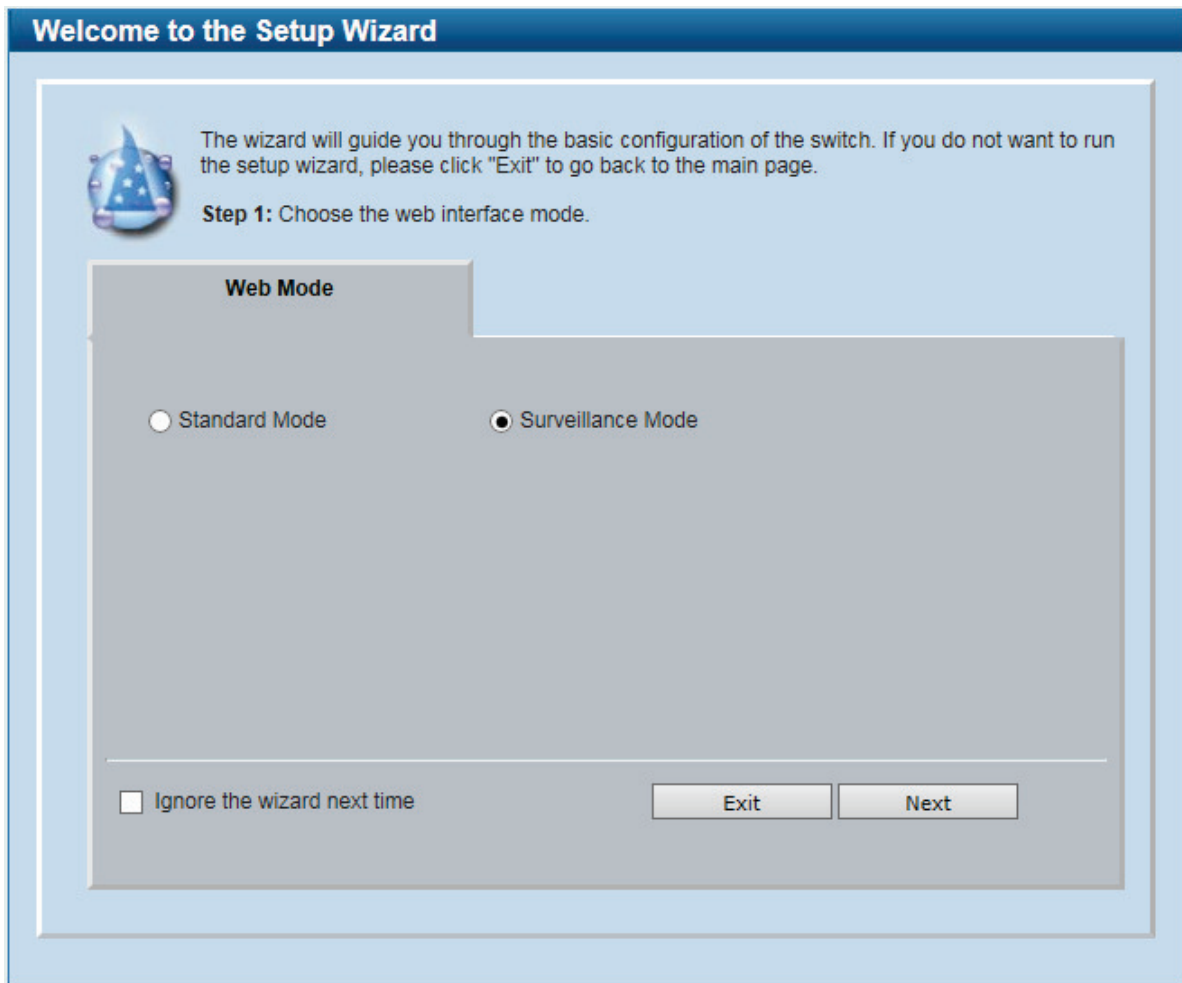
Figure 4-2 Web Mode window

The fields that can be configured are described below:

Parameter	Description
Web Mode	Select the **Surveillance Mode** option to continue the Smart Wizard in Surveillance Mode.
	Please refer to the Standard Mode Web UI Reference Guide for more information on Standard Mode.

Tick the **Ignore the wizard next time** option to skip the Smart Wizard on the next login.

Click the **Exit** button to discard the changes made, exit the Smart Wizard, and continue to the Standard Mode Web UI.

Click the **Next** button to accept the changes made and continue to the next step.

Step 2 – System IP Information

In this window, the user can configure the IP address assignment method, the static IP address, netmask and gateway address.

NOTE: The switch will probe IP-Cameras every 30 seconds. If an IP-Camera is not in the same subnet as the switch, the IP-Camera will not be automatically discovered. Place the switch management IP in the same subnet as the IP-Cameras for the cameras to be automatically added to the Surveillance Mode Web UI.

Welcome to the Setup Wizard

The switch will probe IP-Cameras every 30 seconds. If an IP-Camera is not in the same subnet as the switch, the IP-Camera will not be automatically discovered. You can set the switch to be a DHCP client (listening to a DHCP server for IP assignment).

Step 2: The wizard will help to complete settings for System IP address, Netmask, and Gateway.

System IP Information

○ Static   ⦿ DHCP

IP Address   _ . _ . _ . _

Netmask   8 (255.0.0.0) ▾

Gateway   _ . _ . _ . _

☐ Ignore the wizard next time   Exit   Back   Next

Figure 4-3 System IP Information window

The fields that can be configured are described below:

Parameter	Description
Static	Select this option to manually configure and use IP address settings on this switch.
DHCP	Select this option to obtain IP address settings from a DHCP server.
IP Address	Enter the IP address of the switch here.
Netmask	Select the netmask option here.
Gateway	Enter the default gateway IP address here.

Tick the **Ignore the wizard next time** option to skip the Smart Wizard on the next login.

Click the **Exit** button to discard the changes made, exit the Smart Wizard, and continue to the Standard Mode Web UI.

Click the **Next** button to accept the changes made and continue to the next step.

Step 3 – Admin Password

In this window, the user can set the password used with the admin account.

Figure 4-4 Admin Password window

Tick the **Ignore the wizard next time** option to skip the Smart Wizard on the next login.

Click the **Exit** button to discard the changes made, exit the Smart Wizard, and continue to the Standard Mode Web UI.

Click the **Apply & Save** button to accept the changes made, and then continue to the Web UI.

NOTE: Standard Mode and Surveillance Mode Web UIs share the same configuration files. Any features enabled in one interface will be made available in the other interface, for example: PoE scheduling, SNMP settings and the surveillance VLAN in use.

NOTE: Settings are saved between interface types. It is possible to switch interface types and re-run the Smart Wizard without losing settings saved in one version of the interface.

Web User Interface

When you complete the Surveillance Mode Smart Wizard you will be presented with the following screen:
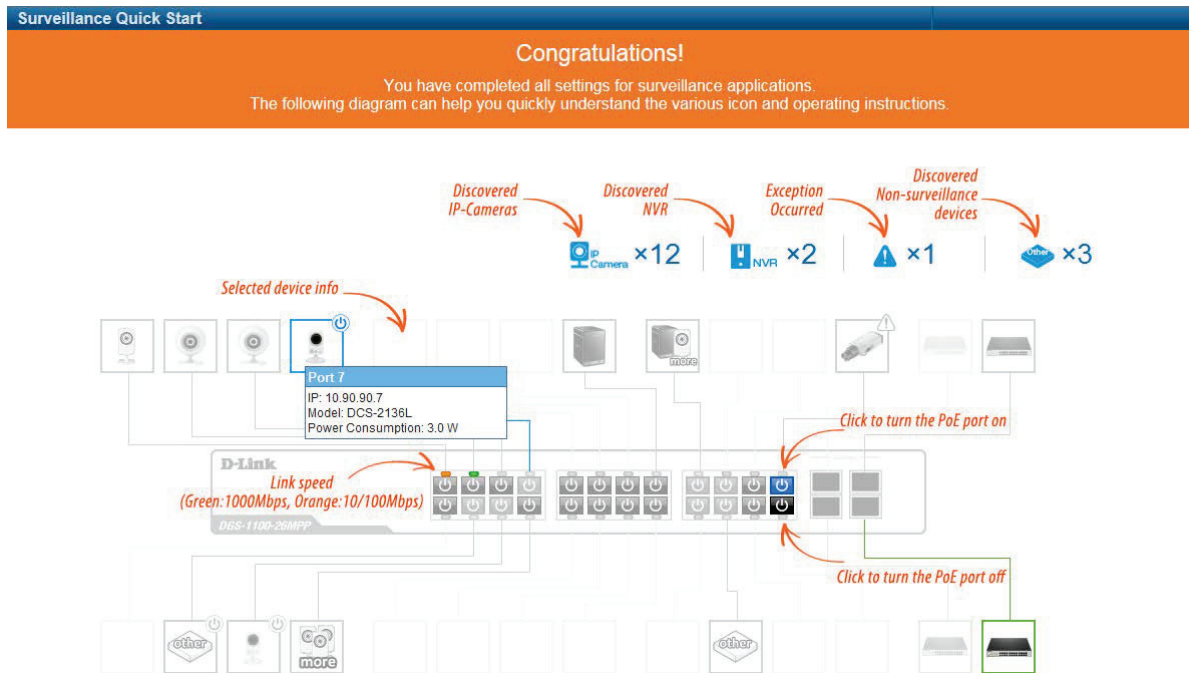
Figure 4-5 Congratulations window

Scroll to the bottom of the page and click the OK button to continue to the Web UI.

Areas of the User Interface

The figure below shows the user interface. Two distinct areas divide the user interface, as described in the table.
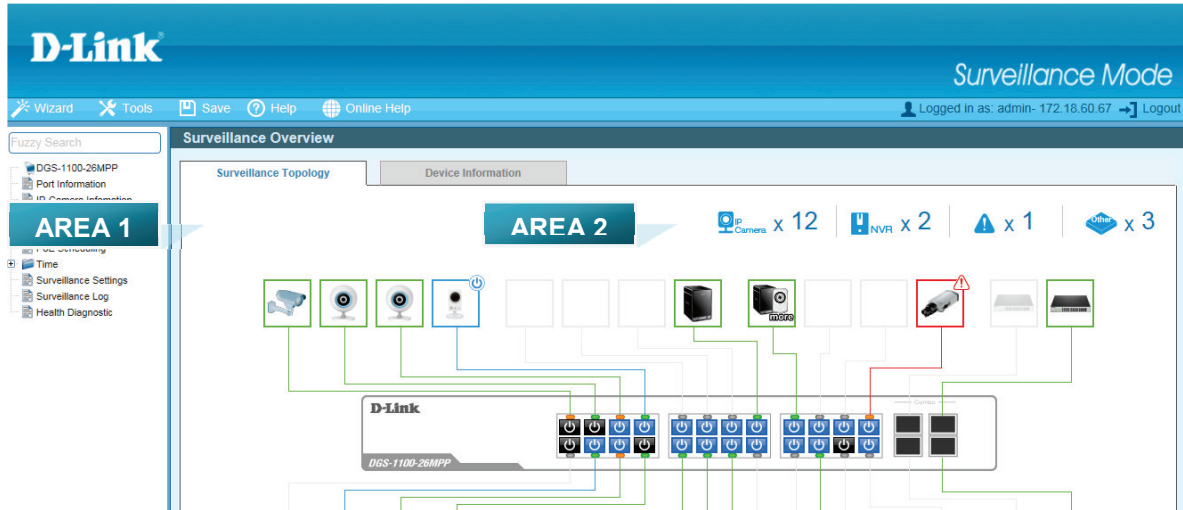

Figure 4-6 Main Web UI Window

Area Number	Description
AREA 1	The navigation menu is displayed in this area. Click on the links and navigate the folder structure to display information on the main page.
AREA 2	This is the main page for displaying information and configuration options for the switch. The page displayed here is based on the selection in **AREA 1**.

5. Surveillance Overview

This loads automatically when you log-in to the switch and contains two tabs; Surveillance Topology and Device Information. To return to the Surveillance Overview page after viewing other pages, click the model number of the switch at the top of the navigation menu.
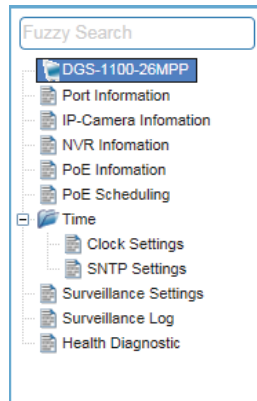

Figure 5-1 Switch Model Number

Surveillance Topology

This is the default tab on the Surveillance Overview page. It contains a diagram of the surveillance topology, including an overview of the devices connected to the switch.

To view the following window, click on the model number of the switch at the top of the navigation menu:
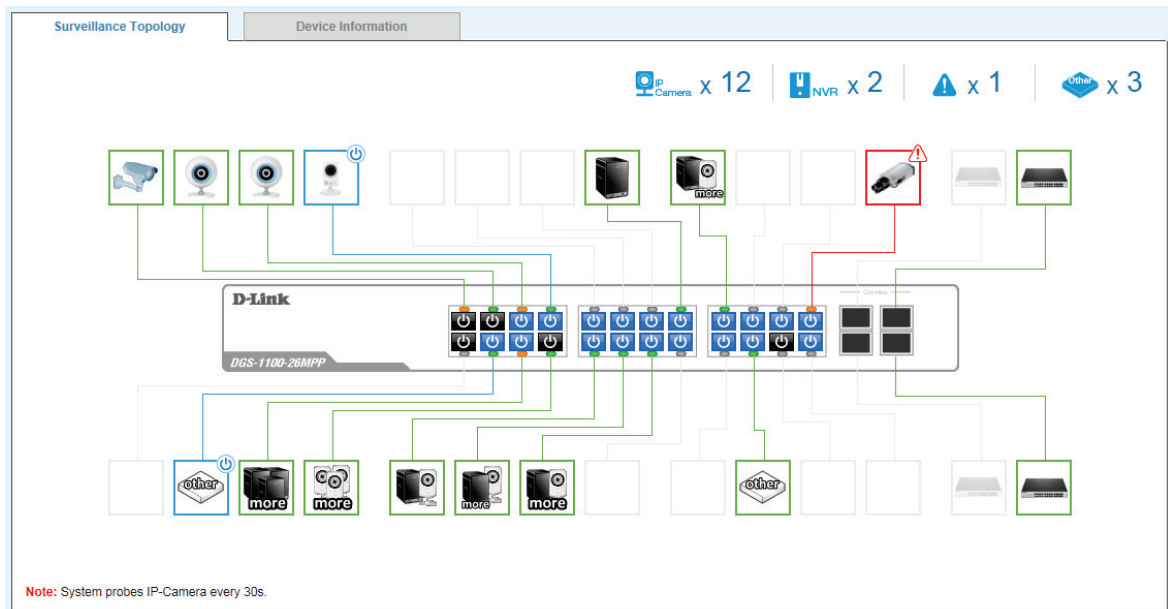
Figure 5-2 Surveillance Topology Window

There is a device count at the top of the page, listing the number of connected IP-Cameras, Network Video Recorders (NVRs) and unrecognized devices. It also lists the number of warnings on the system.

The icon descriptions are as follows:

Icon	Description
IP Camera	The total number of IP-Cameras detected.
NVR	The total number of NVRs detected.
⚠	The number of warnings on the system. Consult the Surveillance Log and Health Diagnostic pages for more information.
Other	The number of ports that have an unknown device connected that does not support ONVIF.

The Surveillance Topology gives you more information about what is connected to each port. Hover over each device icon to get more information about the recognized devices, such as: the number of devices, device type, IP address, power consumption, link speed and errors. Click on the 'more' link to get more information about the devices connected to a port. Each port can also be powered-on and off using PoE by clicking the power symbol on each port.

⚠ **CAUTION:** Before connecting the Powered Device (PD) and enabling 60/70 W PoE, make sure it supports IEEE 802.3bt, as otherwise it will become damaged.

See below for more information on enabling and disabling PoE.

A breakdown of each device icon is below:

Icon	Description
	One ONVIF IP-Camera discovered on this port.
other	The link is up but no ONVIF IP-Camera or NVR has been discovered on this port.
more	Multiple ONVIF IP-Cameras discovered on this port.
	One NVR discovered on this port. Any device fetching surveillance stream from IP-Camera will be recognized as NVR.
more	Multiple NVRs discovered on this port.
	One ONVIF IP-Camera and one NVR discovered on this port.
more	Multiple ONVIF IP-Cameras and one NVR discovered on this port.

	One ONVIF IP-Camera and multiple NVRs discovered on this port.
	This port is set as uplink port and it is link up.
	This port is set as uplink port and it is link down.

NOTE: A breakdown of the device icons can be found by clicking the Help menu at the top of the page.

NOTE: The system probes for new IP-Cameras every 30 seconds.

The icon border indicates the PoE status for the port:

Icon Border	Description
	The device is operational but not powered by PoE.
	The device is operational and is powered by PoE.
	The device has malfunctioned and there is a problem with the port or device.

The port status indicators dictate the speed and status of the link:

Port Status	Description
	The link is down.
	The port is connected at 1 Gbps.
	The port is connected at 10/100 Mbps.

The PoE status is indicated by the power icon on each port:

Port Status	Description
	PoE is enabled on the port.
	PoE is disabled on the port.

Enabling and Disabling PoE

CAUTION: Before connecting the Powered Device (PD) and enabling 60/70 W PoE, make sure it supports IEEE 802.3bt, as otherwise it will become damaged.

The power status of each port can be changed by clicking the power icon on each port. The default setting for PoE is on. To change the PoE type, first disable PoE and then re-enable it using the type of PoE required.

The following dialogue box will be displayed when enabling PoE on a port:
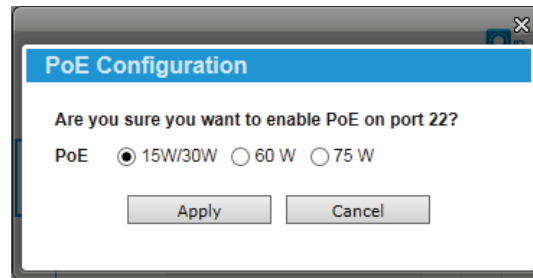
Figure 5-3 PoE Configuration

Choose the type of PoE required. This can be either 15/30 W (60 W or 75 W is for MPP Series only).

Click the **Apply** button to accept the changes made.

Device Information

This is the second tab on the Surveillance Overview page and is divided into 3 areas; a device information section, PoE utilization section and bandwidth usage section.

To view the following window, click on the model number of the switch at the top of the navigation menu and the click the **Device Information** tab:

Figure 5-4 Device Information Window

The device information section is sub-divided into 3 sections; switch information, web information and system information. It contains information such as the device type, system name, serial number, IP address settings, MAC address settings, firmware versions and system uptime.

The PoE utilization area contains PoE utilization statistics for the switch. On the left is the total PoE utilization, with the total power budget and overall utilization shown. On the right is a per-port usage graph, showing the PoE utilization for each individual port.

The bandwidth usage section contains bandwidth utilization for the switch. On the left the total bandwidth shows the total inbound traffic on all ports. There is also a per-port bandwidth utilization graph on the right, showing the inbound traffic for each individual port. The scale of the graph can be changed by pressing the 1000 Mbps and 50 Mbps buttons above the graph.

6.   Port Information

The Port Information section provides an overview of the port status for each port. This includes the throughput, PoE status, Loopback Detection Status, cable length, power consumption and the devices connected to each port.

To view the following window, click on the **Port Information** link in the navigation menu:
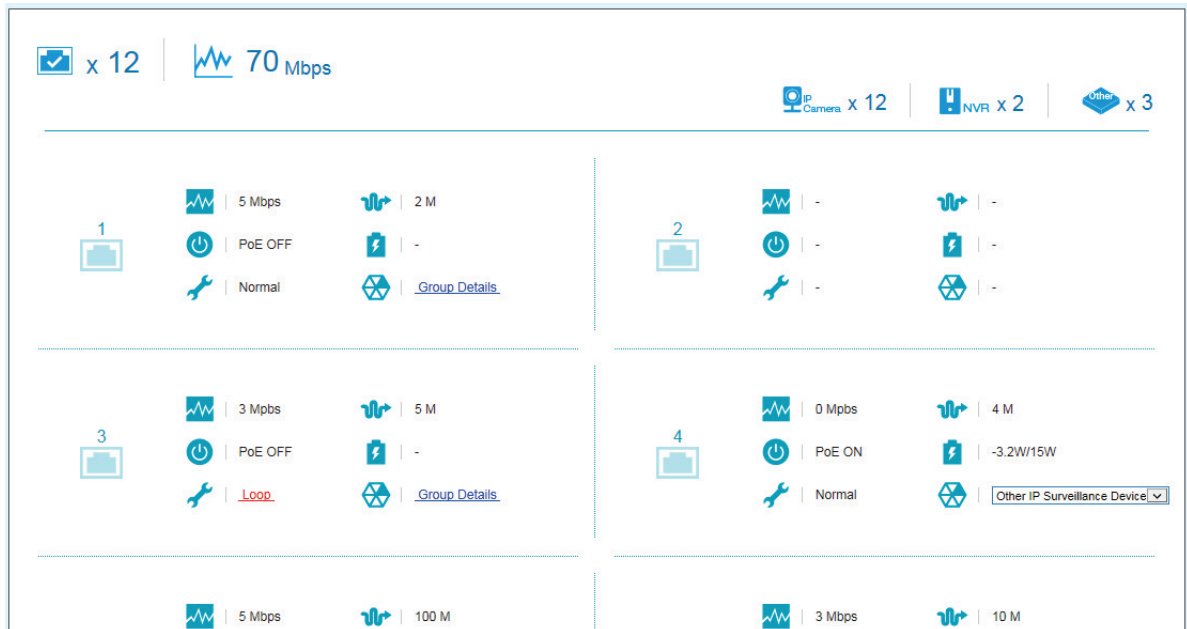
Figure 6-1 Port Information Window

A breakdown of the devices connected, the number of ports in use and the total throughput is listed at the top of the page. The icon descriptions are as follows:

Icon	Description
	The total amount of ports that are currently active.
	The total inbound throughput for all ports on the switch.
	The total number of ONVIF IP-Cameras detected.
	The total number of NVRs detected.
	The number of ports that have an unknown device connected that does not support ONVIF.

Hover-over each field to get more information about each value. A breakdown of each field is below:

Icon	Description
	The port number of the port.
	The total inbound throughput for the port on the switch (measured in Mbps).
	The cable length (in meters), taken from the Health Diagnostics page.
	The PoE status for the port (PoE on or off).
	The PoE consumption of the port. This is listed as one negative integer and one positive integer. A negative value for PoE means that power is being consumed by the port. The positive integer is the PoE budget for PoE standard in use.
	The Loopback Detection status. If a loop is detected, the icon will change to include a link to the Health Diagnostics page.
	The Group Details page. If an ONVIF device is detected as being connected to the port, the icon changes to include a link to the Group Details page. If a device is connected that is not ONVIF compatible, a drop-down menu will be available to define the type of device connected.

Group Details

The Group Details page lists the devices connected to a specific port. Only devices that have been recognized as supporting ONVIF or NVRs will be displayed.

To view the following window, click on the **Port Information** link in the navigation menu and then click on the **Group Details** link for a port that has recognized devices connected to it:
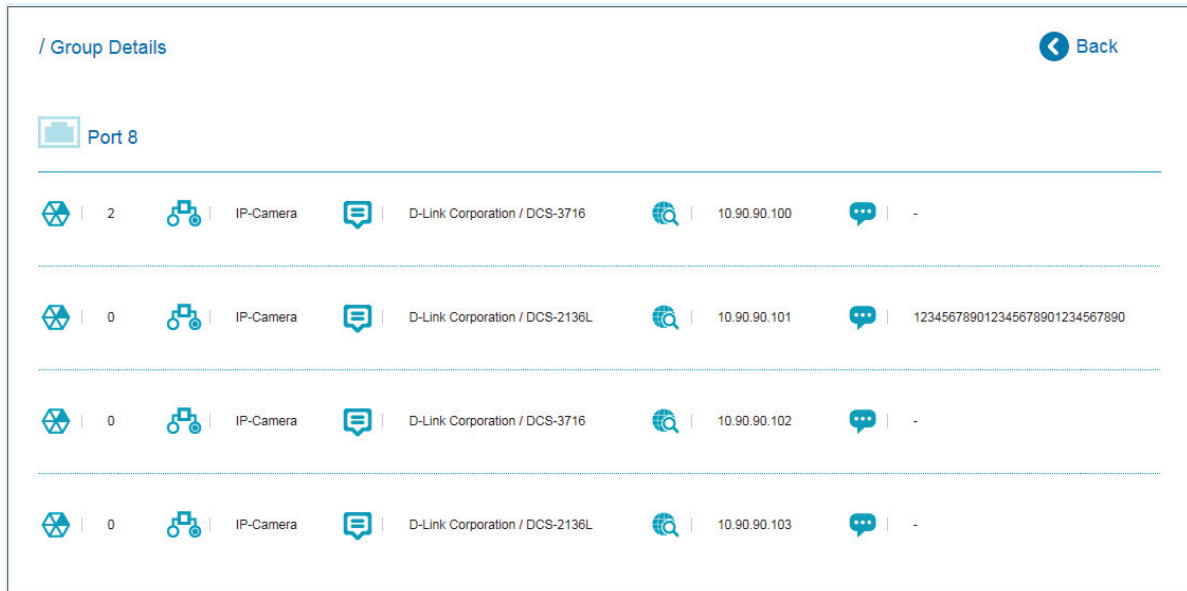
Figure 6-2 Group Details Window

The port number that the Group Details apply to is listed at the top of the page. The icon descriptions are as follows:

Icon	Description
	The port number that the Group Details apply to.
	Click to go back to the Port Information page.

Hover-over each field to get more information about each value. A breakdown of each field is below:

Icon	Description
	The Group Number that the device belongs to. All devices managed by an NVR belong to the same Group Number. These are assigned sequentially, with NVR1 having Group Number 1. If an NVR is removed, the Group Numbers will be updated accordingly (if NVR1 is removed then Group Number 2 will become Group Number 1).
	The device type. This can be an IP-Camera or NVR.
	The Model name of the IP-Camera. Nothing is displayed in this field if an NVR is connected.
	The IP address of the IP-Camera or NVR.

	The device description. This can be edited on the IP-Camera Information page or NVR Information page.

7. IP-Camera Information

The IP-Camera Information section provides information on each camera connected to the switch. It features the port number, device type, throughput, IP address and other information such as port description, power consumption and location.

To view the following window, click on the **IP-Camera Information** link in the navigation menu:
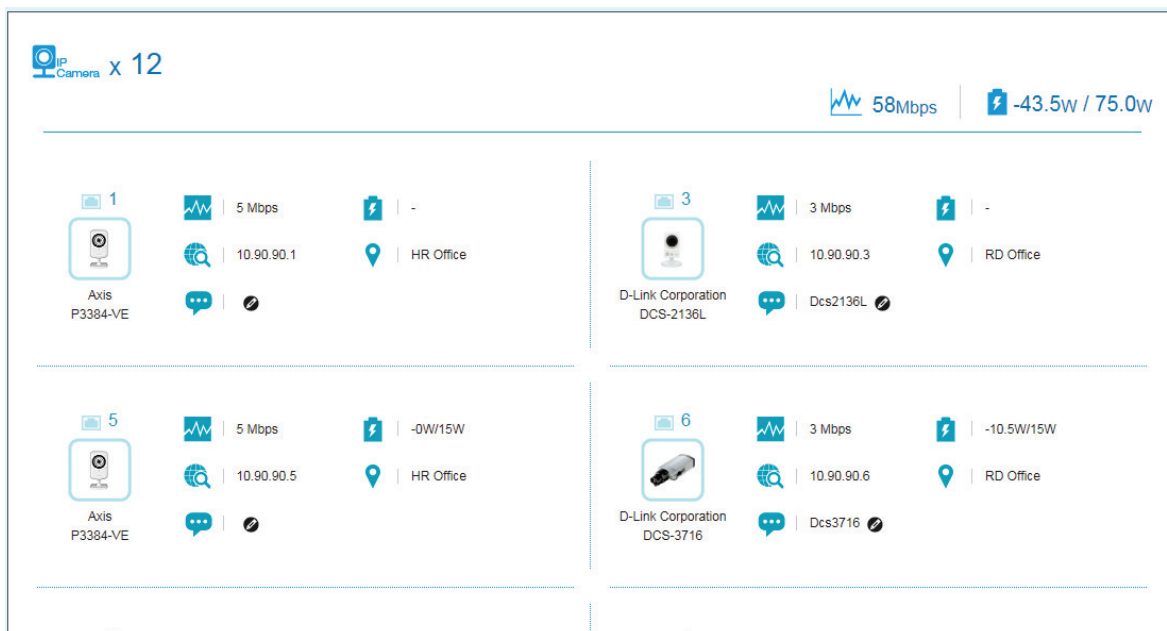
Figure 7-1 Port Information Window

The total device count, throughput and power consumption is listed at the top of the page. The icon descriptions are as follows:

Icon	Description
IP Camera	The total number of ONVIF IP-Cameras detected.
	The total inbound throughput for all ports on the switch.
	The PoE consumption of the switch. This is listed as one negative integer and one positive integer. The negative integer is the power being consumed by the PoE devices connected to the switch. The positive integer is the total PoE budget for the ports currently using PoE, based on the type of PoE in use.

Hover-over each field to get more information about each value. A breakdown of each field is below:

Icon	Description
	The port number of the port.
	The device icon or photo. A generic photo will displayed for a non-D-Link ONVIF camera. A D-Link-specific photo will be displayed for a D-Link ONVIF camera.

	The total inbound throughput for the port on the switch (measured in Mbps).
	The PoE consumption of the port. This is listed as one negative integer and one positive integer. A negative value for PoE means that power is being consumed by the port. The positive integer is the PoE budget for PoE standard in use.
	The IP address of the IP-Camera.
	The location of the IP-Camera.
	The description of the IP-Camera. This can be edited by clicking the black pencil icon next to the field ( ) and then the green pencil icon when the description has been entered ( ).

8.   NVR Information

The NVR Information section provides information on each NVR connected to the switch. It features the port number, throughput, IP address and information relating to the cameras connected to the NVR, such as the group name, total number of cameras and the port and IP address of each camera. Hover-over each field to get more information about each value.

To view the following window, click on the **NVR Information** link in the navigation menu:
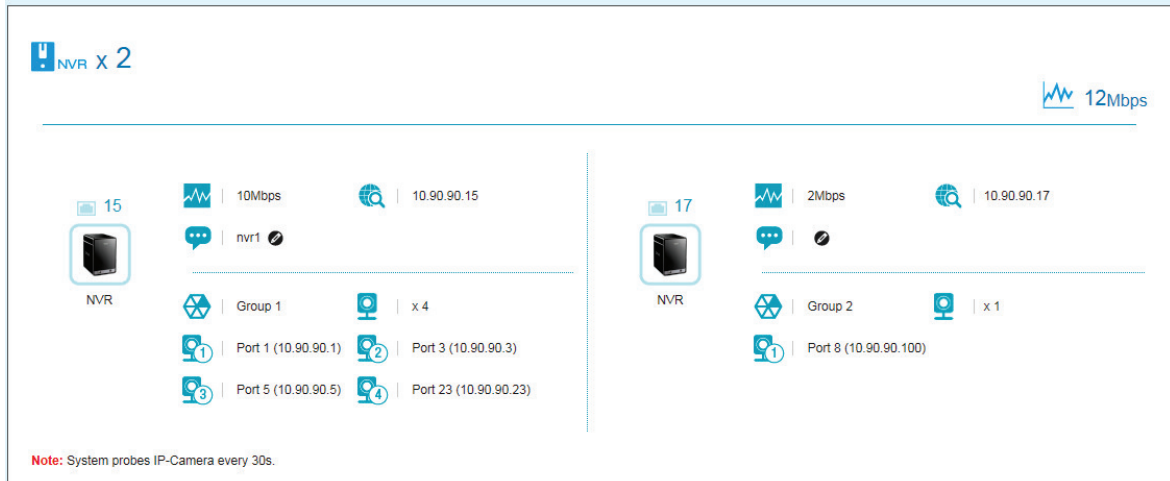
Figure 8-1 NVR Information Window

The total number of NVRs and the total throughput is listed at the top of the page. The icon descriptions are as follows:

Icon	Description
NVR	The total number of NVRs detected.
⋀⋁	The total inbound throughput for all ports on the switch.

 Hover-over each field to get more information about each value. A breakdown of each field is below:

Icon	Description
	The port number of the port.
	The device icon or photo. A generic photo is displayed for all NVR types.
	The total inbound throughput for the port on the switch (measured in Mbps).
	The IP address of the NVR.
💬	The Description of the NVR. This can be edited by clicking the black pencil icon next to the field ( ) and then the green pencil icon when the description has been entered ( ).
	The Group Number that a device belongs to. All devices managed by an NVR belong to the same Group Number. These are assigned sequentially,

	with NVR1 having Group Number 1. If an NVR is removed, the Group Numbers will be updated accordingly (if NVR1 is removed then Group Number 2 will become Group Number 1).
	The number of ONVIF IP-Cameras managed by this NVR.
	Information relating to an IP-Camera in the group, such as port number and IP address.

9.   PoE Information

The PoE Information section provides information on the PoE usage of each port. The port number, PoE status, health status, PoE budget and power consumption is listed for each port. It is possible to click on the health status to be re-directed to the Health Diagnostic page. Hover-over each field to get more information about each value.

To view the following window, click on the **PoE Information** link in the navigation menu:
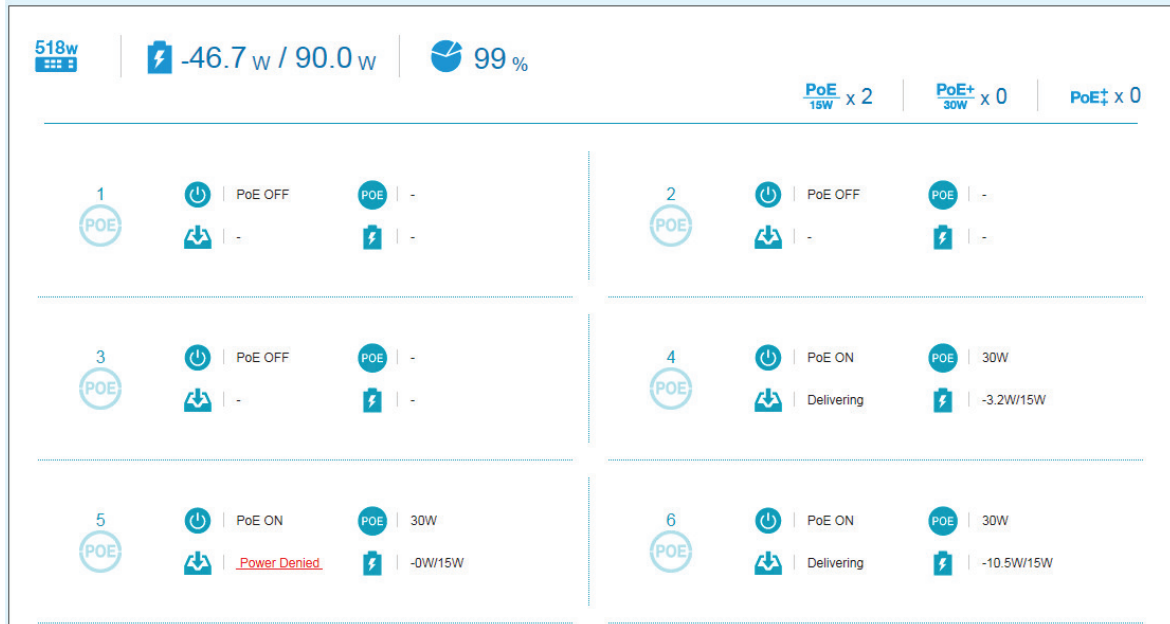
Figure 9-1 PoE Information Window

The total power budget, power consumption, power budget consumption and the types of PoE in use are listed at the top of the page. The icon descriptions are as follows:

Icon	Description
518w	The total PoE power budget.
(battery icon)	The PoE consumption of the switch. This is listed as one negative integer and one positive integer. The negative integer is the power being consumed by the PoE devices connected to the switch. The positive integer is the total PoE budget for the ports currently using PoE, based on the type of PoE in use.
(pie icon)	The current utilization of PoE power budget.
PoE 15W	The number of 15 W PoE devices discovered.
PoE+ 30W	The number of 30 W PoE devices discovered.
PoE‡	The number of 60/70 W PoE devices discovered.

Hover-over each field to get more information about each value. A breakdown of each field is below:

Icon	Description
POE	The port number of the port.
⏻	The PoE status for the port (PoE on or off).
POE	The maximum PoE power budget for this port. This can be 30 W, or 30W/60W /75W if this port supports 4-pair PoE.
⟱	The PoE state. If any fault is detected the icon changes to include a description of the problem and a link to the Health Diagnostic page.
⚡	The PoE consumption of the port. This is listed as one negative integer and one positive integer. A negative value for PoE means that power is being consumed by the port. The positive integer is the PoE budget for PoE standard in use.

10. PoE Scheduling

PoE Scheduling is a feature which allows you to specify the amount of time that power is delivered to a PoE port. This can be used to save power when devices are not in use, or as a security feature to prevent wireless access from being available outside of business hours, for example. It is possible to set a schedule name, a start time, an end time and which ports the PoE schedule applies to.

To view the following window, click on the **PoE Scheduling** link in the navigation menu:

Figure 10-1 PoE Scheduling Window

The fields that can be configured for the **Time Profile** are described below:

Parameter	Description
Range Name	Enter a descriptive name for the PoE schedule.
Daily	Check this tick-box to enable the schedule daily and gray-out the day-of-week fields in the From Time/To Time sections.
From Time (Day/Hour)	The **start** day and time for the PoE schedule. Click the calendar icon to pick this using a graphic calendar tool.
To Time (Day/Hour)	The **end** day and time for the PoE schedule. Click the calendar icon to pick this using a graphic calendar tool.

Click the **Apply** button to accept the changes made.

The fields that can be configured for the **PoE Configuration** are described below:

Parameter	Description
From Port	The **start** port in the range that the PoE schedule will apply to.
To Port	The **end** port in the range that the PoE schedule will apply to.

Time Profile	The Time Profile created above.

Click the **Apply** button to accept the changes made.

11. Time

Clock Settings
SNTP Settings

Clock Settings

This sub-menu is used to configure the time on the switch.

To view the following window, go to: **Time > Clock Settings** in the navigation menu:

Figure 11-1 Clock Settings Window

The fields that can be configured for the **Clock Settings** are described below:

Parameter	Description
System Time (HH:MM:SS)	Use this to set the system time in the format (HH:MM:SS).
Date (DD / MM / YYYY)	Use this to set the date, in the format (DD / MM / YYYY).

Click the **Apply** button to accept the changes made.

SNTP Settings

This sub-menu is used to configure an external time source on the switch. Simple Network Time Protocol (SNTP) is a lightweight version of the NTP protocol and can be used to keep the system clock in-sync by using a network-based time source.

To view the following window, go to: **Time > SNTP Settings** in the navigation menu:

Figure 11-2 SNTP Settings Window

The fields that can be configured for the **SNTP Global Settings** are described below:

Parameter	Description
Current Time Source	Displays the current time source for the switch.

SNTP State	Set the SNTP state. Options are **Enabled** or **Disabled**.
Pool Interval (30-99999)	Set the synchronization interval for SNTP. The default is 720 seconds and the range is 30 – 99999 seconds.

Click the **Apply** button to accept the changes made.

The fields that can be configured for the **SNTP Server Setting** are described below:

Parameter	Description
IPv4 Address	Enter the IP address of the SNTP server you would like to synchronize with.

Click the **Apply** button to accept the changes made.

12. Surveillance Settings

The Surveillance Settings page is used to configure the settings for the Surveillance VLAN. This is a VLAN dedicated for IP-Camera and surveillance traffic and can be used to manage surveillance devices on the network.

To view the following window, click on the **Surveillance Settings** link in the navigation menu:

Figure 12-1 Surveillance Settings Window

The fields that can be configured for the **Surveillance VLAN Settings** are described below:

Parameter	Description
VLAN ID (2-4094)	Enter a VLAN number for the surveillance VLAN in the range (2-4094).

Click the **Apply** button to accept the changes made.

The fields that can be configured for the **IP Settings** are described below:

Parameter	Description
Get IP From	Choose how the management IP for this VLAN is assigned to the switch. Options are: **DHCP**, **Static** or **BOOTP**. If **Static** is chosen, the following fields become available:
IP Address	Enter the IP address for the surveillance VLAN management IP.
Mask	Enter the netmask for the surveillance VLAN management IP.
Gateway	Enter the gateway for the surveillance VLAN.

Click the **Apply** button to accept the changes made.

The fields that can be configured for the **SNMP Host Settings** are described below:

Parameter	Description
Host IPv4 Address	Enter the IP address of the SNMP Network Management Server (NMS) which will receive SNMP Traps from this device.

Click the **Apply** button to accept the changes made.

The fields that can be configured for the **Log Server** are described below:

Parameter	Description
Host IPv4 Address	Enter the IP address of the Syslog NMS which will receive Syslog messages from this device.

Click the **Apply** button to accept the changes made.

The fields that can be configured for the **Password Settings** are described below:

Parameter	Description
Password	Configure the password that will be used to restrict access to the device via the Web UI. Password length is a maximum of 20 characters.
Confirm Password	Confirm the password that will be used to restrict access to the device via the Web UI. Password length is a maximum of 20 characters.

Click the **Apply** button to accept the changes made.

The fields that can be configured for the **Uplink Port Settings** are described below:

Parameter	Description
From Port	Enter the **start** port in the range for Uplink Ports. These are used for connecting the surveillance VLAN with other switches.
To Port	Enter the **end** port in the range for Uplink Ports. These are used for connecting the surveillance VLAN with other switches.

Click the **Apply** button to accept the changes made.

Click the **Delete** button to delete any entries in the list of uplink ports.
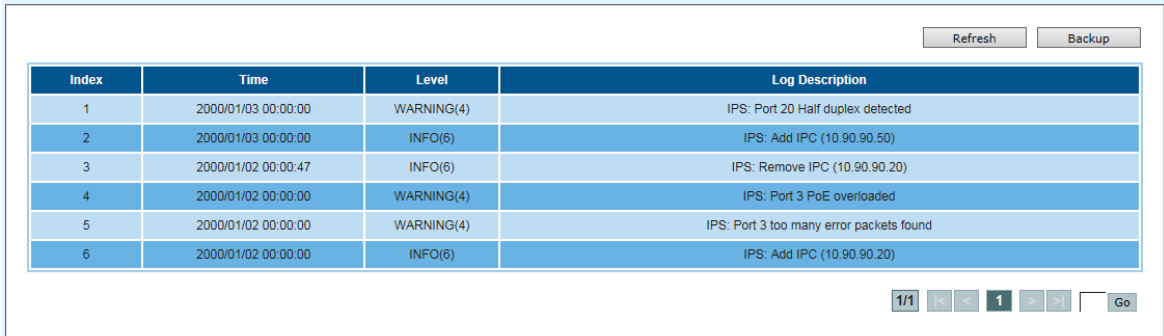
NOTE: It is highly recommended that only uplink ports are connected to other switches, as the IP-Camera discovery process is disabled on these ports. Use the **Uplink Port Settings** section of the interface to define which ports connect to other switches.

NOTE: The default uplink ports of the DGS-1100-10MP/10MPP are port9 and port10. The default uplink ports of DGS-1100-26MP/26MPP are port25 and port26.

13. Surveillance Log

The Surveillance Log consists of a list of Syslog messages that have been generated by the switch. Depending on whether a Syslog server has been defined in the Surveillance Settings section, these may be local to the switch or copied to an external logging server. The messages are ordered in date order with the latest message at the top of the list. Please consult an external source for more information on Syslog logging levels.

To view the following window, click on the **Surveillance Log** link in the navigation menu:

Index	Time	Level	Log Description
1	2000/01/03 00:00:00	WARNING(4)	IPS: Port 20 Half duplex detected
2	2000/01/03 00:00:00	INFO(6)	IPS: Add IPC (10.90.90.50)
3	2000/01/02 00:00:47	INFO(6)	IPS: Remove IPC (10.90.90.20)
4	2000/01/02 00:00:00	WARNING(4)	IPS: Port 3 PoE overloaded
5	2000/01/02 00:00:00	WARNING(4)	IPS: Port 3 too many error packets found
6	2000/01/02 00:00:00	INFO(6)	IPS: Add IPC (10.90.90.20)

Figure 13-1 Surveillance Log Window

Refresh: This will refresh the page.

Backup: This will allow you to save a local copy of the Syslog messages as a text file.

Enter a page number and click the **Go** button to navigate to a specific page when multiple pages exist.

14. Health Diagnostic

The Health Diagnostic page is linked-to by the Port Information and PoE Information pages and displays an overview of the port status. It contains the port number, Loopback Detection status, Cable Link status, PoE Status, Tx/Rx Error Counter, number of Discovered Surveillance Devices on the port (which links to the Group Details page) and the detected cable length. The page automatically refreshes every 30 seconds.

To view the following window, click on the **Health Diagnostic** link in the navigation menu:

Port	Loopback Detection Status	Cable Link	PoE Status	Tx/Rx Error Counter	Discovered Surveillance Devices	Detect Distance
1	Normal	Pass	-	Pass	1	Detect
2	-	-	-	-	-	Detect
3	Loop	Pass	-	Pass	1	Detect
4	-	-	-	-	-	Detect
5	Normal	Pass	Power Denied	Pass	1	Detect
6	Normal	Pass	Pass	Pass	1	Detect
7	Normal	Pass	Pass	Pass	1	Detect
8	Normal	Pass	-	Pass	4	Detect
9	-	-	-	-	-	Detect
10	-	-	-	-	-	Detect
11	-	-	-	-	-	Detect
12	-	-	-	-	-	Detect
13	-	-	-	-	-	Detect
14	-	-	-	-	-	Detect
15	Normal	Pass	-	Pass	1	Detect
16	-	-	-	-	-	Detect
17	Normal	Pass	-	Pass	3	Detect

Detect All

Figure 14-1 Health Diagnostic Window

Detect: Detect the cable length of the listed port.

Detect All: Detect the cable length of all ports.

15. Save and Tools

Firmware Information
Firmware Upgrade & Backup
Configuration Restore & Backup
Reset
Reboot System

Firmware Information

This window is used to show firmware information.

To view the following window, click **Tools > Firmware Information**, as shown below:

Image ID	Version	Size (B)	Update Time	
*1c	1.0.5	2132528	2014-06-05 00:39:42	Boot UP
2	1.0.5	2131928	2014-06-05 11:32:02	Boot UP

c: Current boot up firmware
* : Boot up firmware

Figure 15-1 Firmware Information window

Boot Up: Clicking the **Boot Up** button will set that firmware image as the active image to use upon the next system start up.

NOTE: Changing the firmware only happens after the switch has been manually rebooted. In order to boot with the newly selected firmware, make sure that the switch is rebooted.

Firmware Upgrade & Backup
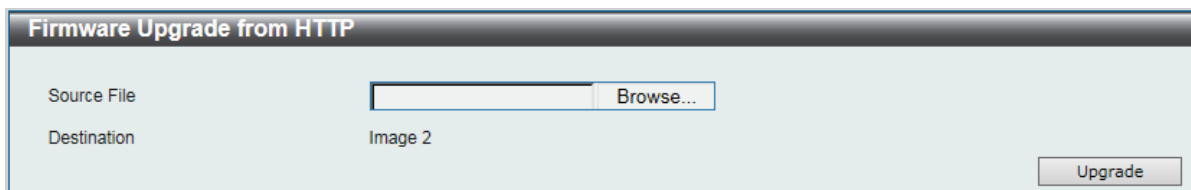
NOTE: When upgrading the firmware on the DGS-1100 MP/MPP Series switch, only the image not currently active can be upgraded. All DGS-1100 MP/MPP Series switches come with two images, however only one can be active at any time. (e.g. If image 1 is currently in use, only image 2 can be upgraded, and vice versa.)

NOTE: If the switch is in HTTPS mode, the firmware or configuration cannot be upgraded using regular HTTP.

Firmware Upgrade from HTTP

This window is used to initiate a firmware upgrade from a local PC using HTTP.

To view the following window, click **Tools > Firmware Upgrade & Backup > Firmware Upgrade from HTTP**, as shown below:

Firmware Upgrade from HTTP

Source File	Browse...
Destination	Image 2

Upgrade

Figure 15-2 Firmware Upgrade from HTTP window

The fields that can be configured are described below:

Parameter	Description
Source File	Enter the source filename and path of the firmware file located on the local PC. Alternatively click the **Browse** button to navigate to the location of the firmware file located on the local PC.

Click the **Upgrade** button to initiate the firmware upgrade.

Firmware Backup to HTTP

This window is used to initiate a firmware backup to a local PC using HTTP.

To view the following window, click **Tools > Firmware Upgrade & Backup > Firmware Backup to HTTP**, as shown below:

Figure 15-3 Firmware Backup to HTTP window

The fields that can be configured are described below:

Parameter	Description
Source	Select the source image to use for the firmware backup.

Click the **Backup** button to initiate the firmware backup.

Configuration Restore & Backup

Configuration Restore from HTTP

This window is used to initiate a configuration restore from a local PC using HTTP.

NOTE: If the switch is in HTTPS mode, the firmware or configuration cannot be upgraded using regular HTTP.

To view the following window, click **Tools > Configuration Restore & Backup > Configuration Restore from HTTP**, as shown below:

Figure 15-4 Configuration Restore from HTTP window

The fields that can be configured are described below:

Parameter	Description
Source File	Enter the source filename and path of the configuration file located on the local PC. Alternatively click the **Browse** button to navigate to the location of the configuration file located on the local PC.

Click the **Restore** button to initiate the configuration restore.

Click **Effective immediately (running-config)** to have the uploaded configuration loaded immediately.

Click **Take effect after the next boot (startup-config)** to load the configuration after the switch has been rebooted.

Configuration Backup to HTTP

This window is used to initiate a configuration file backup to a local PC using HTTP.

To view the following window, click **Tools > Configuration Restore & Backup > Configuration Backup to HTTP**, as shown below:

Figure 15-5 Configuration Backup to HTTP window

Select **Include username password** to save the switch user accounts and passwords to the backup file.

Select **Exclude username password** to save the switch user accounts and passwords to the backup file.

Click the **Backup** button to initiate the configuration file backup.

Reset

This window is used to reset the switch's configuration to the factory default settings.

To view the following window, click **Tools > Reset**, as shown below:

Figure 15-6 Reset window

Select the **The Switch will be reset to its factory defaults including IP address and stacking information, and the will save, reboot** option to reset the switch's configuration to its factory default settings.

Select the **The Switch will be reset to its factory default except IP address, and then will save, reboot** option to reset the switch's configuration to its factory default settings. This option will exclude the IP address from being changed.

Select the **The Switch will be reset to its factory defaults including IP address** option to reset the switch's configuration to its factory default settings.

Click the **Apply** button to initiate the factory default reset and reboot the switch.

> **NOTE:** Performing a factory reset in one version of the interface (Standard Mode or Surveillance Mode) will cause settings to be reset in the other version of the interface.

Reboot System

This window is used to reboot the switch and alternatively save the configuration before doing so. To view the following window, click **Tools > Reboot System**, as shown below:

Figure 15-7 Reboot System window

When rebooting the switch, any configuration changes that was made during this session, will be lost unless the **Yes** option is selected when asked to save the settings.

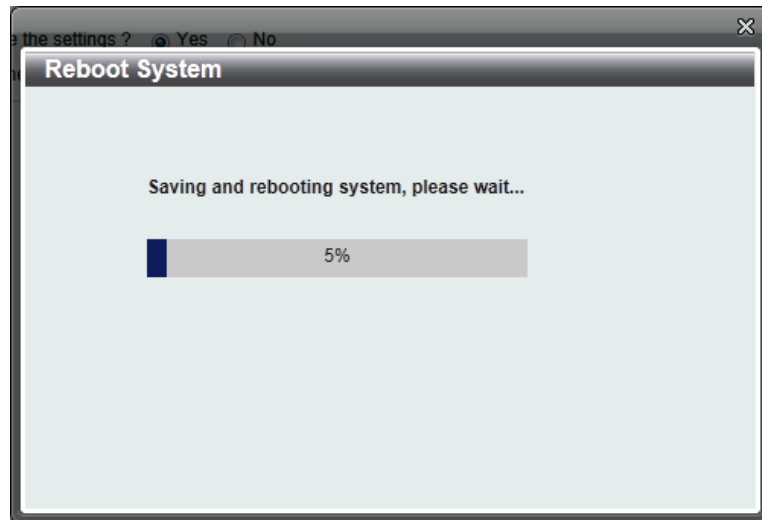Click the **Reboot** button to alternatively save the settings and reboot the switch.

Figure 15-8 Reboot System - Rebooting window

16. Appendix A - Ethernet Technology

This chapter will describe the features of the D-Link DGS-1100 MP/MPP Series switch and provide some background information about Ethernet/Fast Ethernet/Gigabit Ethernet switching technology.

Gigabit Ethernet Technology

Gigabit Ethernet is an extension of IEEE 802.3 Ethernet utilizing the same packet structure, format, and support for CSMA/CD protocol, full duplex, and management objects, but with a tenfold increase in theoretical throughput of over 100-Mbps Fast Ethernet and a hundredfold increase over 10-Mbps Ethernet. Since it is compatible with all 10-Mbps and 100-Mbps Ethernet environments, Gigabit Ethernet provides a straightforward upgrade without wasting existing investments in hardware, software, or trained personnel.

The increased speed and extra bandwidth offered by Gigabit Ethernet is essential to help solving network bottlenecks that frequently develop as more advanced computer users and newer applications continue to demand greater network resources. Upgrading key components, such as backbone connections and servers to Gigabit Ethernet technology can greatly improve network response times as well as significantly speed up the traffic between subnets.

Gigabit Ethernet enables fast optical fiber connections to support video conferencing, complex imaging, and similar data-intensive applications. Likewise, since data transfers occur 10 times faster than Fast Ethernet, servers outfitted with Gigabit Ethernet NIC's are able to perform 10 times the number of operations in the same amount of time.

In addition, the phenomenal bandwidth delivered by Gigabit Ethernet is the most cost-effective method to take advantage of today and tomorrow's rapidly improving switching and routing internetworking technologies. And with expected advances in the coming years in silicon technology and digital signal processing that will enable Gigabit Ethernet to eventually operate over unshielded twisted-pair (UTP) cabling, outfitting your network with a powerful 1000-Mbps-capable backbone/server connection which will create a flexible foundation for the next generation of network technology products.

Fast Ethernet Technology

The growing importance of LANs and the increasing complexity of desktop computing applications are fueling the need for high performance networks. A number of high-speed LAN technologies have been proposed to provide greater bandwidth and improve client/server response times. Among them, 100BASE-T (Fast Ethernet) provides a non-disruptive, smooth evolution from the current 10BASE-T technology. The non-disruptive and smooth evolution nature, and the dominating potential market base, virtually guarantees cost-effective and high performance Fast Ethernet solutions.

100Mbps Fast Ethernet is a standard specified by the IEEE 802.3 LAN committee. It is an extension of the 10Mbps Ethernet standard with the ability to transmit and receive data at 100Mbps, while maintaining the CSMA/CD Ethernet protocol. Since the 100Mbps Fast Ethernet is compatible with all other 10Mbps Ethernet environments, it provides a straightforward upgrade and utilizes existing investments in hardware, software, and personnel training.

Switching Technology

Another approach to push beyond the limits of Ethernet technology is the development of switching technology. A switch bridges Ethernet packets at the MAC address level of the Ethernet protocol transmitting among connected Ethernet or Fast Ethernet LAN segments.

Switching is a cost-effective way of increasing the total network capacity available to users on a local area network. A switch increases capacity and decreases network loading by dividing a local area

network into different segments which won't compete with each other for network transmission capacity.

The switch acts as a high-speed selective bridge between the individual segments. The switch, without interfering with any other segments, automatically forwards traffic that needs to go from one segment to another. By doing this the total network capacity is multiplied, while still maintaining the same network cabling and adapter cards.

17. Appendix B - Technical Specifications

Hardware Specifications

Key Components / Performance

- Switching Capacity:
  - DGS-1100-10MP: 20Gbps
  - DGS-1100-10MPP: 20Gbps
  - DGS-1100-26MP: 52Gbps
  - DGS-1100-26MPP: 52Gbps
- Max. Forwarding Rate:
  - DGS-1100-10MP: 14.88Mpps
  - DGS-1100-10MPP: 14.88Mpps
  - DGS-1100-26MP: 38.69Gbps
  - DGS-1100-26MPP: 38.69Gbps
- Forwarding Mode: Store and Forward
- Packet Buffer memory:
  - DGS-1100-10MP: 1.5Mbytes
  - DGS-1100-10MPP: 1.5Mbytes
  - DGS-1100-26MP: 1.5Mbytes
  - DGS-1100-26MPP: 1.5Mbytes
- Flash Memory: 16M Byte

Port Functions

- 10/100/1000BaseTX ports compliant with the following standards:
  - IEEE 802.3
  - IEEE 802.3u
  - IEEE 802.3ab
  - IEEE 802.3at
  - IEEE 802.3af
  - IEEE 802.3bt (DGS-1100 MPP Series only)
  - Supports Full/half-Duplex operations at 10/100Mbps
  - Supports Full-Duplex operation at 1000Mbps
  - Supports IEEE 802.3x Flow Control
  - Support Auto-Negotiation
  - Compliant to IEEE 802.3az Energy Efficiency Ethernet.
- SFP ports compliant with the following standards:
  - IEEE 802.3z compliance

Physical & Environment

- Power input: 100~240 VAC, 50/60Hz, internal universal power supply
- Acoustic Value:
  - DGS-1100-10MP: 45.4dB
  - DGS-1100-10MPP: 53dB
  - DGS-1100-26MP: 56dB
  - DGS-1100-26MPP: 56dB
- Operation Temperature: -5-50°C
- Storage Temperature: -40-70°C
- Operation Humidity: 0% ~ 95% RH
- Storage Humidity: 0% ~ 95% RH

Emission (EMI) Certifications

- FCC class A
- CE Class A
- VCCI Class A
- BSMI
- CCC

Safety Certifications

- CUL, LVD, CB, CCC, BSMI

Features

L2 Features

- 16K MAC address
- Loopback Detection
- Port Mirroring
- Link Aggregation
- Cable Diagnostics
- Spanning Tree
- Ethernet Ring Protection Switching (ERPS)

L2 Multicasting

- IGMP Snooping

VLAN

- 802.1Q VLAN standard
- Port-Based VLAN
- Surveillance VLAN
- Voice VLAN

➢ Asymmetric VLAN

Quality of Service (QoS)

➢ 802.1p priority
➢ 4 queues
➢ Bandwidth Control

Security

➢ Storm Control
➢ DoS Attack Prevention
➢ SSL
➢ D-Link Safeguard
➢ DHCP Snooping

Management

➢ Web-based GUI or D-Link Network Assistant
➢ Configuration backup / restoration via Web-based management
➢ Firmware backup & upgrade via Web-based management
➢ Reset, Reboot system
➢ Factory reset by pressing reset button
➢ SNMP, LLDP, Dual Image, 2 level user account, SNTP

Power Saving

➢ IEEE 802.3az Compliant (Energy Efficient Ethernet)
➢ D-Link Green Technologies

  - Power saving by link status

  - Power Saving by LED Shut-Off

  - Power Saving by Port Shut-Off

  - Power Saving by System Hibernation

Surge Protection

➢ All PoE ports support 6 KV surge protection

18. Appendix C – Rack mount Instructions

Safety Instructions - Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions:

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)