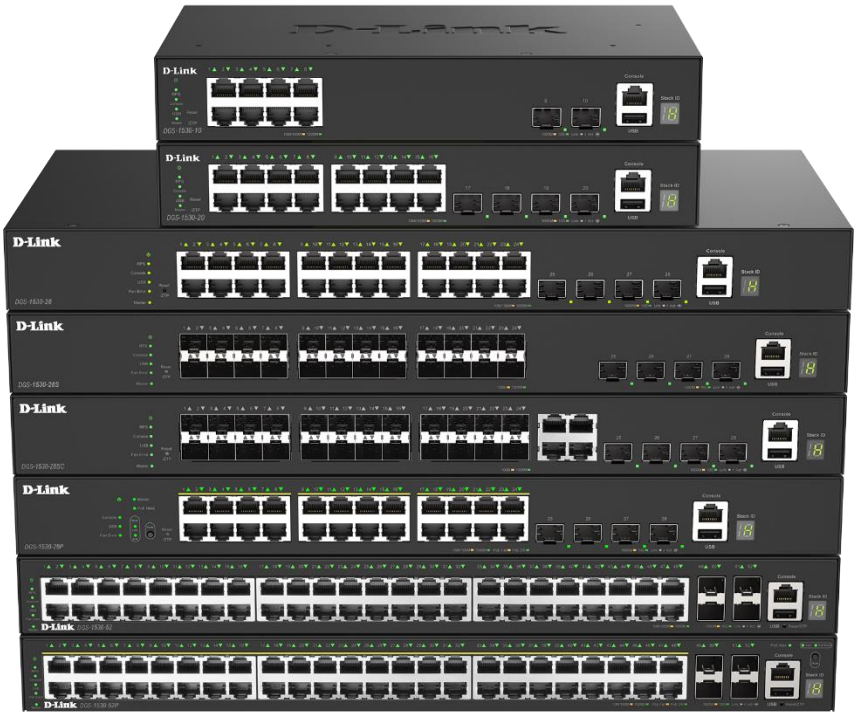
Version 1.00 | 2024/10/08



Hardware Installation Guide

Smart Managed Switch

DGS-1530 Series

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FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CE Mark Warning

This equipment is compliant with Class A of CISPR 32. In a residential environment, this equipment may cause radio interference.

Avertissement Concernant la Marque CE

Cet équipement est conforme à la classe A de la norme CISPR 32. Dans un environnement résidentiel, cet équipement peut provoquer des interférences radio.

VCCI Warning

この装置は、クラス A 機器です。この装置を住宅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。 VCCI-A

BSMI Notice

警告: 為避免電磁干擾，本產品不應安裝或使用於住宅環境。

Safety Compliance

Warning: Class 1 Laser Product: When using a fiber optic media expansion module, never look at the transmit laser while it is powered on. In addition, never look directly at the fiber TX port and fiber cable ends when they are powered on.

Avertissement: Produit Laser de Classe 1: Ne regardez jamais le laser tant qu'il est sous tension. Ne regardez jamais directement le port TX (Transmission) à fibres optiques et les embouts de câbles à fibres optiques tant qu'ils sont sous tension.

Table of Contents

Intended Readers

This guide provides comprehensive information regarding the hardware specifications of the switches in this series. It offers concise instructions on configuring and managing switches within this series. This manual is designed for advanced-level users who possess familiarity with network management concepts and terminology. For practical purposes, all switches within this series will be consistently referred to as the "Switch" throughout this manual.

Typographical Conventions

Convention	Description
Boldface Font	This convention is used to emphasize keywords. It also denotes a button, toolbar icon, menu, or menu items. For example, click the **Apply** button.
Initial capital letter	This convention is used to indicate a window name or keyboard key. For example, press the Enter key.
`Blue Courier Font`	This convention is used to represent a CLI example.

Notes and Cautions

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

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

ATTENTION : Une précaution indique un risque de dommage matériel, de blessure corporelle ou de mort.

1. Introduction

Switch Description

Introducing the DGS-1530 series, D-Link's latest evolution of Smart Managed switches. This series offers an extensive range of port types and speeds, facilitating seamless interconnection among diverse networking devices for effective communication. Leveraging SFP/SFP+ ports with fiber-optic cabling, these switches enable high-performing uplink connections, bridging considerable distances.

Moreover, the DGS-1530 series incorporates D-Link's forward-thinking third-generation Green Ethernet technology (IEEE 802.3az). This innovation conserves power by deactivating LEDs according to a personalized schedule for inactive links and by allowing ports to autonomously enter a hibernated state. This intelligent approach ensures efficiency and sustainability.

Switch Series

The following switches are part of the **DGS-1530 series**:

Model Name	Description
DGS-1530-10	8 Ports GE + 2 Ports 10G SFP+ Smart Managed Switch
DGS-1530-20	16 Ports GE + 4 Ports 10G SFP+ Smart Managed Switch
DGS-1530-28	24 Ports GE + 4 Ports 10G SFP+ Smart Managed Switch
DGS-1530-28P	24 Ports GE PoE (30W) + 4 Ports 10G SFP+ Smart Managed Switch, 370W
DGS-1530-28S	24 Ports SFP + 4 Ports 10G SFP+ Smart Managed Switch
DGS-1530-28SC	20 Ports SFP + 4 Ports GE Combo + 4 Ports 10G SFP+ Smart Managed Switch
DGS-1530-52	48 Ports GE + 4 Ports 10G SFP+ Smart Managed Switch
DGS-1530-52P	48 Ports GE PoE (30W) + 4 Ports 10G SFP+ Smart Managed Switch, 370W

Package Contents

Open the shipping carton of the Switch and carefully unpack its contents. The carton should contain the following items:

- One DGS-1530 series switch
- One AC power cord
- One AC power cord retainer set
- One RJ45 to RS-232 console cable
- Four rubber feet with adhesive backing
- One mounting kit (two brackets and screws)
- One Quick Installation Guide

NOTE: If any item is missing or damaged, please contact your local D-Link reseller for replacement.

2. Hardware Components

Front Panel Components

This following table lists the front panel components on **all** the switches in the series:

Port	Description	
Reset/ZTP	The Reset button can be used to (1) reboot the switch, (2) start the ZTP function, or (3) reset the switch to its factory default settings depending on how long this button is pressed. Zero-Touch Provisioning (ZTP) is an automated network deployment and configuration process that eliminates manual intervention by allowing devices to be discovered, provisioned, and configured automatically upon connection to the network.	
	Push Time	**Description**
	< 5 sec	The Switch reboots after the button is released.
	5 to 10 sec	All green LEDs on the ports remain continuously lit before the button is released. Once the button is released, the LEDs change to a blinking state, initiating the ZTP function, and then the device reboots.
	> 10 sec	All amber LEDs on the ports stay continuously lit before the button is released. After the button is released, the Switch will reboot and reset the system to its factory defaults.
USB Port	The USB port provides additional storage space for firmware images and configuration files that can be copied to and from the Switch. Only endpoint devices like USB flash drives are supported.	
Console Port	The console port can be used to connect to the CLI of the Switch. This Out-Of-Band (OOB) connection can be made from the serial port of an administrative node to the RJ45 console port on the front panel of the Switch. The console cable (included in the package) must be used for the connection.	
Mode Button *(DGS-1530-28P only)* *(DGS-1530-52P only)*	The mode button is used to change the display mode for the port LED indicators. The two modes are (1) **Link/Act/Speed Mode** or (2) **PoE Mode**.	

Figure 2-1 DGS-1530-10 Front Panel

This following table lists the front panel components of the **DGS-1530-10**:

Port Type	Port Number	Description
RJ45 Ports *(10/100/1000 Mbps)*	*Ports 1 to 8*	This switch is equipped with **8** RJ45 Ethernet ports that can operate at 10/100/1000 Mbps.
SFP+ Ports *(1/10 Gbps)*	*Ports 9 to 10*	This switch is equipped with **2** SFP+ Ethernet ports that can operate at 1/10 Gbps.

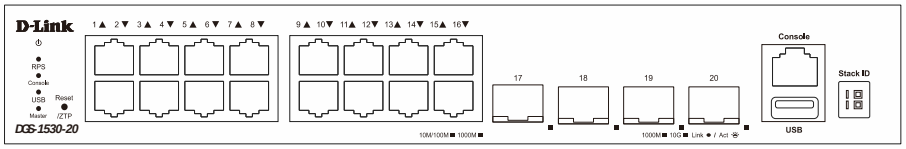

Figure 2-2 DGS-1530-20 Front Panel

This following table lists the front panel components of the **DGS-1530-20**:

Port Type	Port Number	Description
RJ45 Ports *(10/100/1000 Mbps)*	*Ports 1 to 16*	This switch is equipped with **16** RJ45 Ethernet ports that can operate at 10/100/1000 Mbps.
SFP+ Ports *(1/10 Gbps)*	*Ports 17 to 20*	This switch is equipped with **4** SFP+ Ethernet ports that can operate at 1/10 Gbps.

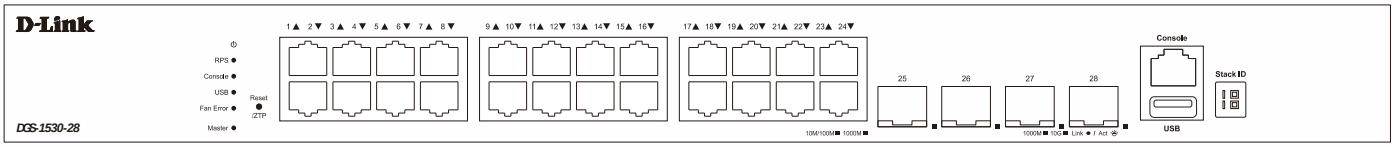

Figure 2-3 DGS-1530-28 Front Panel

This following table lists the front panel components of the **DGS-1530-28**:

Port Type	Port Number	Description
RJ45 Ports *(10/100/1000 Mbps)*	*Ports 1 to 24*	This switch is equipped with **24** RJ45 Ethernet ports that can operate at 10/100/1000 Mbps.
SFP+ Ports *(1/10 Gbps)*	*Ports 25 to 28*	This switch is equipped with **4** SFP+ Ethernet ports that can operate at 1/10 Gbps.

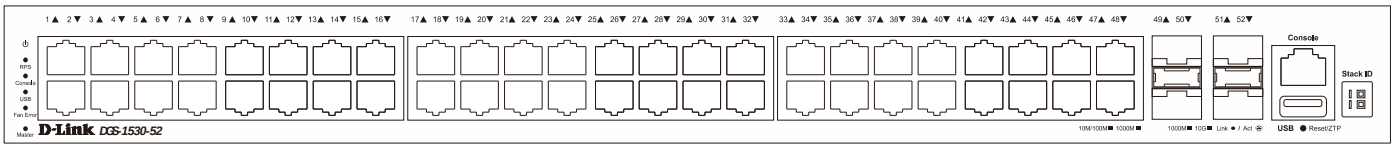

Figure 2-4 DGS-1530-52 Front Panel

This following table lists the front panel components of the **DGS-1530-52**:

Port Type	Port Number	Description
RJ45 Ports *(10/100/1000 Mbps)*	*Ports 1 to 48*	This switch is equipped with **48** RJ45 Ethernet ports that can operate at 10/100/1000 Mbps.
SFP+ Ports *(1/10 Gbps)*	*Ports 49 to 52*	This switch is equipped with **4** SFP+ Ethernet ports that can operate at 1/10 Gbps.

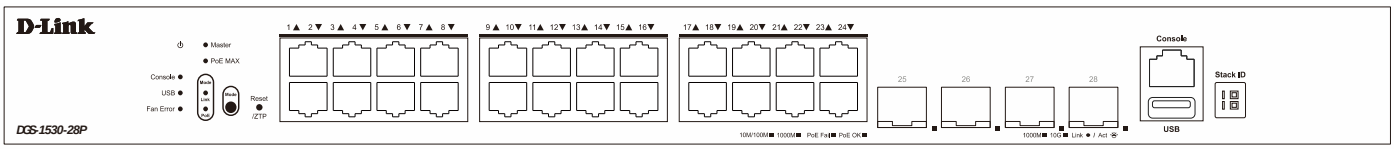

Figure 2-5 DGS-1530-28P Front Panel

This following table lists the front panel components of the **DGS-1530-28P**:

Port Type	Port Number	Description
RJ45 Ports *(10/100/1000 Mbps)*	*Ports 1 to 24*	This switch is equipped with **24** RJ45 PoE ports that can operate at 10/100/1000 Mbps.

Port Type	Port Number	Description
SFP+ Ports *(1/10 Gbps)*	*Ports 25 to 28*	This switch is equipped with **4** SFP+ Ethernet ports that can operate at 1/10 Gbps.

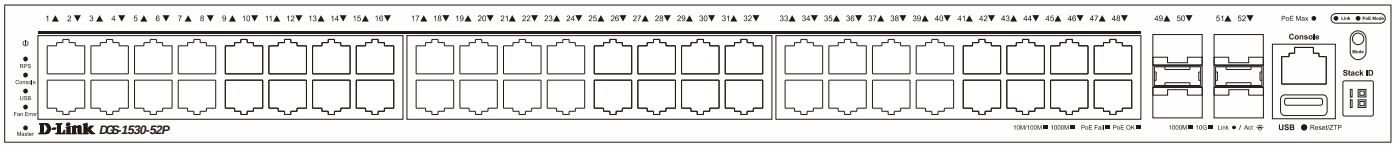

Figure 2-6 DGS-1530-52P Front Panel

This following table lists the front panel components of the **DGS-1530-52P**:

Port Type	Port Number	Description
RJ45 Ports *(10/100/1000 Mbps)*	*Ports 1 to 48*	This switch is equipped with **48** RJ45 PoE ports that can operate at 10/100/1000 Mbps.
SFP+ Ports *(1/10 Gbps)*	*Ports 49 to 52*	This switch is equipped with **4** SFP+ Ethernet ports that can operate at 1/10 Gbps.

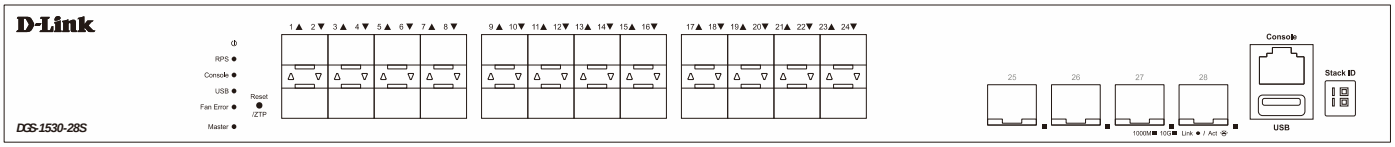

Figure 2-7 DGS-1530-28S Front Panel

This following table lists the front panel components of the **DGS-1530-28S**:

Port Type	Port Number	Description
SFP Ports *(100/1000 Mbps)*	*Ports 1 to 24*	This switch is equipped with **24** SFP Ethernet ports that can operate at 100/1000 Mbps.
SFP+ Ports *(1/10 Gbps)*	*Ports 25 to 28*	This switch is equipped with **4** SFP+ Ethernet ports that can operate at 1/10 Gbps.

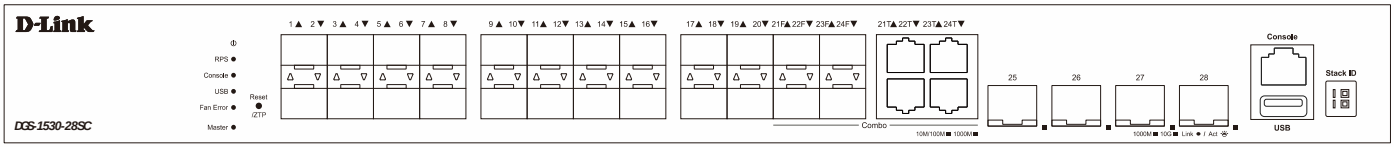

Figure 2-8 DGS-1530-28SC Front Panel

This following table lists the front panel components of the **DGS-1530-28SC**:

Port Type	Port Number	Description
SFP Ports *(100/1000 Mbps)*	*Ports 1 to 20*	This switch is equipped with **20** SFP Ethernet ports that can operate at 100/1000 Mbps.
Combo RJ45/SFP Ports *(10/100/1000 Mbps - RJ45)* *(100/1000 Mbps - SFP)*	*Ports 21 to 24*	This switch is equipped with **4** combo RJ45/SFP Ethernet ports. The RJ45 port can operate at 10/100/1000Mbps and the SFP port can operate at 100/1000Mbps. The RJ45 port and the SFP port cannot be used simultaneously for network connectivity.
SFP+ Ports *(1/10 Gbps)*	*Ports 25 to 28*	This switch is equipped with **4** SFP+ Ethernet ports that can operate at 1/10 Gbps.

Front Panel LED Indicators

The LED indicators provide valuable information in a variety of ways like their color, blinking times, and location.

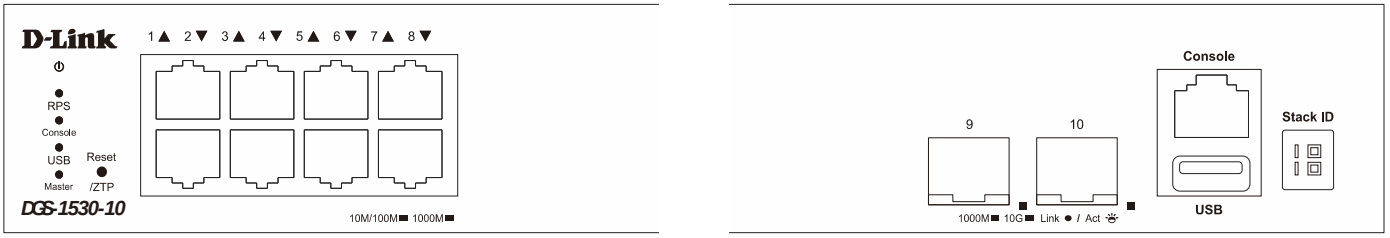

Figure 2-9 DGS-1530-10 Front Panel (LED Indicators)

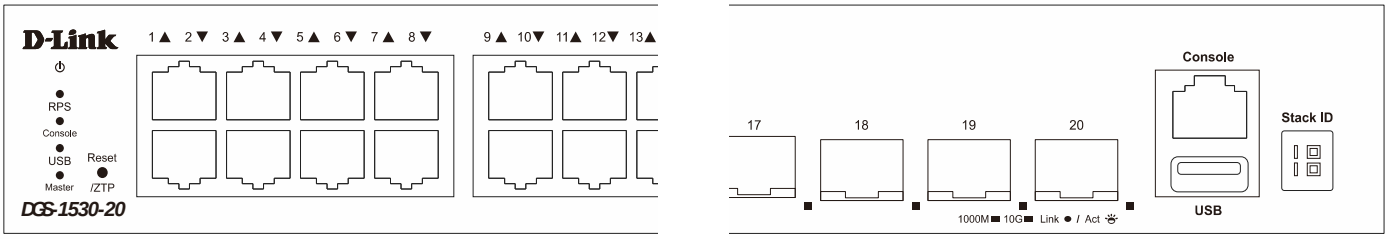

Figure 2-10 DGS-1530-20 Front Panel (LED Indicators)

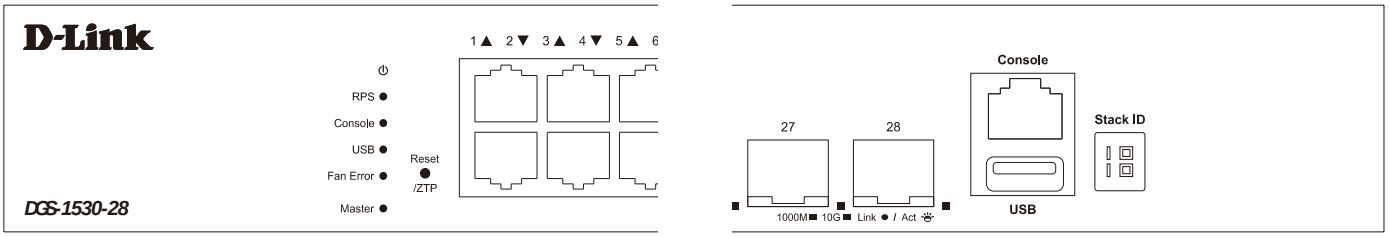

Figure 2-11 DGS-1530-28 Front Panel (LED Indicators)

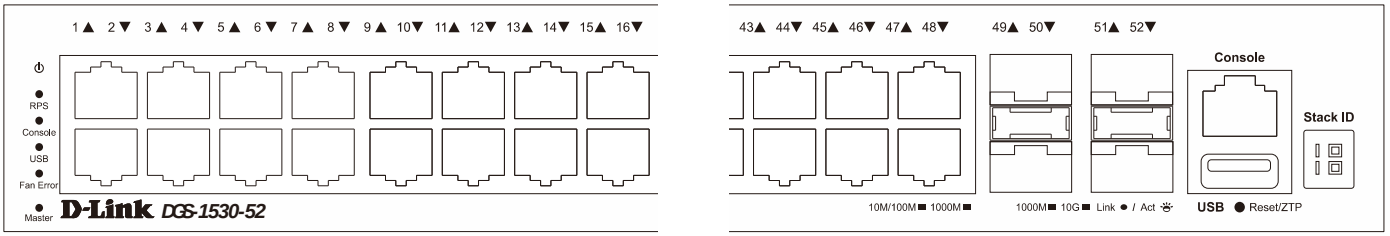

Figure 2-12 DGS-1530-52 Front Panel (LED Indicators)

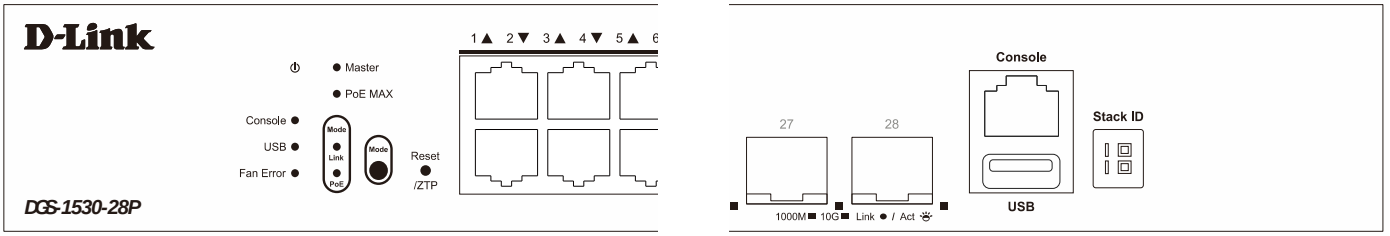

Figure 2-13 DGS-1530-28P Front Panel (LED Indicators)

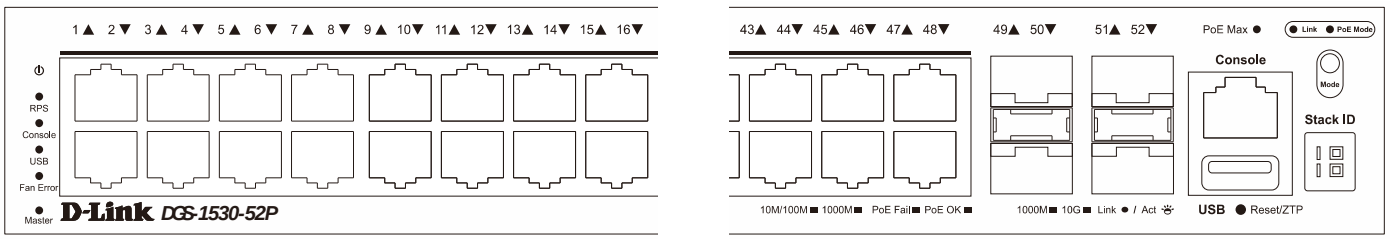

Figure 2-14 DGS-1530-52P Front Panel (LED Indicators)

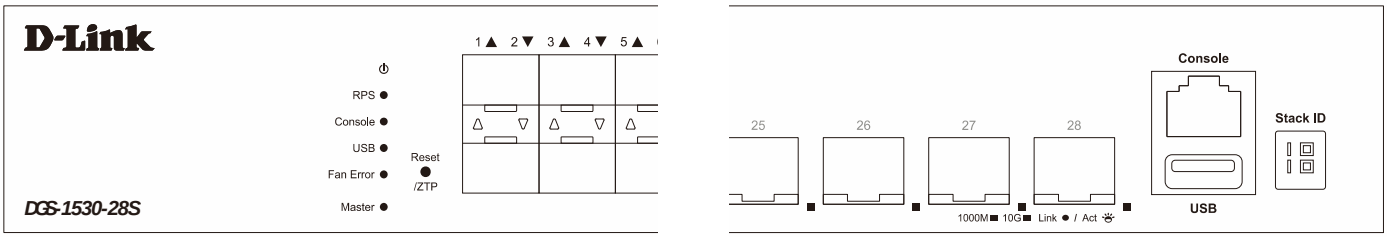

Figure 2-15 DGS-1530-28S Front Panel (LED Indicators)

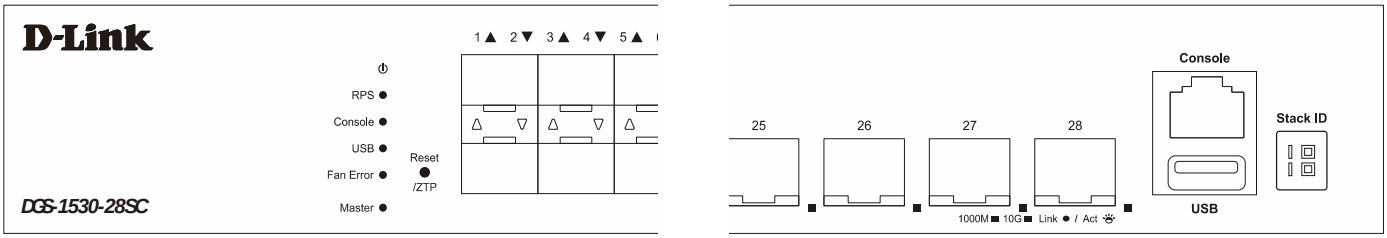

Figure 2-16 DGS-1530-28SC Front Panel (LED Indicators)

The LED indicators, **per device**, are described in the following table:

LED	Color	Status	Description
Power	Green	On (Solid)	Power on
	-	Off	Power off
RPS	Green	On (Solid)	RPS in use
	-	Off	RPS off
Console	Green	On (Solid)	Console active
	-	Off	Console off
USB	Green	On (Solid)	USB disk is connected
		On (Blinking)	USB data in transmission
	-	Off	No USB device is connected
Fan Error	Green	On (Solid)	Fan is operating normally
	Red	On (Solid)	One or more fans have failed
Master	Green	On (Solid)	Stack master (when physical stacking is enabled)
	-	Off	Stack member (when physical stacking is enabled)
Stack ID	Green	This 7-segment LED can display numbers from 1 to 9 and the following letters: H, h, E, and G. The stacking ID (ranging from 1 to 9) can be assigned manually by the user or automatically by the system.	
		H - The Switch functions as the master Switch within the stack.	
		h - The Switch serves as the backup master Switch within the stack.	
		E - Displayed if an error is detected during the system's self-test.	
		G - Displayed when the Safeguard engine enters the exhausted mode.	

The LED indicators, **per device** (**DGS-1530-28P** and **DGS-1530-52P**), are described in the following table:

LED		Color	Status	Description
Mode	**Link**	Green	On (Solid)	Link/Act/Speed Mode with activity
	PoE	Green	On (Solid)	PoE Mode with power feed

LED	Color	Status	Description
PoE MAX	Amber	On (Solid)	Total power output exceeds the Guard Band threshold (PoE Budget – Guard Band). The PD will be denied based on port priority or other PoE rules.
		On (Blinking)	When the available PoE power exceeds the guard band power, the PoE MAX LED will blink for 5 seconds.
	-	Off	The PoE power is sufficient and below the guard band threshold.

The LED indicators, **per port**, are described in the following table:

LED	Color	Status	Description
Link/Act/Speed *(1GE RJ45 ports)*	Green	On (Solid)	Active 1 Gbps connection through the port
		On (Blinking)	Data transmitted and received through the port
	Amber	On (Solid)	Active 10/100 Mbps connection through the port
		On (Blinking)	Data transmitted and received through the port
	-	Off	Inactive connection, no link present, or port disabled
PoE Status *(DGS-1530-28P only)* *(DGS-1530-52P only)*	Green	On (Solid)	Powered devices inserted and successfully supplied with power by the PSE
	Amber	On (Solid)	Powered device inserted, but failure occurred due to PD error, overcurrent, or power budget shortage
	-	Off	PoE port is inactive or no PD is connected
Link/Act/Speed *(1GE SFP ports)*	Green	On (Solid)	Active 1 Gbps connection through the port
		On (Blinking)	Data transmitted and received through the port
	Amber	On (Solid)	Active 100 Mbps connection through the port
		On (Blinking)	Data transmitted and received through the port
	-	Off	Inactive connection, no link present, or port disabled
Link/Act/Speed *(10GE SFP+ ports)*	Green	On (Solid)	Active 10 Gbps connection through the port
		On (Blinking)	Data transmitted and received through the port
	Amber	On (Solid)	Active 1 Gbps connection through the port
		On (Blinking)	Data transmitted and received through the port
	-	Off	Inactive connection, no link present, or port disabled

The LED behavior during the **booting** or **rebooting** process is outlined as follows:

1. The Power LED will display a solid green light when the switch is powered on and will remain on until the system is ready.
2. All data port LEDs (including RJ45 and fiber ports) will briefly show solid green and amber lights simultaneously, then alternate between green and amber. The lights will then turn off until the system is ready.
3. The 7-segment LED display will light up all segments when the switch is powered on and will stay lit until the system is ready. All other LEDs will remain off.

Rear Panel Components

The rear panel features components like an AC power socket, a security lock, an electrical ground point, and more.

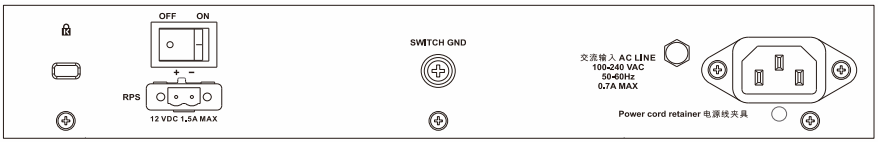

Figure 2-17 DGS-1530-10 Rear Panel

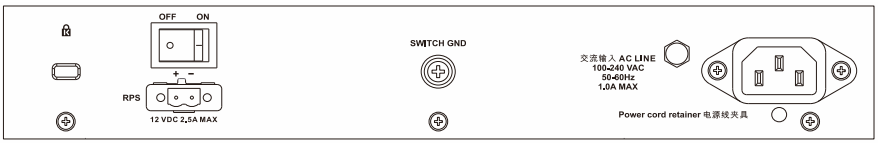

Figure 2-18 DGS-1530-20 Rear Panel

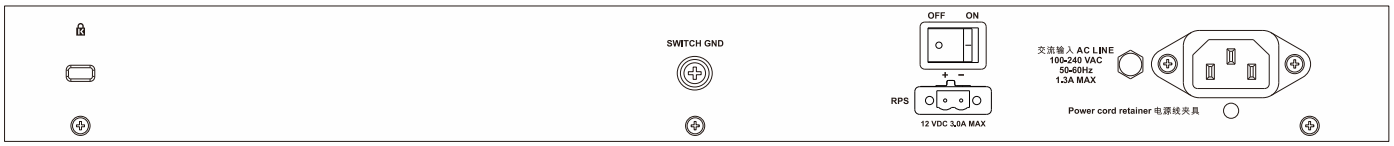

Figure 2-19 DGS-1530-28 Rear Panel

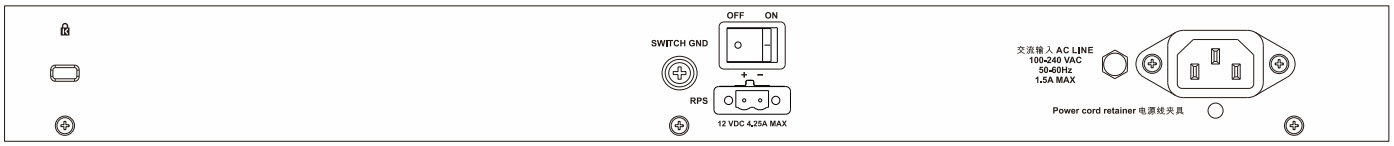

Figure 2-20 DGS-1530-52 Rear Panel

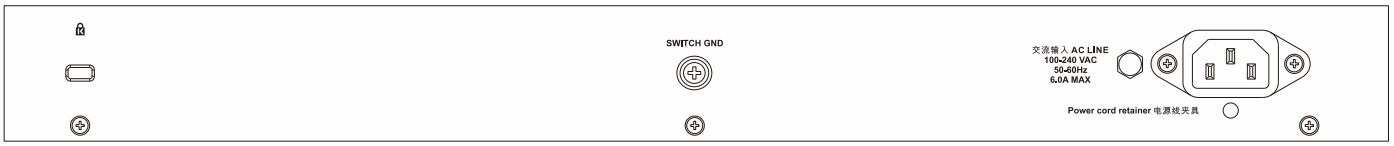

Figure 2-21 DGS-1530-28P Rear Panel

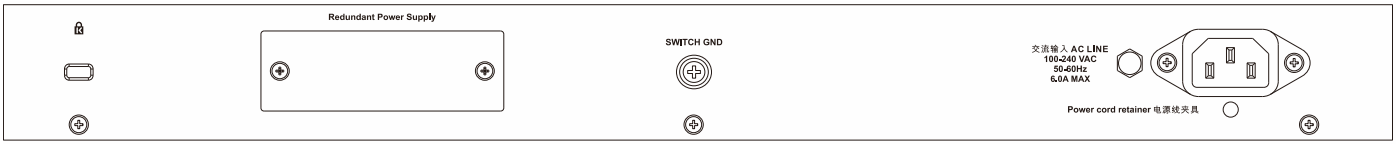

Figure 2-22 DGS-1530-52P Rear Panel

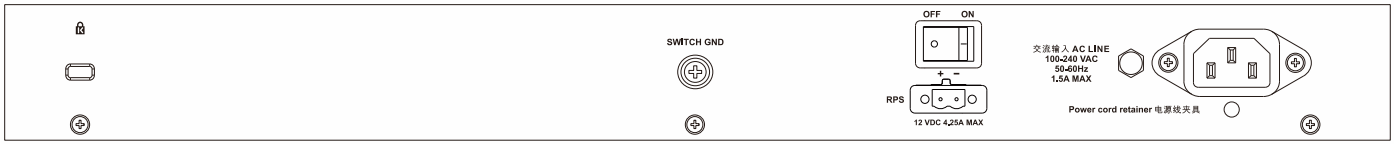

Figure 2-23 DGS-1530-28S Rear Panel

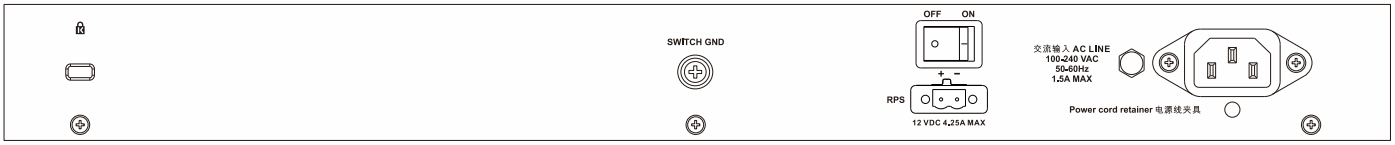

Figure 2-24 DGS-1530-28SC Rear Panel

This following table lists the rear panel components on the Switch:

Port	Description
Security Lock	The security lock, compatible with Kensington standards, enables connection of the Switch to a secure and immovable device. Insert the lock into the notch and turn the key to secure it. The lock-and-cable set should be acquired separately.
Redundant Power Supply	The RPS port can be utilized to connect an optional external load-sharing RPS to the Switch. In the event of internal power failure, the external RPS will promptly and automatically provide power to the Switch. The **DGS-1530-28P** does not have an RPS. The **DGS-1530-52P** does not have an RPS On/Off switch.
Switch GND	Utilize an electrical grounding wire to connect one end to the Switch GND and the other end to an electrical grounding point, typically located on the mounting rack of the Switch itself.
AC Power Connector	The AC power cord (included in the package) can be inserted into this receptacle to provide the Switch with 100-240 VAC power at 50-60 Hz.
Power Cord Retainer Hole	The power cord retainer hole is designed for inserting the power cord retainer, which secures the AC power cord in place.

Side Panel Components

The side panels feature components like rack-mounting screw holes, heat dissipating fans and vents.

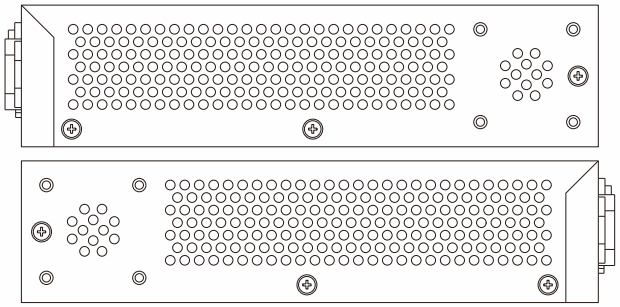

Figure 2-25 DGS-1530-10 Side Panels

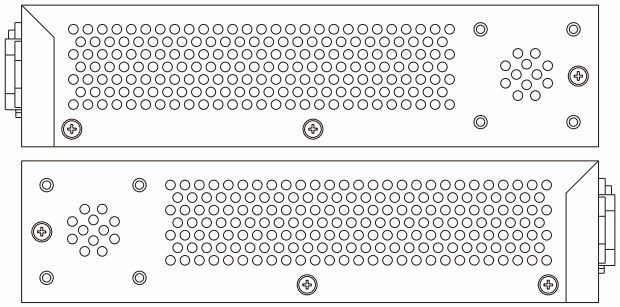

Figure 2-26 DGS-1530-20 Side Panels

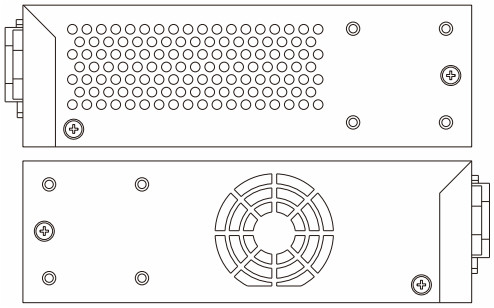

Figure 2-27 DGS-1530-28 Side Panels

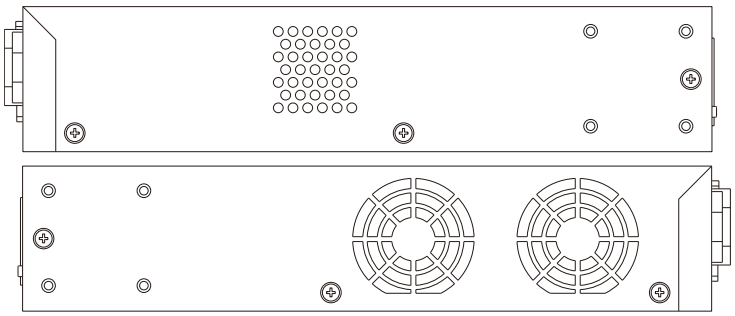

Figure 2-28 DGS-1530-52 Side Panels

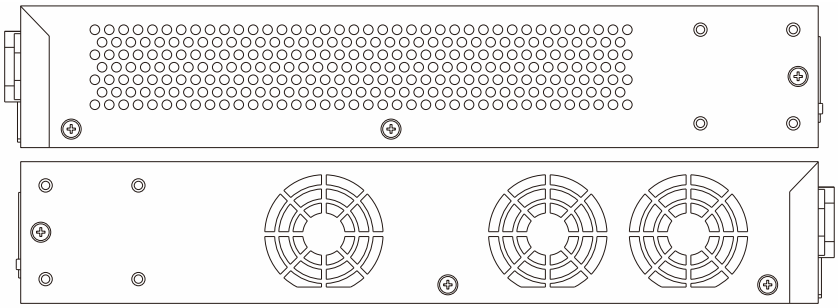

Figure 2-29 DGS-1530-28P Side Panels

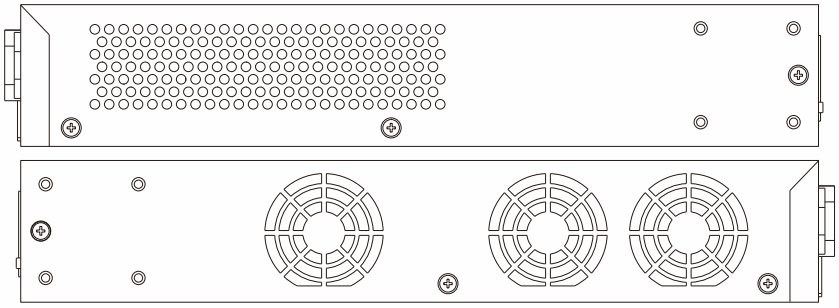

Figure 2-30 DGS-1530-52P Side Panels

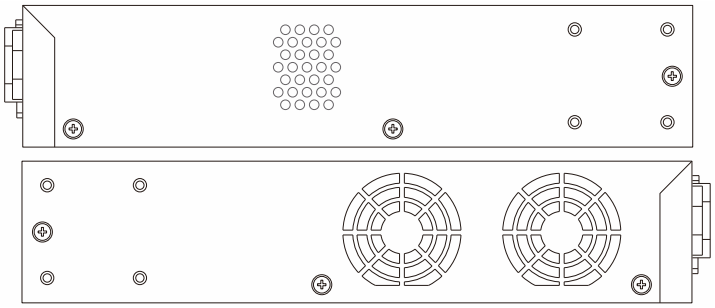

Figure 2-31 DGS-1530-28S Side Panels

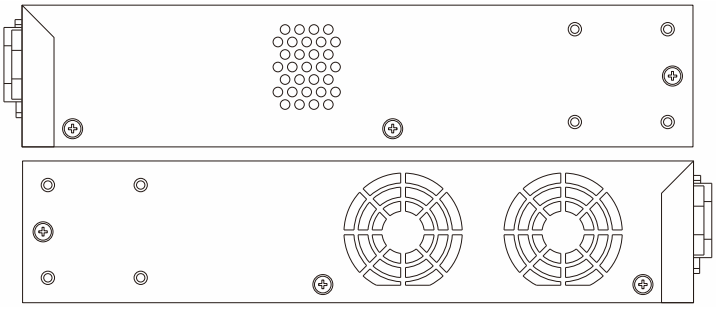

Figure 2-32 DGS-1530-28SC Side Panels

The fans are capable of automatically adjusting their speed based on the IC sensor's temperature readings. This feature is highly sensitive, enabling precise control of the internal temperature by accurately regulating the fan speed.

The following tables list at what ambient temperature the speed of the fan(s) will change:

Fan Mode	Fan Status	DGS-1530-28	DGS-1530-52
Normal Mode	**Ultra Low**	Below 17°C	Below 17°C
	Very Low	Above 20°C (Ultra Low to Very Low) Below 27°C (Low to Very Low)	Above 20°C (Ultra Low to Very Low) Below 27°C (Low to Very Low)
	Low	Above 30°C (Very Low to Low) Below 34°C (Medium to Low)	Above 30°C (Very Low to Low) Below 34°C (Medium to Low)
	Medium	Above 37°C (Low to Medium) Below 40°C (High to Medium)	Above 37°C (Low to Medium) Below 40°C (High to Medium)
	High	Above 43°C	Above 43°C
Quite Mode	**-**	Can only be enabled if below 30°C without DEM-410T. Returns to **Normal mode** when above 30°C or with DEM-410T.	

Fan Mode	Fan Status	DGS-1530-28P	DGS-1530-52P
Normal Mode	**Ultra Low**	Below 22°C	Below 22°C
	Very Low	Above 25°C (Ultra Low to Very Low) Below 27°C (Low to Very Low)	Above 25°C (Ultra Low to Very Low) Below 27°C (Low to Very Low)
	Low	Above 30°C (Very Low to Low) Below 33°C (Medium to Low)	Above 30°C (Very Low to Low) Below 33°C (Medium to Low)
	Medium	Above 36°C (Low to Medium) Below 40°C (High to Medium)	Above 37°C (Low to Medium) Below 40°C (High to Medium)
	High	Above 43°C	Above 44°C
Quite Mode	**-**	Can only be enabled if below 30°C without DEM-410T or PoE ≤ 120W. Returns to **Normal mode** when above 30°C, with DEM-410T, or PoE ≥ 120W.	

Fan Mode	Fan Status	DGS-1530-28S	DGS-1530-28SC
Normal Mode	**Ultra Low**	Below 17°C	Below 17°C
	Very Low	Above 20°C (Ultra Low to Very Low) Below 27°C (Low to Very Low)	Above 20°C (Ultra Low to Very Low) Below 27°C (Low to Very Low)
	Low	Above 30°C (Very Low to Low) Below 33°C (Medium to Low)	Above 30°C (Very Low to Low) Below 33°C (Medium to Low)
	Medium	Above 36°C (Low to Medium) Below 40°C (High to Medium)	Above 36°C (Low to Medium) Below 40°C (High to Medium)
	High	Above 43°C	Above 43°C
Quite Mode	**-**	Can only be enabled if below 30°C without DEM-410T. Returns to **Normal mode** when above 30°C or with DEM-410T.	

NOTE: The speed of the fans might also increase due to the addition of **DGS-712** modules or an increase of the **PoE Power Budget**.

3. Installation

Installation Guidelines

This section will cover the hardware installation guidelines that the user needs to adhere to for the correct and safe installation of this Switch in the suitable environment.

- Visually inspect the power cord to ensure it is securely connected to both the power connector on the Switch and the electrical outlet providing power.
- Position the Switch in a cool and dry location within the specified operating temperature and humidity ranges.
- Place the Switch in a location that is devoid of powerful electromagnetic field generators, such as motors, vibrations, dust, and direct sunlight exposure.

Installing the Switch without a Rack

This section provides guidance for users installing the Switch in a location outside of a Switch rack. Affix the provided rubber feet to the underside of the Switch. Please be aware that there are designated areas marked on the bottom of the Switch indicating where the rubber feet should be attached. These markings are typically located in each corner on the underside of the device. The rubber feet serve as cushions for the Switch, safeguarding the casing against scratches and preventing it from causing scratches on other surfaces.

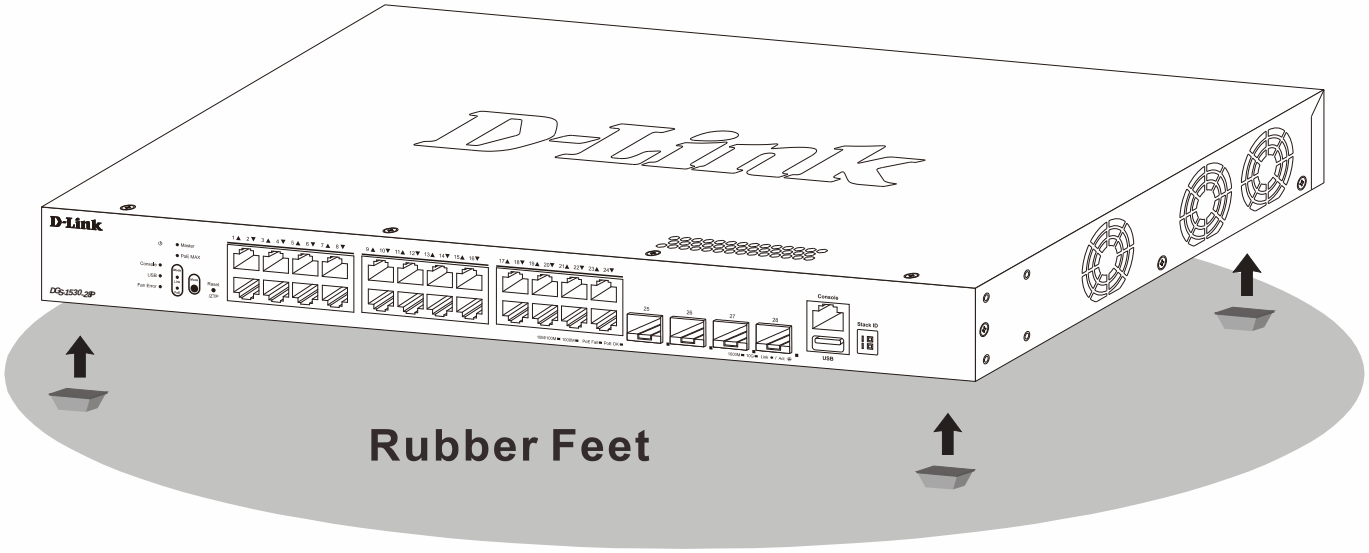

Figure 3-1 Attaching rubber feet to the Switch

Place the Switch on a stable, even surface capable of bearing its weight. Avoid putting heavy objects on the Switch. The power outlet should be located within 1.82 meters (6 feet) of the Switch. Ensure sufficient heat dissipation and proper ventilation around the Switch. Allow a minimum of 10 cm (4 inches) of clearance at the front, sides, and rear of the Switch for ventilation.

Installing the Switch in a Standard 19" Rack

This section is used to guide the user through installing the Switch into a Switch rack. The Switch can be mounted in a standard 19"(1U) rack using the **rack mounting kit** included in the package contents.

Fasten the mounting brackets to the sides of the Switch using the screws provided.

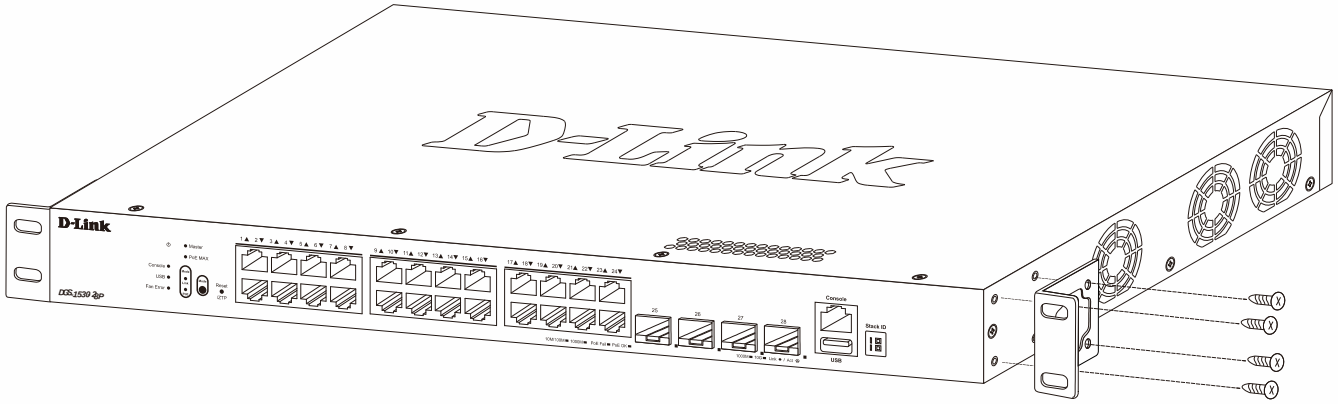

Figure 3-2 Attaching the rack-mounting brackets

Fasten the mounting brackets in any available open space in the rack using the screws provided.

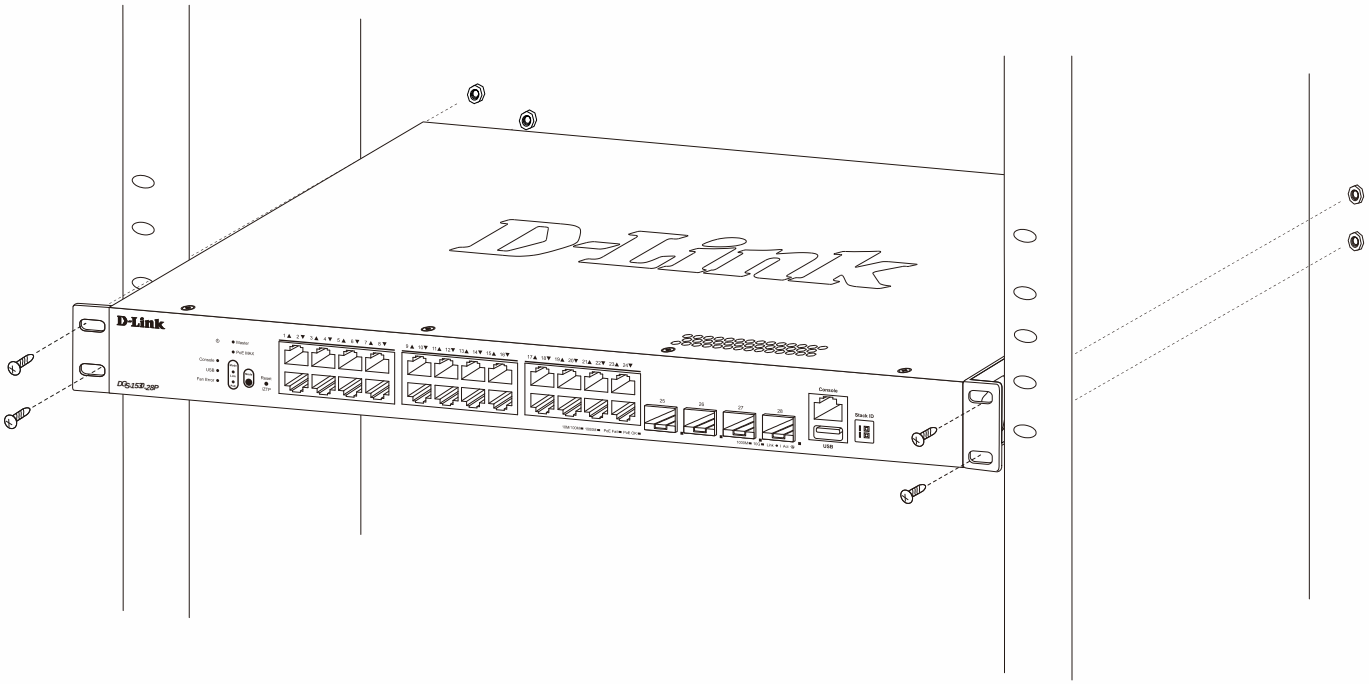

Figure 3-3 Installing the Switch in a Rack

Make sure that there is adequate space around the Switch to allow for proper airflow, ventilation, and cooling.

Installing Transceivers into the Transceiver Ports

The Switch is outfitted with SFP and SFP+ ports designed for linking different networking devices to this Switch, especially those incompatible with the standard RJ45 wiring connection. Typically, these ports establish connections between this Switch and optical fiber links, facilitating communication over considerable distances. While RJ45 wiring connections have a maximum reach of 100 meters, fiber optic connections can extend over several kilometers.

The figure below illustrates the procedure for inserting **SFP+ transceivers** into the **SFP+ ports**.

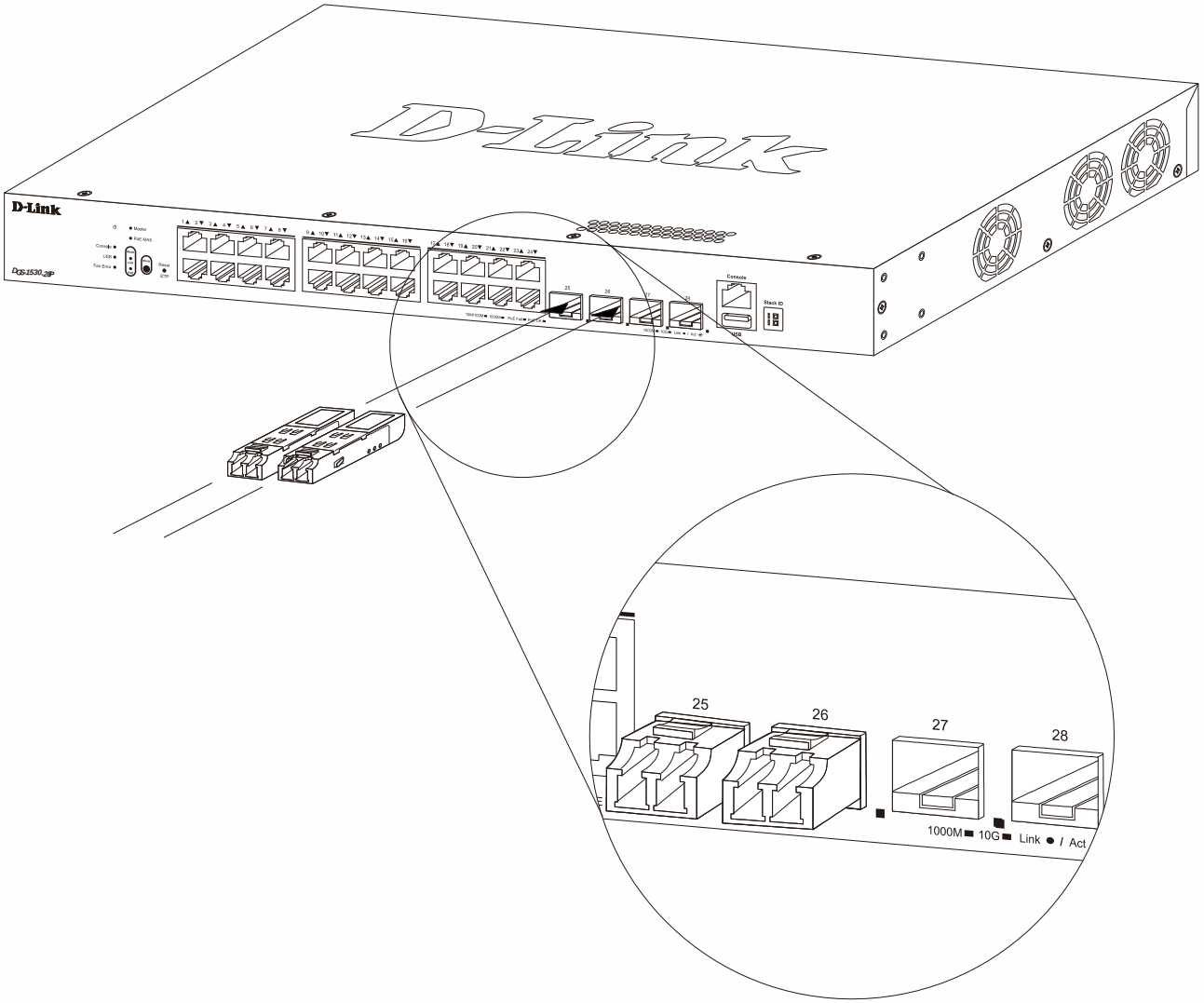

Figure 3-4 Inserting SFP+ transceivers into the SFP+ ports

NOTE: Only use pluggable optical modules and Direct-Attach Cables (DAC) that meet the following regulatory requirements:

- Class 1 Laser Product
- UL and/or CSA registered component for North America
- FCC 21 CFR Chapter 1, Sub-chapter J in accordance with FDA & CDRH requirements
- IEC/EN 60825-1/-2: 2007 2nd edition or later, European Standard

Connecting AC Power to the Switch

To connect AC power to the Switch, insert one end of the AC power cord into the Switch's AC power socket, and the other end into the local AC power source outlet. The Switch lacks a power switch/button; it will initiate powering on automatically.

Once the system is activated, the Power LED will flash green, signifying the boot-up process. In case of a power failure, as a precautionary measure, disconnect the power cord from the Switch. After power is restored, reconnect the power cord to the Switch's power socket.

Installing the AC Power Cord Retainer

To prevent accidental removal of the AC power cord, it is recommended to install the **AC Power Cord Retainer Set** together with the AC power cord. The AC Power Cord Retainer Set is included in the package contents.

With the rough side facing down, insert the tie wrap into the hole below the power socket.

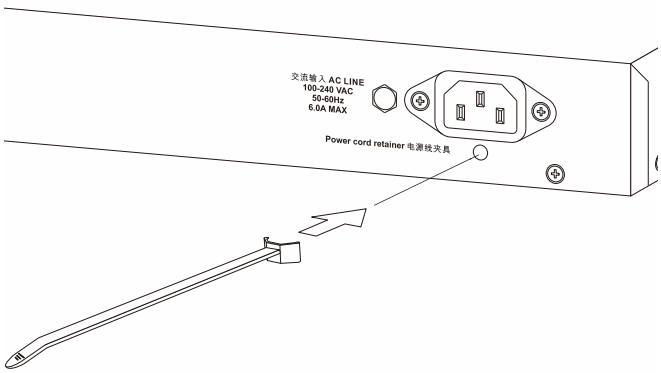

Figure 3-5 Insert Tie Wrap into the Switch

Plug the AC power cord into the power socket of the Switch.

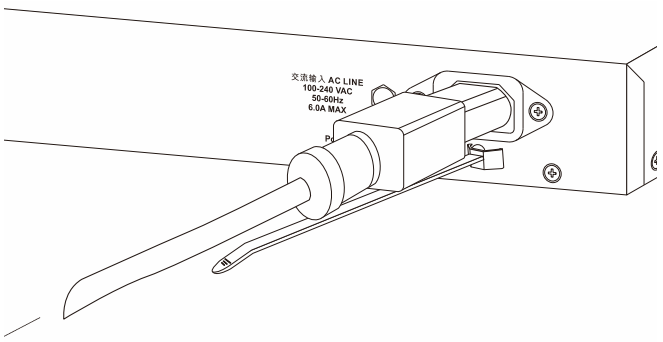

Figure 3-6 Connect the power cord to the Switch

Slide the retainer through the tie wrap until the end of the cord.

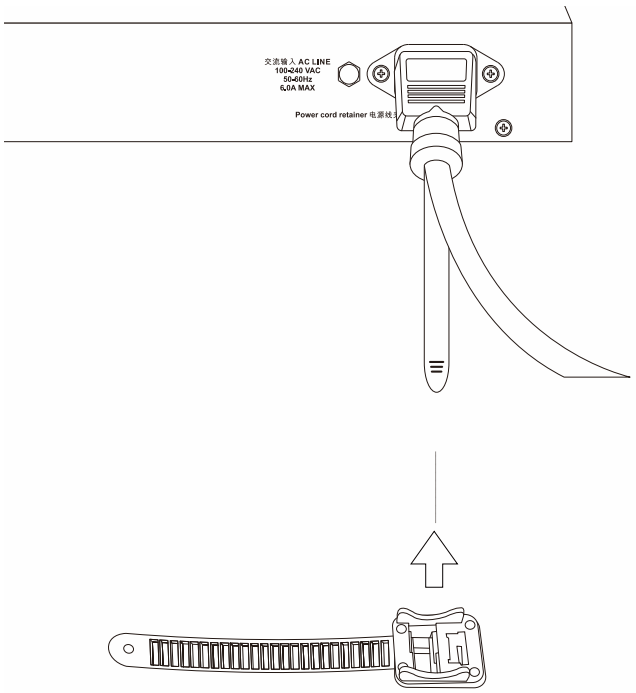

Figure 3-7 Slide the Retainer through the Tie Wrap

Circle the tie of the retainer around the power cord and into the locker of the retainer.

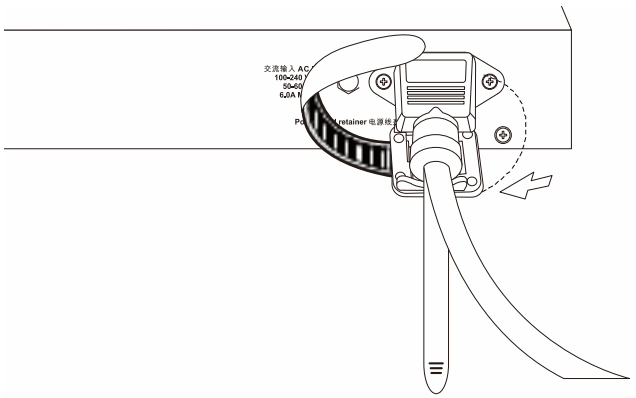

Figure 3-8 Circle around the power cord

Fasten the tie of the retainer until the power cord is secured.

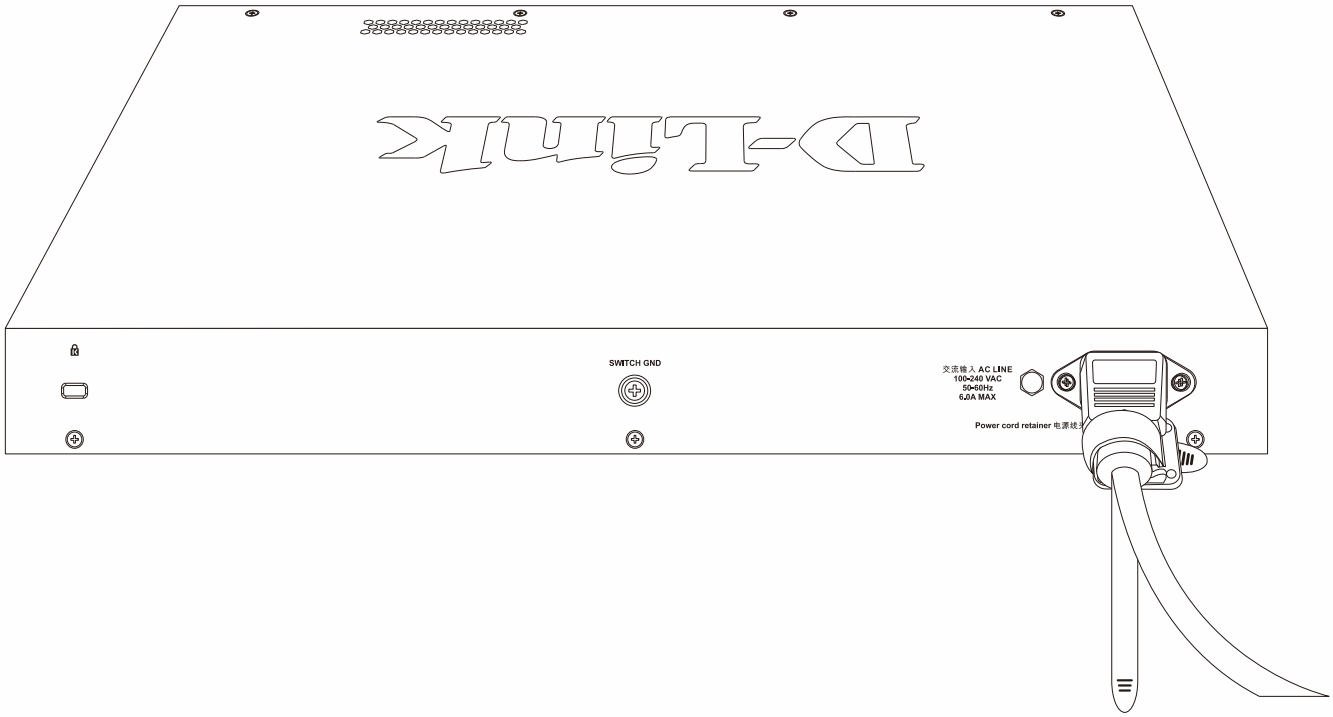

Figure 3-9 Secure the power cord

Installing the Redundant Power Supply (RPS)

Installing a Redundant Power Supply (RPS) is crucial to ensure the uninterrupted operation and reliability of network infrastructure, particularly Ethernet switches. RPS units offer a cost-effective and straightforward solution to mitigate the risk of internal power supply failures in switches. By continuously monitoring the switch's internal power supply, an RPS is immediately activated in the event of a power interruption, preventing the shutdown of the switch and connected devices. This backup power source not only safeguards against single points of failure but also contributes to a more reliable network by supporting seamless

- The **DPS-200A**, using the DPS-CB150-2PS cable, can be installed on the DGS-1530-10, DGS-1530-20, and DGS-1530-28 switches.
- The **DPS-500A**, using the DPS-CB150-2PS cable, can be installed on the DGS-1530-52, DGS-1530-28S, and DGS-1530-28SC switches.
- The **DPS-700** can be installed on the DGS-1530-52P switches.

CAUTION: Do not connect the RPS to AC power before the DC power cable is connected. This might damage the internal power supply.

ATTENTION: Ne branchez pas le RPS sur le courant alternatif avant que le câble d'alimentation en courant continu ne soit branché. Cela pourrait endommager l'alimentation électrique interne.

CAUTION: Leave at least 15 cm (6 inches) of space at the rear of the Switch when an RPS is installed to prevent cable damage.

ATTENTION: Laissez un espace d'au moins 15 cm (6 pouces) à l'arrière du commutateur lorsqu'un RPS est installé pour éviter d'endommager les câbles.

Connecting the DPS-200A/DPS-500A to the Switch

To establish a connection between the RPS and the Switch, start by disconnecting the AC power cord from the Switch's AC power port. Insert one end of the DC LINE cable into the RPS port on the rear panel of the switch and connect the other end to the RPS unit. Connect the RPS unit to the main AC power source. Toggle the RPS power switch to the ON position. The RPS can provide power to up to two switches.

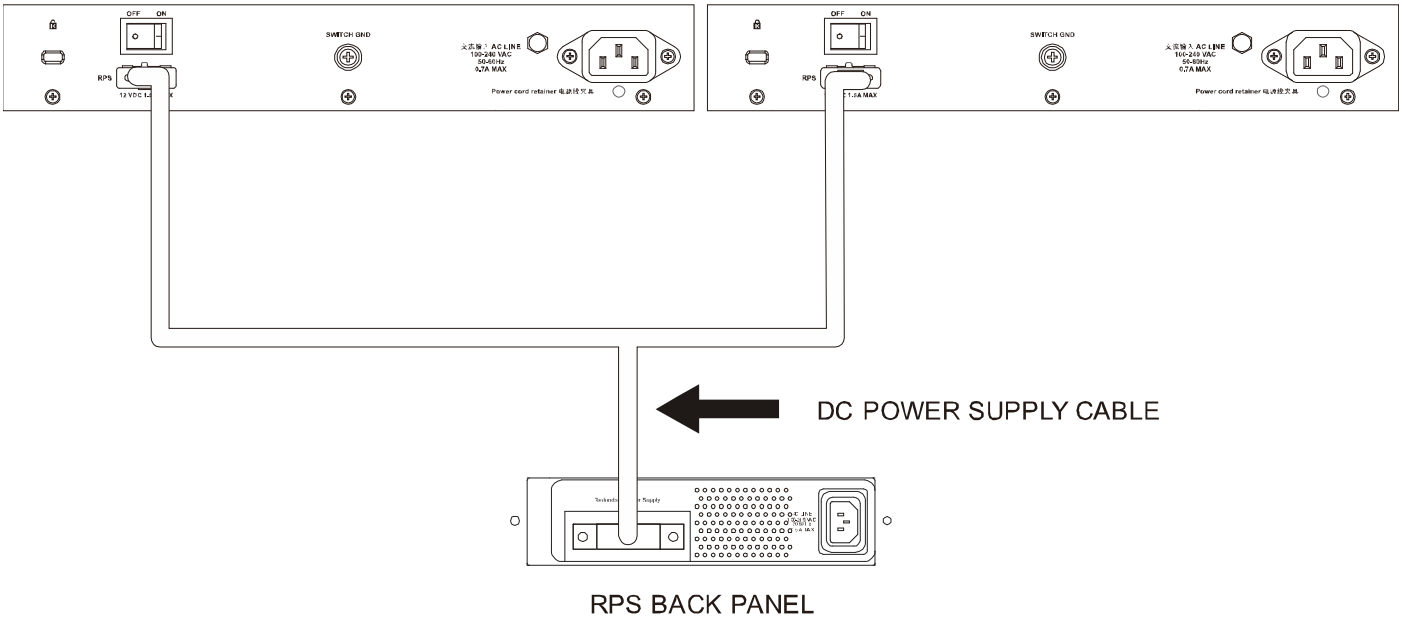

Figure 3-10 Connecting the DPS-200A to two Switches

A green LED on the RPS unit's front panel will illuminate, indicating a successful connection. Reattach the AC power cord to the Switch's AC power port. The RPS LED indicator on the Switch's front panel will confirm the presence and operation of the RPS. No software configuration is necessary.

Connecting the DPS-700 to the Switch

To establish a connection between the RPS and the Switch, start by disconnecting the AC power cord from the Switch's AC power port. Use a Phillips-head screwdriver to remove the RPS port cover by loosening the two securing screws.

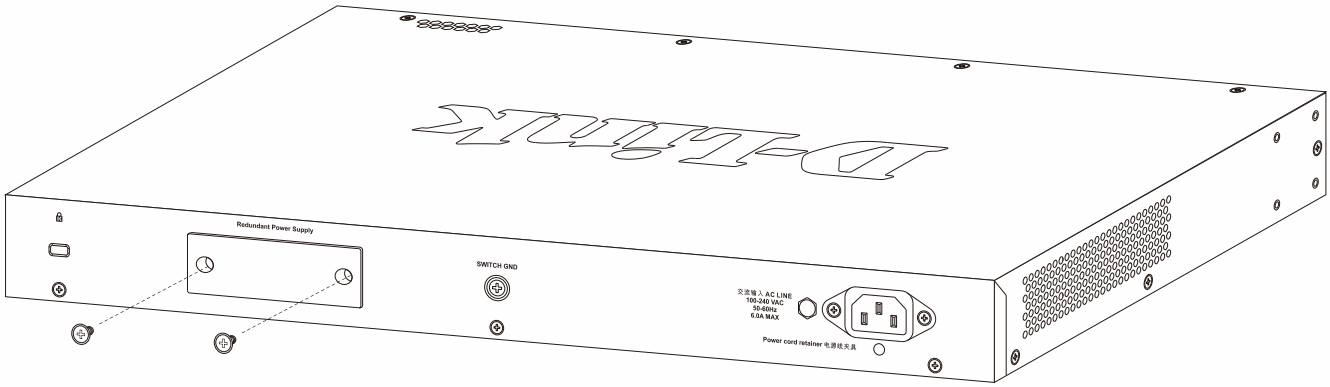

Figure 3-11 Removing the RPS port cover

Insert one end of the DC LINE cable into the RPS port on the rear panel of the switch and connect the other end to the RPS unit. Connect the RPS unit to the main AC power source. Toggle the RPS power switch to the ON position.

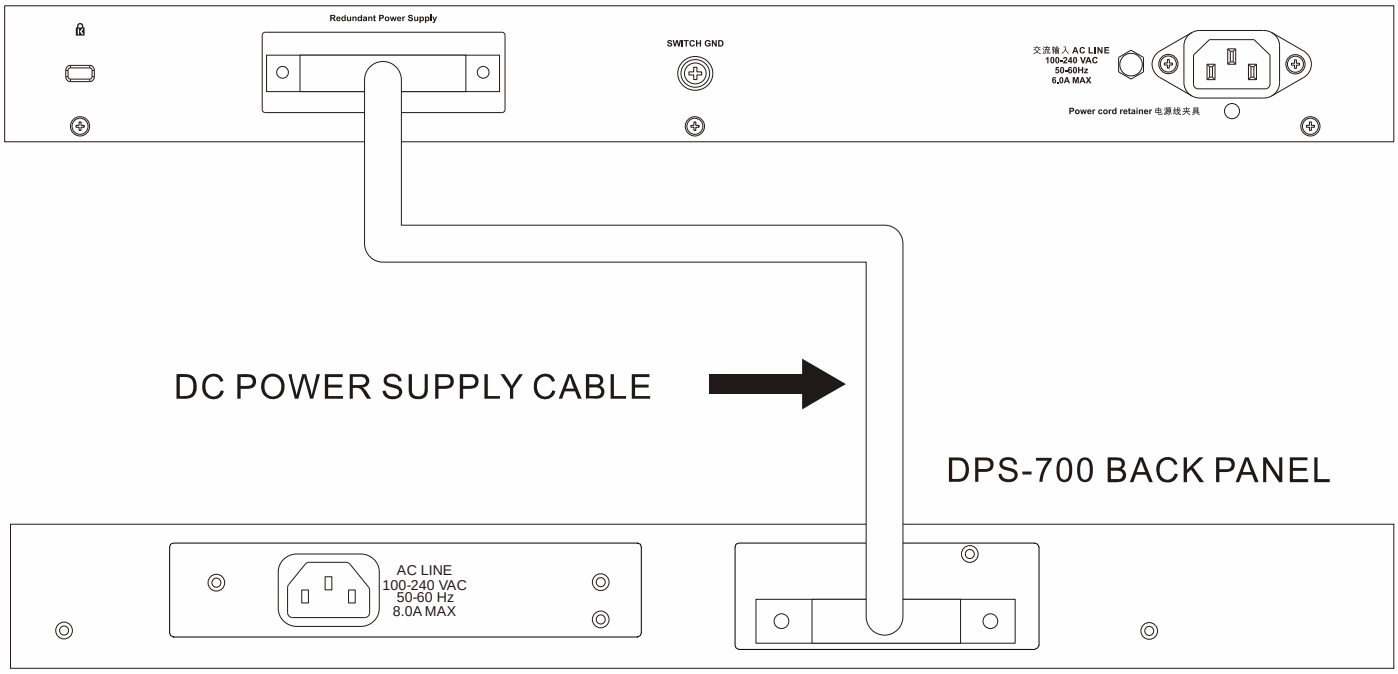

Figure 3-12 Connecting the DPS-700 to the Switch

A green LED on the RPS unit's front panel will illuminate, indicating a successful connection. Reattach the AC power cord to the Switch's AC power port. The RPS LED indicator on the Switch's front panel will confirm the presence and operation of the RPS. No software configuration is required.

Always keep the RPS port cover installed when there is no RPS connected to the Switch.

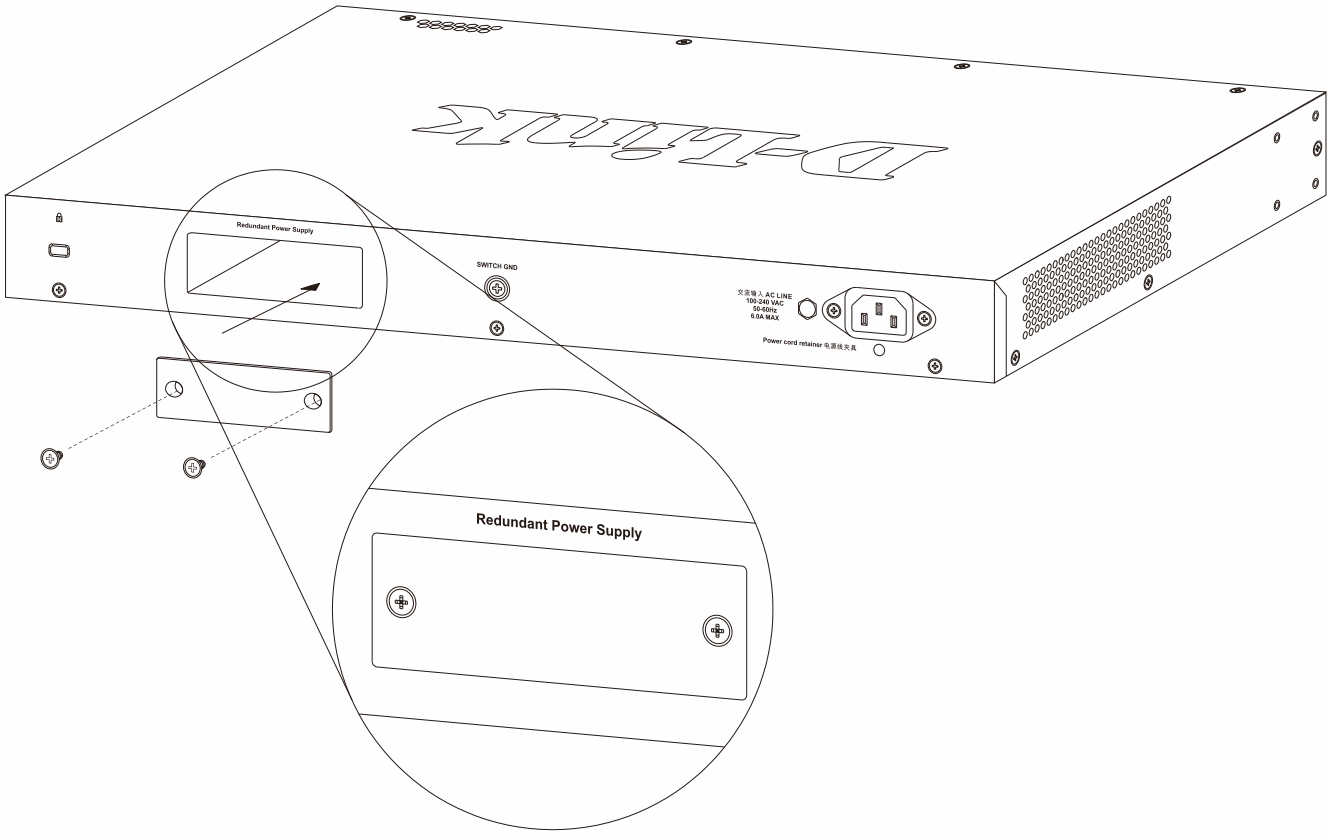

Figure 3-13 Reinstalling the RPS port cover

4. Switch Connections

Stacking the Switch

Switches in the series can be physically stacked by utilizing the last four ports on the front panel of the Switch. It is possible to stack up to nine Switches, which can then be managed through a single connection to any of the LAN ports using Telnet, the Web UI, and SNMP. This cost-effective Switch presents an economical solution for administrators aiming to upgrade their networks, leveraging the stacking ports for scaling and stacking purposes. This ultimately enhances overall reliability, serviceability, and availability.

The Switch supports the following stacking topologies:

- **Duplex Chain** - This topology interconnects Switches in a chain-link format, enabling data transfer in one direction only. A disruption in the chain will impact data transfer.
- **Duplex Ring** - In this topology, Switches form a ring or circle, allowing data transfer in two directions. It is highly robust, as even if the ring is broken, data can still be transmitted via the stacking cables between Switches using an alternative route.

In the following diagram, Switches are stacked in the **Duplex Chain** topology.

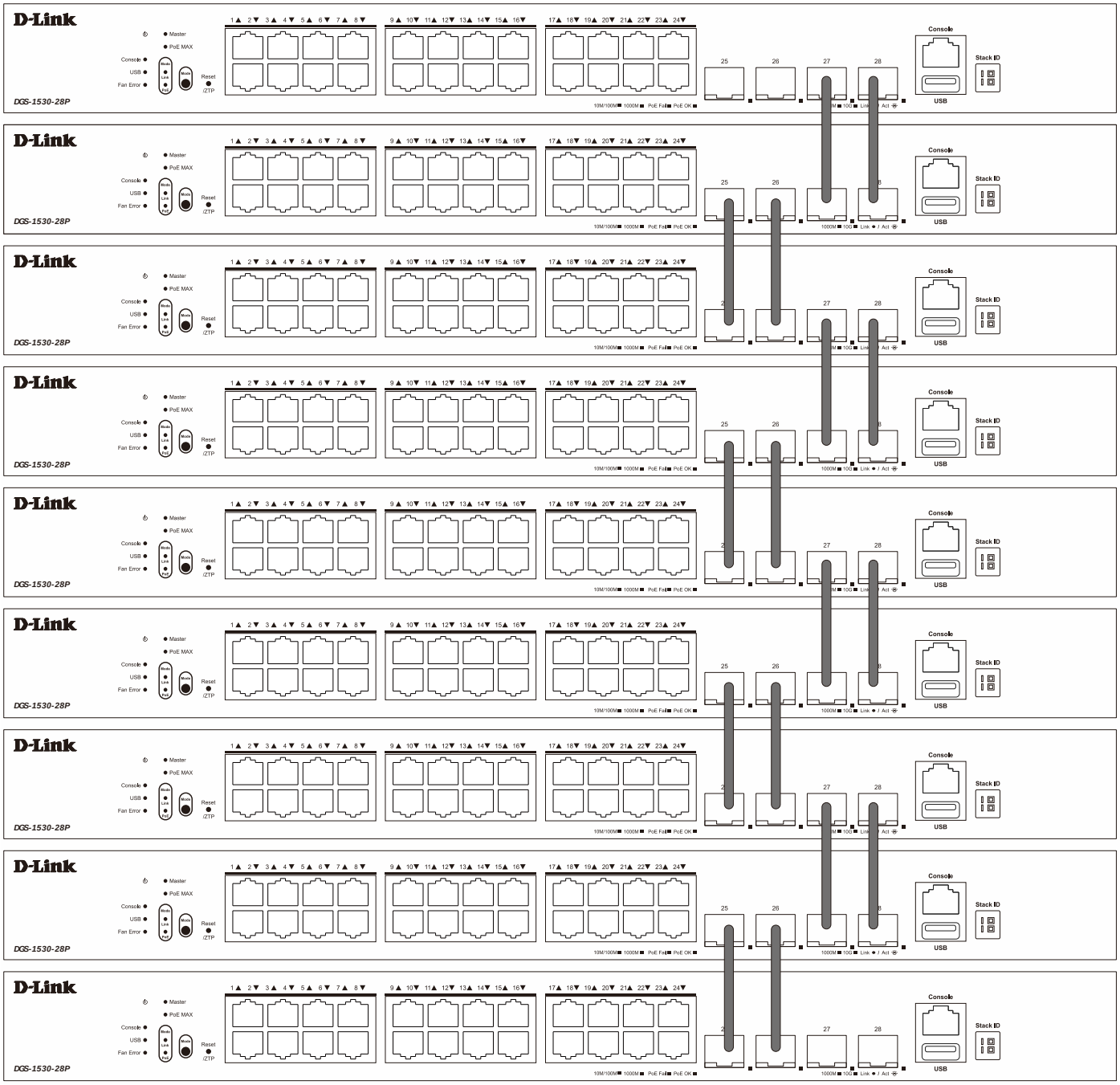

Figure 4-1 Duplex Chain Stacking Topology

In the following diagram, Switches are stacked in the **Duplex Ring** topology.

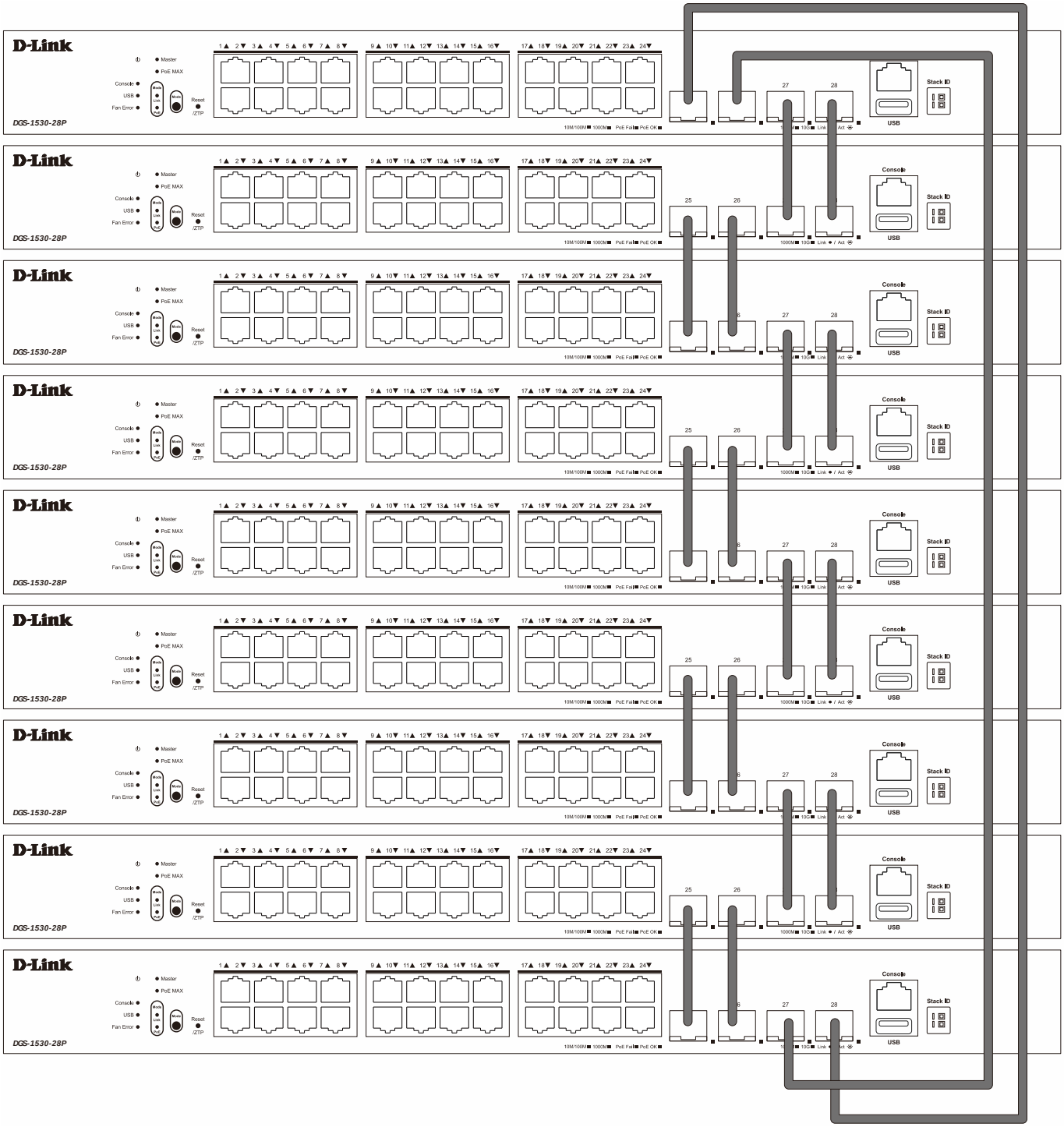

Figure 4-2 Duplex Ring Stacking Topology

The stacking function needs to be enabled and configured to support either a **2-port** or **4-port** stacking configuration. Stacking ports or grouped together into two logical stacking ports called **SIO1** (Stacking Input/Output 1) and **SIO2**. A group of logical stacking ports must always be connected, as a group, to another Switch in the stack.

At **2-port** configuration, the full-duplex bandwidth is 40 Gbps.

At **4-port** configuration, the full-duplex bandwidth is 80 Gbps.

The following table lists the stacking configuration with the corresponding SIO port pairs:

	Bandwidth (2-port)		Bandwidth (4-port)	
	SIO1	**SIO2**	**SIO1**	**SIO2**
DGS-1530-10	Port 9	Port 10	*Not supported*	*Not supported*
DGS-1530-20	Port 19	Port 20	Ports 17 and 18	Ports 19 and 20
DGS-1530-28S	Port 27	Port 28	Ports 25 and 26	Ports 27 and 28
DGS-1530-28SC	Port 27	Port 28	Ports 25 and 26	Ports 27 and 28
DGS-1530-28	Port 27	Port 28	Ports 25 and 26	Ports 27 and 28
DGS-1530-28P	Port 27	Port 28	Ports 25 and 26	Ports 27 and 28
DGS-1530-52	Port 51	Port 52	Ports 49 and 50	Ports 51 and 52
DGS-1530-52P	Port 51	Port 52	Ports 49 and 50	Ports 51 and 52

Switch to Switch

The Switch can be used to connect to any other Switch in the network. This network topology is used when this Switch or the other switch does not have enough ports to cater for all the end nodes in the network.

There is significant flexibility in establishing connections using the suitable cabling:

- For 10BASE-T connections to the Switch, use Category 3/5e UTP/STP cables.
- For 100BASE-TX connections to the Switch, use Category 5e UTP/STP cables.
- For 1000BASE-T connections to the Switch, use Category 5e/6 UTP/STP cables.
- For fiber optic connections to the Switch's SFP/SFP+ ports, make use of the appropriate fiber optic cables.

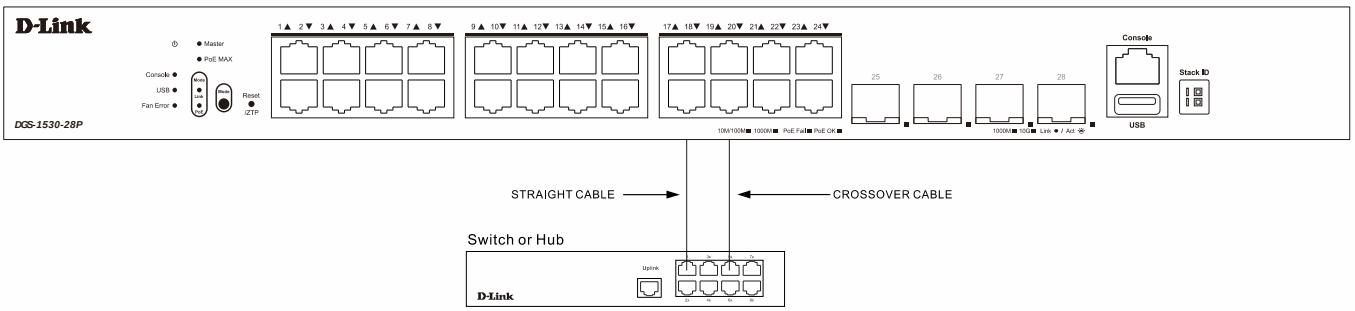

Figure 4-3 Switch to another Switch/Hub

Switch to End Node

An end node is a general term for edge networking devices that will be linked to this Switch. Common examples of end nodes include Servers, Personal Computers (PCs), Notebooks, Access Points, Print Servers, VoIP Phones, and more. Each end node should have an RJ45 networking port. Typically, end nodes will connect to this Switch using a standard twisted-pair UTP/STP network cable. Upon a successful connection, the corresponding port light will illuminate and blink, signifying network activity on that port.

The diagram below displays a typical end node (normal PC) connected to the Switch.

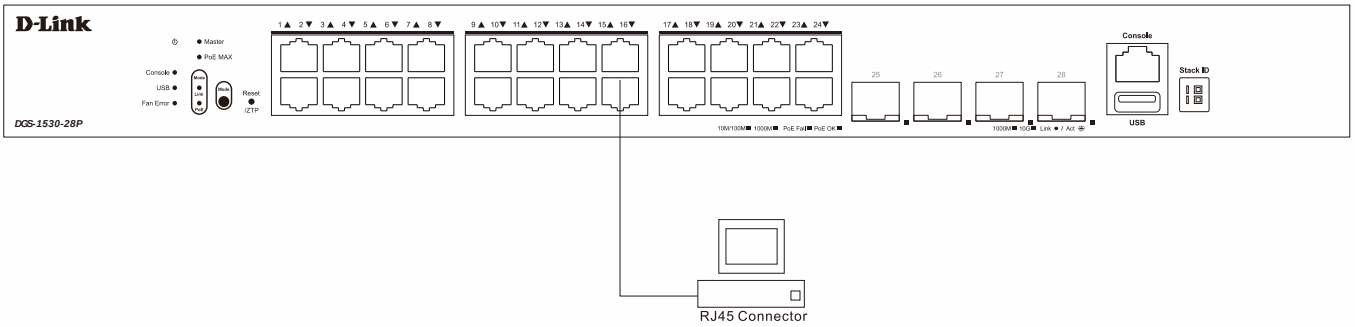

Figure 4-4 Switch to End Node (Client)

The diagram below displays a Server connected to the Switch.

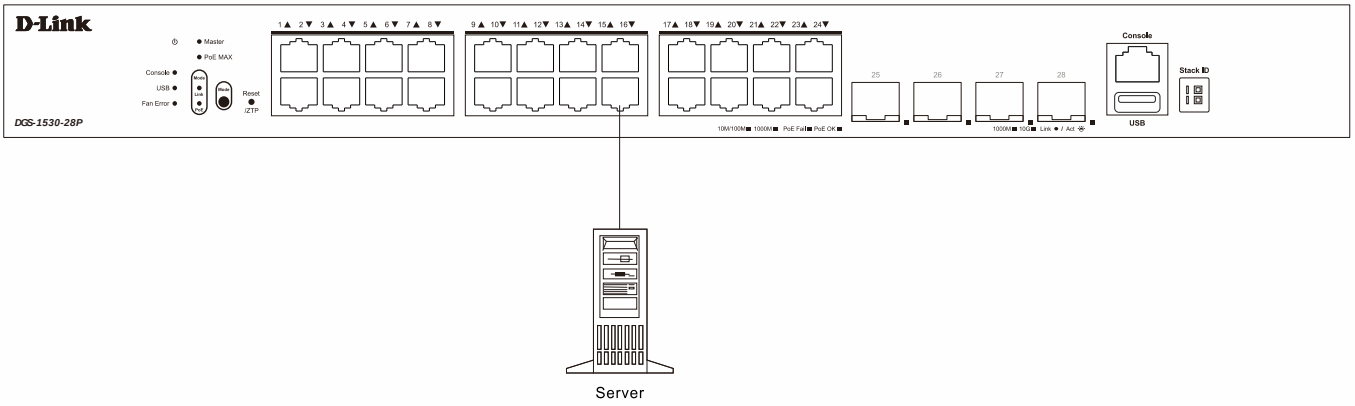

Figure 4-5 Switch to End Node (Server)

5. Switch Management

Management Options

Users can configure, manage, and monitor the software features of the Switch through the Command Line Interface (CLI), Web User Interface (Web UI), or third-party SNMP software.

Command Line Interface (CLI)

The CLI grants access to all software features accessible on the Switch. These features can be enabled, configured, disabled, or monitored by entering the appropriate command following the CLI prompt and pressing the Enter key. The Console port provides an Out-Of-Band (OOB) connection to the CLI, while the LAN ports offer an in-band connection to the CLI using Telnet or SSH.

Connecting to the Console Port

The Console port is used to establish a connection with the Switch's CLI. Connect the DB9 connector of the console cable (provided in the package) to the Serial (COM) port of the computer. Connect the RJ45 connector of the console cable to the Console port on the Switch.

For accessing the CLI via the Console port, Terminal Emulation Software such as PuTTY or Tera Term is required. The Switch utilizes a connection speed of **115200 bits per second** with no flow control enabled.

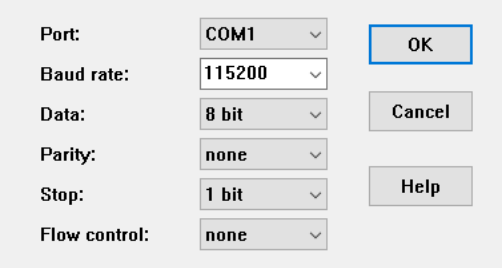

Figure 5-1 Console Connection Settings

After the boot sequence completed, the CLI login screen is displayed.

NOTE: The default username and password for the CLI and Web UI is *admin*.

Logging into the CLI

When we connect to the CLI for the first time, we'll be required to change the login password.
Enter the default username and password to get the process started. The default username and password is *admin*.
Follow the prompts to successfully change the login password, as shown below.

```
                    DGS-1530-28P Gigabit Ethernet Smart Managed Switch

                                 Command Line Interface
                                Firmware: Build 1.00.032
              Copyright(C) 2025 D-Link Corporation. All rights reserved.

User Access Verification

Username:admin
Password:*****


Please modify the password of default user 'admin' for security.
Enter Old Password:*****
Enter New Password:*********
Confirm New Password:*********
Password has been changed successfully!
Login again using new password.

Username:admin
Password:*********

Switch#
```

Configuring the IP Address

To be able to access the Web UI, or the CLI via Telnet/SSH, we need to know what the IP address of the Switch is.
The default IP address is 10.90.90.90 with a subnet mask of 255.0.0.0.
To change the IP address of the Switch to, for example 172.31.131.116 with a subnet mask of 255.255.255.0:
Enter the **configure terminal** command to enter the **Global Configuration Mode**.

```
Switch# configure terminal
```

Enter the **interface vlan 1** command the enter the **VLAN Configuration Mode** of the default VLAN 1.

```
Switch(config)# interface vlan 1
```

Enter the **ip address** command followed by the new IP address and subnet mask.

```
Switch(config-if)# ip address 172.31.131.116 255.255.255.0
```

Enter the **end** command to return to the **Privilege EXEC Mode**.

```
Switch(config-if)# end
```

Enter the **copy running-config startup-config** command to save the configuration.

```
Switch#copy running-config startup-config

Destination filename startup-config? [y/n]:  y

Saving all configurations to NV-RAM.......... Done.

Switch#
```

For more information about the CLI, refer to the *DGS-1530 Series CLI Reference Guide*.

Web User Interface (Web UI)

The Web UI, which offers a more graphical interface, grants access to the majority of the software features present on the Switch. These features can be enabled, configured, disabled, or monitored through any standard web browser, such as Microsoft's Internet Explorer, Mozilla Firefox, Google Chrome, or Safari. The LAN ports provide an in-band connection to the Web UI using HTTP or HTTPS (SSL).

The Web UI examples in this guide was capture using the **Microsoft Edge** browser.

Connecting to the Web UI

By default, **Secure HTTP (https)** access is available to the Switch. To access the Web UI, open a standard web browser and enter **https://** followed by the IP address of the Switch into the address bar of the browser. Press the **Enter** key. For example, **https://10.90.90.90**.

NOTE: The default IP address of the Switch is ***10.90.90.90*** (subnet mask *255.0.0.0*).
The default username and password is ***admin***.

Logging into the Web UI

Enter the **User Name** and **Password** and click the **Login** button.

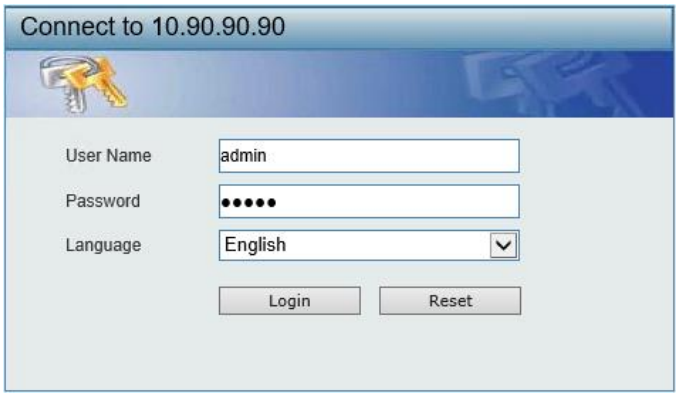

Figure 5-2 Web UI Login Window

The following is a screen capture of the Web User Interface (Web UI):

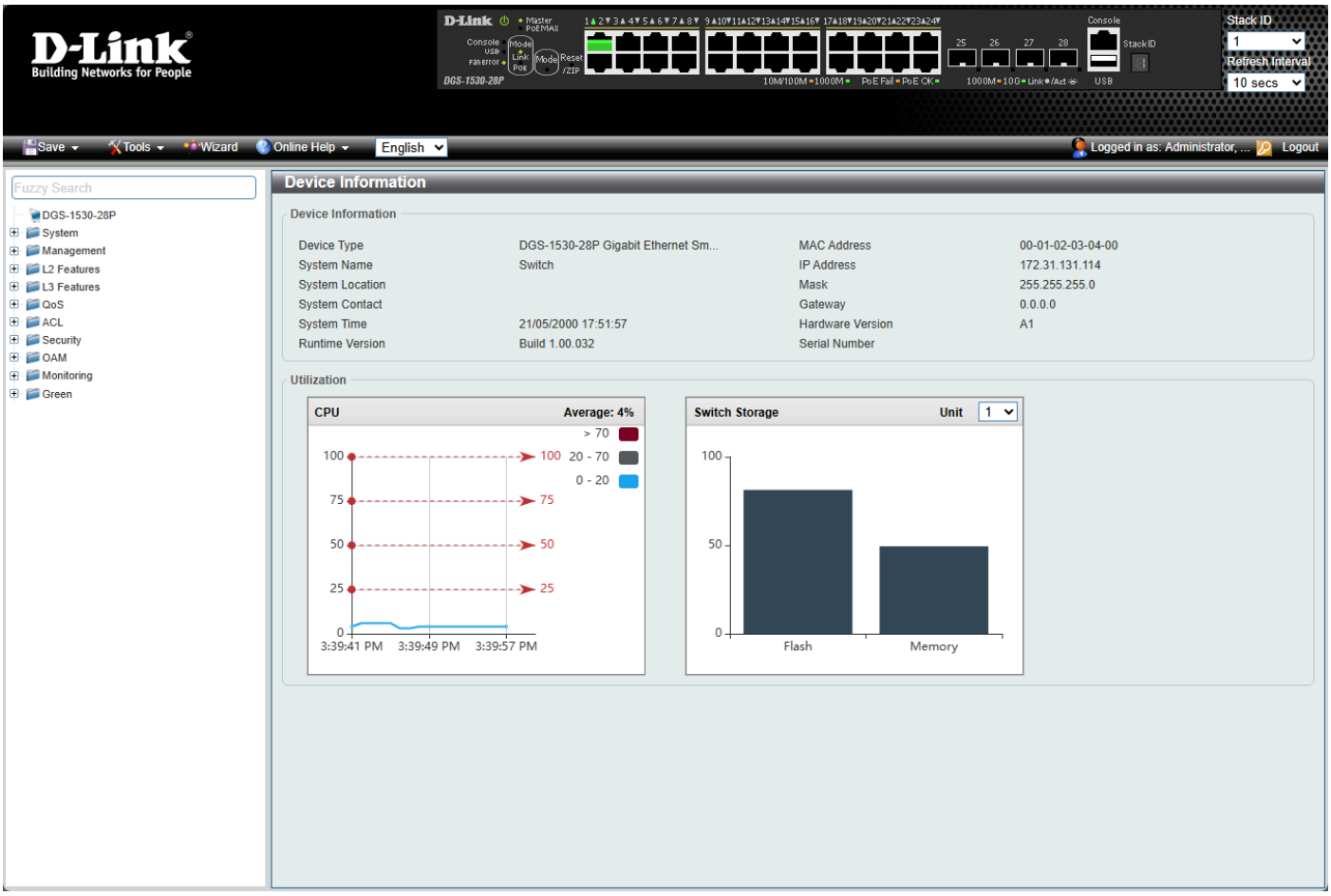

Figure 5-3 Web User Interface (Standard Mode)

For more information about the Web UI, refer to the *DGS-1530 series Web UI Reference Guide*.

SNMP-based Management

The Switch can be managed through an SNMP-compatible console program. It supports versions 1, 2c, and 3 of the Simple Network Management Protocol (SNMP). An SNMP agent decodes incoming SNMP messages and replies to requests with MIB (Management Information Base) objects stored in the database. The SNMP agent updates the MIB objects to generate statistics and counters.

Connecting using SNMP

In SNMP versions 1 and 2c, user authentication is achieved through *community strings*, which function akin to passwords. Both the remote user's SNMP application and the Switch must employ the same community string. SNMP packets from unauthenticated stations are disregarded (dropped).

The default community strings for the Switch are as follows:

- **public** - Allows authorized management stations to retrieve MIB objects.
- **private** - Permits authorized management stations to retrieve and modify MIB objects.

SNMPv3 employs a more intricate authentication process, separated into two segments.

- The first involves maintaining a list of users and their attributes permitted to act as SNMP managers.
- The second defines the actions each user on that list can take as an SNMP manager.

The Switch enables the listing and configuration of groups of users with shared privileges. This SNMP version can also be set for a designated group of SNMP managers. Consequently, one group of SNMP managers can view read-only information or receive traps using SNMP version 1, while another group can be endowed with higher security levels, entailing read/write privileges via SNMP version 3.

With SNMP version 3, individual users or groups of SNMP managers can be granted or restricted from executing specific SNMP management functions. The permissible or restricted functions are defined using the Object Identifier (OID) associated with a particular MIB. SNMP version 3 also provides an extra layer of security, allowing encryption of SNMP messages.

Traps

Traps are messages sent by an SNMP-enabled device to the Network Management Station (NMS), serving to notify network personnel of events taking place on the Switch. These events can range from significant occurrences, such as a reboot (caused by someone accidentally turning off the Switch), to less critical changes, like a port status update. The Switch generates traps and dispatches them to a pre-configured IP address, usually associated with an NMS. Common trap examples encompass messages for Authentication Failure and Topology Change.

Management Information Base (MIB)

A Management Information Base (MIB) stores management and counter information. The Switch employs the standard MIB-II module for Management Information Base. This enables retrieval of MIB object values from any SNMP-based network management software. In addition to the standard MIB-II, the Switch also accommodates its proprietary enterprise MIB as an extended Management Information Base. The proprietary MIB can also be obtained by specifying the MIB Object Identifier. MIB values are categorized as either read-only or read-write.

Appendix A - Technical Specifications

Physical Specifications

Feature	Description		
Dimensions	***DGS-1530-10***	280 mm (W) x 180 mm (D) x 44 mm (H)	
	DGS-1530-20	280 mm (W) x 180 mm (D) x 44 mm (H)	
	DGS-1530-28	441 mm (W) x 140 mm (D) x 44 mm (H)	
	DGS-1530-52	441 mm (W) x 210 mm (D) x 44 mm (H)	
	DGS-1530-28P	441 mm (W) x 250 mm (D) x 44 mm (H)	
	DGS-1530-52P	441 mm (W) x 250 mm (D) x 44 mm (H)	
	DGS-1530-28S	441 mm (W) x 210 mm (D) x 44 mm (H)	
	DGS-1530-28SC	441 mm (W) x 210 mm (D) x 44 mm (H)	
	All switch are 19-inch, 1 U Rack-mount size		
Weight	***DGS-1530-10***	1.65 kg	
	DGS-1530-20	2.00 kg	
	DGS-1530-28	2.15 kg	
	DGS-1530-52	3.20 kg	
	DGS-1530-28P	3.75 kg	
	DGS-1530-52P	4.35 kg	
	DGS-1530-28S	3.10 kg	
	DGS-1530-28SC	3.15 kg	
AC Power Supply *(Internal)*	***DGS-1530-10***	100~240 VAC, 50~60 Hz, 20 Watts	
	DGS-1530-20	100~240 VAC, 50~60 Hz, 36 Watts	
	DGS-1530-28	100~240 VAC, 50~60 Hz, 42 Watts	
	DGS-1530-52	100~240 VAC, 50~60 Hz, 65 Watts	
	DGS-1530-28P	100~240 VAC, 50~60 Hz, 470 Watts	
	DGS-1530-52P	100~240 VAC, 50~60 Hz, 470 Watts	
	DGS-1530-28S	100~240 VAC, 50~60 Hz, 70 Watts	
	DGS-1530-28SC	100~240 VAC, 50~60 Hz, 70 Watts	
Power Consumption *(Maximum)*	***DGS-1530-10***	100 VAC / 60 Hz	14.6 Watts
		240 VAC / 50 Hz	15.1 Watts
	DGS-1530-20	100 VAC / 60 Hz	25.7 Watts
		240 VAC / 50 Hz	26.1 Watts
	DGS-1530-28	100 VAC / 60 Hz	32.0 Watts
		240 VAC / 50 Hz	31.2 Watts
	DGS-1530-52	100 VAC / 60 Hz	44.1 Watts
		240 VAC / 50 Hz	43.6 Watts
	DGS-1530-28P	100 VAC / 60 Hz	456.0 Watts (with PoE)
			38.9 Watts (without PoE)
		240 VAC / 50 Hz	433.0 Watts (with PoE)
			39.5 Watts (without PoE)

Feature	Description		
	DGS-1530-52P	100 VAC / 60 Hz	916.6 Watts (with PoE and RPS)
			482.0 Watts (with PoE, without RPS)
			59.2 Watts (without PoE and RPS)
		240 VAC / 50 Hz	867.1 Watts (with PoE and RPS)
			455.0 Watts (with PoE, without RPS)
			59.2 Watts (without PoE and RPS)
	DGS-1530-28S	100 VAC / 60 Hz	45.2 Watts
		240 VAC / 50 Hz	44.5 Watts
	DGS-1530-28SC	100 VAC / 60 Hz	45.2 Watts
		240 VAC / 50 Hz	44.5 Watts
Power Consumption *(Standby)*	***DGS-1530-10***	100 VAC / 60 Hz	4.9 Watts
		240 VAC / 50 Hz	5.6 Watts
	DGS-1530-20	100 VAC / 60 Hz	5.8 Watts
		240 VAC / 50 Hz	7.7 Watts
	DGS-1530-28	100 VAC / 60 Hz	7.7 Watts
		240 VAC / 50 Hz	8.4 Watts
	DGS-1530-52	100 VAC / 60 Hz	13.7 Watts
		240 VAC / 50 Hz	14.3 Watts
	DGS-1530-28P	100 VAC / 60 Hz	16.2 Watts
		240 VAC / 50 Hz	16.5 Watts
	DGS-1530-52P	100 VAC / 60 Hz	22.0 Watts
		240 VAC / 50 Hz	22.8 Watts
	DGS-1530-28S	100 VAC / 60 Hz	9.8 Watts
		240 VAC / 50 Hz	10.5 Watts
	DGS-1530-28SC	100 VAC / 60 Hz	9.8 Watts
		240 VAC / 50 Hz	10.5 Watts
Redundant Power Supply	***DGS-1530-10***	A 2-pin RPS connector for a DPS-200A by DPS-CB150-2PS	
	DGS-1530-20	A 2-pin RPS connector for a DPS-200A by DPS-CB150-2PS	
	DGS-1530-28	A 2-pin RPS connector for a DPS-200A by DPS-CB150-2PS	
	DGS-1530-52	A 2-pin RPS connector for a DPS-500A by DPS-CB150-2PS	
	DGS-1530-52P	A 22-pin RPS connector for a DPS-700 (A2/B1)	
	DGS-1530-28S	A 2-pin RPS connector for a DPS-500A by DPS-CB150-2PS	
	DGS-1530-28SC	A 2-pin RPS connector for a DPS-500A by DPS-CB150-2PS	
Fans	***DGS-1530-10***	No fans	
	DGS-1530-20	No fans	
	DGS-1530-28	1 fan	

Feature	Description	
	DGS-1530-52	2 fans
	DGS-1530-28P	3 fans
	DGS-1530-52P	3 fans
	DGS-1530-28S	2 fans
	DGS-1530-28SC	2 fans
MTBF	***DGS-1530-10***	709328 Hours
	DGS-1530-20	622122 Hours
	DGS-1530-28	530607 Hours
	DGS-1530-52	392556 Hours
	DGS-1530-28P	330520 Hours
	DGS-1530-52P	230300 Hours
	DGS-1530-28S	446328 Hours
	DGS-1530-28SC	434671 Hours
Security Lock	Provides a Kensington-compatible security lock, on the rear panel of the Switch, to be able to connect to a secure immovable device. Insert the lock into the notch and turn the key to secure the lock. The lock-and-cable apparatus should be purchased separately	

Environment Specifications

Feature	Description	
Temperature	***Operation***	-5°C to 50°C (23°F to 122°F)
	Storage	-20°C to 70°C (-4°F to 158°F)
Humidity	***Operation***	0 % to 95 % RH (non-condensing)
	Storage	0 % to 95 % RH (non-condensing)
Altitude	0 to 2000 meters (6562 feet) above sea level	

Performance Specification

Feature	Description	
Switching Capacity	***DGS-1530-10***	56 Gbps
	DGS-1530-20	112 Gbps
	DGS-1530-28	128 Gbps
	DGS-1530-52	176 Gbps
	DGS-1530-28P	128 Gbps
	DGS-1530-52P	176 Gbps
	DGS-1530-28S	128 Gbps
	DGS-1530-28SC	128 Gbps
MAC Address Table	Up to 16K entries (1K static MAC addresses)	
Physical Stacking	**Topology**	Duplex Ring and Duplex Chain
	Stack Number	Up to 9 Switches
	DGS-1530-10	Ports 9 to 10 (up to 40 Gbps full-duplex bandwidth)
	DGS-1530-20	Ports 17 to 20 (up to 80 Gbps full-duplex bandwidth)
	DGS-1530-28	Ports 25 to 28 (up to 80 Gbps full-duplex bandwidth)
	DGS-1530-52	Ports 49 to 52 (up to 80 Gbps full-duplex bandwidth)
	DGS-1530-28P	Ports 25 to 28 (up to 80 Gbps full-duplex bandwidth)
	DGS-1530-52P	Ports 49 to 52 (up to 80 Gbps full-duplex bandwidth)
	DGS-1530-28S	Ports 25 to 28 (up to 80 Gbps full-duplex bandwidth)
	DGS-1530-28SC	Ports 25 to 28 (up to 80 Gbps full-duplex bandwidth)
Packet Buffer	***DGS-1530-10***	1.5 MB
	DGS-1530-20	1.5 MB
	DGS-1530-28	1.5 MB
	DGS-1530-52	1.5 MB
	DGS-1530-28P	1.5 MB
	DGS-1530-52P	1.5 MB
	DGS-1530-28S	1.5 MB
	DGS-1530-28SC	1.5 MB
Packet Forwarding Rate *(Maximum)*	***DGS-1530-10***	41.67 Mpps
	DGS-1530-20	83.33 Mpps
	DGS-1530-28	95.24 Mpps
	DGS-1530-52	130.95 Mpps
	DGS-1530-28P	95.24 Mpps
	DGS-1530-52P	130.95 Mpps
	DGS-1530-28S	95.24 Mpps
	DGS-1530-28SC	95.24 Mpps
Forwarding Mode	Store and forward	

Port Type Specifications

Feature	Description	
Console Port	**Baud Rate**	115200 (default), 19200, 38400, and 9600 bps
	Data Bits	8
	Stop Bit	1
	Parity	None
	Flow Control	None
1G RJ45 Ports	***Standards***	IEEE 802.3i (10BASE-T) IEEE 802.3u (100BASE-TX) IEEE 802.3ab (1000BASE-T) IEEE 802.3az (Energy-Efficient Ethernet) IEEE 802.3x (Full-Duplex, Flow Control)
	The RJ45 ports support the following features: • Back pressure for half-duplex mode • Head-of-line blocking prevention • Manual/auto MDI/MDIX configuration • Auto-negotiation for each port	
1G SFP Ports	***Standards***	IEEE 802.3u (100BASE-FX) IEEE 802.3z (1000BASE-X) IEEE 802.3ah (1000BASE-BX10)
	The SFP ports support the following features: • Only full-duplex operation • The auto-negotiation and auto-speed functions are not supported • IEEE 802.3x flow control for the full-duplex mode	
10G SFP+ Ports	***Standards***	IEEE 802.3z (1000BASE-X) IEEE 802.3ah (1000BASE-BX10) IEEE 802.3ae (10GBASE-R)
	The SFP+ ports support the following features: • Only full-duplex operation • The auto-negotiation and auto-speed functions are not supported • IEEE 802.3x flow control for the full-duplex mode All SFP+ ports are backwards compatible to support SFP transceivers.	
PoE Ports *(DGS-1530-28P only)* *(DGS-1530-52P only)*	***Standards***	IEEE 802.3af (PoE) 15.4 Watt IEEE 802.3at (PoE+) 30 Watt
	The PoE ports support the following features: • The auto-discovery feature automatically recognizes the connection of the PD device and immediately provides power. • Automatically disable ports if the port current exceeds 600mA. Other ports will remain active. • Active circuit protection automatically disables the port if a short circuit occurs, while other ports remain active. • Follow the PSE pin-out standard. For an alternative solution, send power over pins 1, 2, 3, and 6 of the 8 wires. Use Category 3 or 5e UTP cable for 802.3af, or Category 5e or 6A UTP cable for 802.3at. • The PoE switch works with all D-Link 802.3af and 802.3at capable devices, as well as with all non-802.3af and non-802.3at capable D-Link Access Points, IP Cameras, and IP Phones.	
	Power provisioning follows the following classification at 802.3af:	

<table>
<tr><th>Feature</th><th>Description</th></tr>
<tr><td></td><td>
<table>
<tr><th>Class</th><th>Usage</th><th>Minimum (at PSE)</th><th>Maximum (at PD)</th></tr>
<tr><td>0</td><td>Default</td><td>15.4 Watt</td><td>0.44 to 12.95 Watt</td></tr>
<tr><td>1</td><td>Optional</td><td>4.0 Watt</td><td>0.44 to 3.84 Watt</td></tr>
<tr><td>2</td><td>Optional</td><td>7.0 Watt</td><td>3.84 to 6.49 Watt</td></tr>
<tr><td>3</td><td>Optional</td><td>15.4 Watt</td><td>6.49 to 12.95 Watt</td></tr>
<tr><td>4</td><td>Optional</td><td>Treat as Class 0</td><td>Reserved to future use</td></tr>
<tr><td colspan="4">Power provisioning follows the following classification at 802.3at:</td></tr>
<tr><th>Class</th><th>Usage</th><th>PD Classification</th><th>Guaranteed</th><th>Maximum (at PD)</th></tr>
<tr><td>0</td><td>Default</td><td>Default, Type 1</td><td>15.4 Watt</td><td>0.44 to 12.95 Watt</td></tr>
<tr><td>1</td><td>Optional</td><td>Type 1</td><td>4.0 Watt</td><td>0.44 to 3.84 Watt</td></tr>
<tr><td>2</td><td>Optional</td><td>Type 1</td><td>7.0 Watt</td><td>3.84 to 6.49 Watt</td></tr>
<tr><td>3</td><td>Optional</td><td>Type 1</td><td>15.4 Watt</td><td>6.49 to 12.95 Watt</td></tr>
<tr><td>4</td><td>Optional</td><td>Type 2</td><td>30 Watt</td><td>12.95 to 25.5 Watt</td></tr>
</table>
</td></tr>
<tr><td></td><td>

PSE should adhere to the 802.3at-2009 standard to prevent damage to PSE components caused by PSE-to-PSE connections.
In a multi-port system, it is necessary to maintain DC isolation through the termination circuitry to eliminate cross-port leakage currents.

Fast PoE: Enables the switch to supply power to connected endpoint devices quickly, without waiting for the operating system to boot up.
Perpetual PoE: Provides uninterrupted power to connected PD devices even when the PSE switch is booting, maintaining terminal service stability.
</td></tr>
</table>

Certifications

Certifications	
EMC Certifications	CE Class A, UKCA Class A, FCC Class A, ICES Class A, VCCI Class A, BSMI Class A
Safety Certifications	cULus Mark (62368-1), CB Report (IEC62368-1), LVD Report (62368-1), BSMI

Supported SFP/SFP+ Transceivers

Fiber Transceivers

Form Factor	Product Code	Standard	Mode	Distance	TX	RX
SFP	**DEM-210**	100BASE-FX	Single-mode	15 km	1310 nm	
SFP	**DEM-211**	100BASE-FX	Multi-mode	2 km	1310 nm	
SFP	**DEM-310GT**	1000BASE-LX	Single-mode	10 km	1310 nm	
SFP	**DEM-311GT**	1000BASE-SX	Multi-mode	550 m	850 nm	
SFP	**DEM-312GT2**	1000BASE-SX	Multi-mode	2 km	1310 nm	
SFP	**DEM-314GT**	1000BASE-LHX	Single-mode	50 km	1550 nm	
SFP	**DEM-315GT**	1000BASE-ZX	Single-mode	80 km	1550 nm	
WDM (BiDi) SFP	**DEM-330T**	1000BASE-BX-D	Single-mode	10 km	1550 nm	1310 nm
WDM (BiDi) SFP	**DEM-330R**	1000BASE-BX-U	Single-mode	10 km	1310 nm	1550 nm
WDM (BiDi) SFP	**DEM-331T**	1000BASE-BX-D	Single-mode	40 km	1550 nm	1310 nm
WDM (BiDi) SFP	**DEM-331R**	1000BASE-BX-U	Single-mode	40 km	1310 nm	1550 nm
SFP+	**DEM-431XT**	10GBASE-SR	Multi-mode	300 m	850 nm	
SFP+	**DEM-432XT**	10GBASE-LR	Single-mode	10 km	1310 nm	
SFP+	**DEM-433XT**	10GBASE-ER	Single-mode	40 km	1550 nm	
SFP+	**DEM-434XT**	10GBASE-ZR	Single-mode	80 km	1550 nm	
WDM (BiDi) SFP+	**DEM-436XT-BXD**	10GBASE-LR	Single-mode	20 km	1330 nm	1270 nm
WDM (BiDi) SFP+	**DEM-436XT-BXU**	10GBASE-LR	Single-mode	20 km	1270 nm	1310 nm

Copper Transceivers

Form Factor	Product Code	Standard	Connector	Distance	Power	Amps
SFP	**DGS-712**	1000BASE-T	SFP to RJ45	100 m	3.3 V	375 mA
SFP+	**DEM-410T**	10GBASE-T	SFP+ to RJ45	30 m	3.3 V	780 mA

DAC (Direct Attached Cables)

Form Factor	Product Code	Connectors	Wire AWG	Dist.
SFP+	**DEM-CB100S**	10G Passive SFP+ to SFP+	30 AWG	1 m
SFP+	**DEM-CB300S**	10G Passive SFP+ to SFP+	30 AWG	3 m
SFP+	**DEM-CB700S**	10G Passive SFP+ to SFP+	30 AWG	7 m

NOTE: Only HW version A2 DEM-410T transceivers are compatible with DGS-1530 series switches. Install these transceivers exclusively in SFP+ ports within environments with an ambient temperature not exceeding 40 °C (104 °F). When using the DEM-410T, do not force the port speed. Keep the port speed and duplex settings in the **auto** mode.

NOTE: On the **DGS-1530-10** and **DGS-1530-20**, the DEM-410T transceiver can only operate on one of the SFP+ ports, not both.

NOTE: DAC (Direct Attached Cables) can only be used for connections between DGS-1530 series devices. Use Fiber Transceivers when connecting with devices from other series.

Appendix B - Cables and Connectors

Ethernet Cable

When connecting the switch to another switch, a bridge, or hub, use a straight-through Category 5/5e/6a/7 cable. The following diagrams and tables illustrate the standard RJ45 receptacle/connector and their pin assignments.

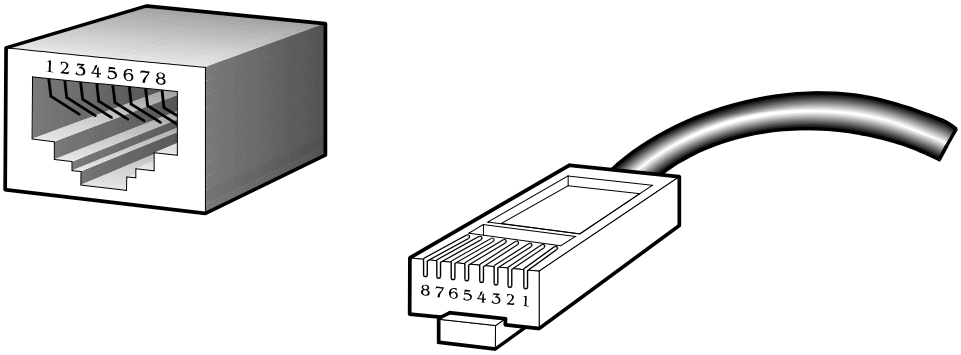

Figure B-1 Standard RJ45 port and connector

RJ45 Pin Assignment:

Contact	MDI-X Port	MDI-II Port
1	RD+ (receive)	TD+ (transmit)
2	RD - (receive)	TD - (transmit)
3	TD+ (transmit)	RD+ (receive)
4	1000BASE-T/10GBASE-T	1000BASE-T/10GBASE-T
5	1000BASE-T/10GBASE-T	1000BASE-T/10GBASE-T
6	TD - (transmit)	RD- (receive)
7	1000BASE-T/10GBASE-T	1000BASE-T/10GBASE-T
8	1000BASE-T/10GBASE-T	1000BASE-T/10GBASE-T

Console Cable

A console cable is used to connect to the RJ45 console port of the Switch to access the command line interface. The following diagram and table show the standard RJ45 to RS-232 cable and pin assignments.

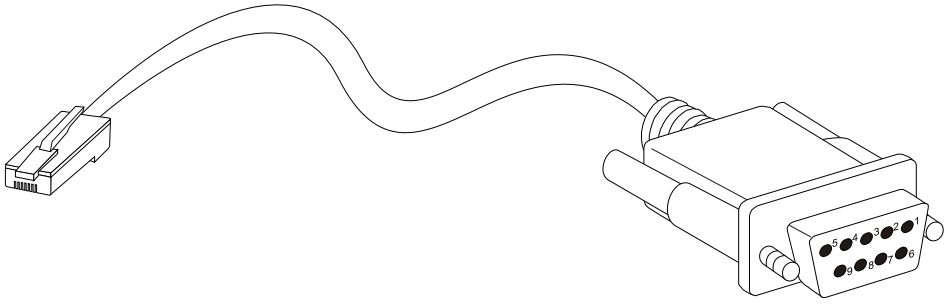

Figure B-2 Console to RJ45 Cable

RJ45 To RS-232 Cable Pin Assignment Table:

Contact	Console (DB9/RS232)	RJ45
1	Not Used	Not Used
2	RXD	Not Used
3	TXD	TXD
4	Not Used	GND
5	GND (shared)	GND
6	Not Used	RXD
7	Not Used	Not Used
8	Not Used	Not Used

Appendix C - ERPS Information

Only hardware-based ERPS supports the Fast Link Drop Interrupt feature with a recovery time of 50 milliseconds in a 16-node ring. The distance must be less than 1200 kilometers.

Model Name	ERPS	Port 1 to 8	Port 9 to 10	
DGS-1530-10	≦ 50ms	V		
	> 50ms		V	

Model Name	ERPS	Port 1 to 16	Port 17 to 20	
DGS-1530-20	≦ 50ms	V		
	> 50ms		V	

Model Name	ERPS	Port 1 to 24	Port 25 to 28	
DGS-1530-28	≦ 50ms	V		
	> 50ms		V	

Model Name	ERPS	Port 1 to 48	Port 49 to 52	
DGS-1530-52	≦ 50ms	V		
	> 50ms		V	

Model Name	ERPS	Port 1 to 24	Port 25 to 28	
DGS-1530-28P	≦ 50ms	V		
	> 50ms		V	

Model Name	ERPS	Port 1 to 48	Port 49 to 52	
DGS-1530-52P	≦ 50ms	V		
	> 50ms		V	

Model Name	ERPS	Port 1 to 24	Port 25 to 28	
DGS-1530-28S	≦ 50ms	V		
	> 50ms		V	

Model Name	ERPS	Port 1 to 20	Port 21 to 24	Port 25 to 28
DGS-1530-28SC	≦ 50ms	V	V	
	> 50ms			V

Safety/Sécurité

Safety Instructions

Please pay careful attention to the following safety guidelines to ensure your own personal safety and to help protect your system from potential damage.

Safety Cautions

To greatly reduce the risk of physical injury, electrical shock, fire, and damage to equipment, observe the following precautions.

Observe and follow service markings.

- Do not attempt to service any product, except when it is explained in the system's documentation.
- Opening or removing covers, marked with a high voltage sign, may expose the user to electrical shock.
- Only a trained service technician should service components inside these compartments.

If any of the following conditions occur, unplug the product from the electrical outlet and replace the part or contact your trained service provider:

- Damage to the power cable, extension cable, or plug.
- An object has fallen into the product.
- The product has been exposed to water.
- The product has been dropped or damaged.
- The product does not operate correctly when the operating instructions are correctly followed.

General safety cautions:

- Electrical Hazard: Only qualified personnel should perform installation procedures.
- Before servicing, disconnect all power cords to remove power from the device.
- Keep the system away from radiators and heat sources. Also, do not block cooling vents.
- Do not spill food or liquids on system components, and never operate the product in a wet environment. If the system gets wet, contact your trained service provider.
- Do not push any objects into the openings of the system. Doing so can cause fire or electric shock by shorting out interior components.
- Only use this product with approved equipment.
- Allow the product to cool before removing the cover or touching internal components.
- Operate the product only from the type of external power source indicated on the electrical ratings label. If unsure of the type of power source required, consult your service provider or local power company.
- Be sure that attached devices are electrically rated to operate with the power available in your location.
- Use only approved power cable(s). If you have not been provided with a power cable for your system or for any AC-powered option intended for your system, purchase a power cable that is approved for use in your country. The power cable must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cable should be greater than the ratings marked on the product.
- To help prevent electric shock, plug the system and peripheral power cables into properly grounded electrical outlets. These cables are equipped with three-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable. If using an extension cable is necessary, use a 3-wire cable with properly grounded plugs.
- Observe the extension cable and power strip ratings. Make sure that the total ampere rating of all products plugged into the extension cable or power strip does not exceed 80 percent of the ampere ratings limit for the extension cable or power strip.
- To help protect the system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).

- Position system cables and power cables carefully. Route cables so that they cannot be stepped on or tripped over. Be sure that nothing rests on any cables.
- Do not modify power cables or plugs. Consult a licensed electrician or your power company for site modifications. Always follow your local or national wiring rules.

When connecting or disconnecting power to and from hot-pluggable power supplies, observe the following guidelines:

- Install the power supply before connecting the power cable to the power supply.
- Unplug the power cable before removing the power supply.
- If the system has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supplies.
- Move products with care and ensure that all casters and stabilizers are firmly connected to the system. Avoid sudden stops and uneven surfaces.

To help avoid damage to the system, be sure that the voltage selection switch, on the power supply, is set to match the power available at the Switch's location:

- 115V/60Hz is used mostly in North and South America as well as Far Eastern countries like as South Korea and Taiwan
- 100V/50Hz is used mostly in Eastern Japan and 100V/60Hz in Western Japan
- 230V/50Hz is used mostly in Europe, the Middle East, Africa and the Far East

CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.

ATTENTION : Risque d'explosion si la batterie est remplacée par un type incorrect. Jetez les piles usagées selon les instructions.

警告：如果更換不正確之電池型式會有爆炸的風險。請依製造商說明書處理用過之電池。

Consignes de sécurité

Veuillez prêter une attention particulière aux consignes de sécurité suivantes pour assurer votre sécurité personnelle et protéger votre système des dommages potentiels.

Précautions de sécurité

Pour réduire considérablement les risques de blessure physique, de choc électrique, d'incendie et de détérioration du matériel, observez les précautions suivantes.

Observez et respectez les marquages relatifs à l'entretien et/ou aux réparations.

- N'essayez pas de réparer un produit, sauf si cela est expliqué dans la documentation du système.
- L'ouverture ou le retrait des capots, signalés par un symbole de haute tension, peut exposer l'utilisateur à un choc électrique.
- Seul un technicien de maintenance qualifié est habilité à réparer les composants à l'intérieur de ces compartiments.

Si l'un des cas suivants se produit, débranchez l'appareil du secteur et remplacez la pièce concernée ou contactez votre prestataire de services agréé.

- Endommagement du câble d'alimentation, du câble de rallonge ou de la fiche.
- Un objet est tombé dans le produit.
- Le produit a été exposé à l'eau.
- Le produit est tombé ou a été endommagé.
- Le produit ne fonctionne pas correctement lorsque les instructions d'utilisation sont correctement suivies.

Précautions générales de sécurité:

- Danger électrique: Seul le personnel qualifié doit effectuer les procédures d'installation.
- Avant de procéder à l'entretien, débranchez tous les cordons d'alimentation pour mettre le périphérique hors tension.
- Éloignez le système des radiateurs et des sources de chaleur. Par ailleurs, n'obturez pas les fentes d'aération.
- Ne versez pas de liquide sur les composants du système et n'introduisez pas de nourriture à l'intérieur. Ne faites jamais fonctionner l'appareil dans un environnement humide. Si le système est mouillé, contactez votre prestataire de services qualifié.
- N'insérez aucun objet dans les fentes de l'appareil. Vous risqueriez de provoquer un incendie ou un choc électrique en court-circuitant les composants internes.
- Utilisez ce produit uniquement avec un équipement approuvé.
- Laissez l'appareil refroidir avant de déposer le capot ou de toucher les composants internes.
- Faites fonctionner le produit uniquement avec la source d'alimentation indiquée sur l'étiquette signalétique où figurent les caractéristiques électriques nominales. Si vous ne savez pas avec certitude quel type de source d'alimentation est requis, consultez votre prestataire de services ou votre compagnie d'électricité.
- Assurez-vous que les caractéristiques nominales des appareils branchés correspondant à la tension du réseau électrique.
- Utilisez uniquement des câbles d'alimentation homologués. Si un câble d'alimentation n'est pas fourni pour le système ou pour un composant/accessoire alimenté par CA destiné au système, procurez-vous un câble d'alimentation homologué pour une utilisation dans votre pays. Le câble d'alimentation doit être adapté à l'appareil et ses caractéristiques nominales doivent correspondre à celles figurant sur l'étiquette du produit. La tension et le courant nominaux du câble doivent être supérieurs aux valeurs nominales indiquées sur l'appareil.
- Pour éviter tout risque de choc électrique, branchez les câbles d'alimentation du système et des périphériques à des prises électriques correctement mises à la masse. Ces câbles sont équipés de fiches à trois broches pour garantir une mise à la masse appropriée. N'utilisez pas d'adaptateur de prise, et n'éliminez pas la broche de mise à la masse du câble. Si un câble de rallonge est nécessaire, utilisez un câble à 3 fils avec des fiches correctement mises à la terre.
- Respectez les caractéristiques nominales de la rallonge ou du bloc multiprise. Assurez-vous que l'intensité nominale totale de tous les produits branchés à la rallonge ou au bloc multiprise ne dépasse pas 80 % de l'intensité nominale limite de la rallonge ou du bloc multiprise.
- Pour protéger le système contre les pics et les chutes de tension transitoires et soudains, utilisez un parasurtenseur, un filtre de secteur ou une alimentation sans interruption (ASI).
- Positionnez les câbles système et les câbles d'alimentation avec soin. Acheminez les câbles de manière à ce qu'ils ne puissent pas être piétinés ou trébuchés. Veillez à ce que rien ne repose sur les câbles.
- Ne modifiez pas les câbles ou les fiches d'alimentation. Contactez un électricien qualifié ou la compagnie d'électricité si des modifications sur site sont nécessaires. Respectez toujours la règlementation locale ou nationale en matière de câblage.

Lors de la connexion ou de la déconnexion de l'alimentation vers et depuis des blocs d'alimentation enfichables à chaud, respectez les consignes suivantes:

- Installez l'alimentation avant d'y brancher le câble d'alimentation.
- Débranchez le câble d'alimentation avant de couper l'alimentation.
- Si le système possède plusieurs sources d'alimentation, mettez-le hors tension en débranchant tous les câbles d'alimentation des prises.
- Déplacez les appareils avec précaution et assurez-vous que les roulettes et/ou que les pieds stabilisateurs sont bien fixés au système. Évitez les arrêts brusques et les surfaces inégales.

Pour éviter d'endommager le système, assurez-vous que le commutateur de sélection de tension de l'alimentation est réglé sur l'alimentation disponible à l'emplacement du commutateur:

- 115 V/60 Hz est principalement utilisé en Amérique du Nord et du Sud, ainsi que dans des pays d'Extrême-Orient tels que la Corée du Sud et Taïwan.
- 100 V/50 Hz est utilisé principalement dans l'est du Japon et 100 V/ 60 Hz dans l'ouest du Japon.
- 230 V/50 Hz est principalement utilisé en Europe, au Moyen-Orient, en Afrique et en Extrême-Orient.

General Precautions for Rack-Mountable Products

Please pay careful attention to the following precautions concerning rack stability and safety. Systems are considered to be components in a rack. Thus, a component refers to any system, as well as to various peripherals or supporting hardware:

CAUTION: Installing systems in a rack without the front and side stabilizers installed could cause the rack to tip over, potentially resulting in bodily injury under certain circumstances. Therefore, always install the stabilizers before installing components in the rack. After installing system/components in a rack, never pull more than one component out of the rack on its slide assemblies at one time. The weight of more than one extended component could cause the rack to tip over and may result in serious injury.

ATTENTION : Le montage de systèmes sur un rack dépourvu de pieds stabilisateurs avant et latéraux peut faire basculer le rack, pouvant causer des dommages corporels dans certains cas. Par conséquent, installez toujours les pieds stabilisateurs avant de monter des composants sur le rack. Après l'installation d'un système ou de composants dans un rack, ne sortez jamais plus d'un composant à la fois hors du rack sur ses glissières. Le poids de plusieurs composants sur les glissières en extension peut faire basculer le rack, pouvant causer de graves dommages corporels.

- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- Always load the rack from the bottom up, and load the heaviest item in the rack first.
- Make sure that the rack is level and stable before extending a component from the rack.
- Use caution when pressing the component rail release latches and sliding a component into or out of a rack; the slide rails can pinch your fingers.
- After a component is inserted into the rack, carefully extend the rail into a locking position, and then slide the component into the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Ensure that proper airflow is provided to components in the rack.
- Do not step on or stand on any component when servicing other components in a rack.

CAUTION: Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if uncertain that suitable grounding is available.

ATTENTION : Ne neutralisez jamais le conducteur de masse et ne faites jamais fonctionner le matériel en l'absence de conducteur de masse dûment installé. Contactez l'organisme de contrôle en électricité approprié ou un électricien qualifié si vous n'êtes pas sûr qu'un système de mise à la masse adéquat soit disponible.

CAUTION: The system chassis must be positively grounded to the rack cabinet frame. Do not attempt to connect power to the system until grounding cables are connected. Completed power and safety ground wiring must be inspected by a qualified electrical inspector. An energy hazard will exist if the safety ground cable is omitted or disconnected.

ATTENTION : La carcasse du système doit être positivement reliée à la masse du cadre du rack. N'essayez pas de mettre le système sous tension si les câbles de mise à la masse ne sont pas raccordés. Le câblage de l'alimentation et de la mise à la masse de sécurité doit être inspecté par un inspecteur qualifié en électricité. Un risque électrique existe si le câble de mise à la masse de sécurité est omis ou débranché.

Protecting Against Electrostatic Discharge

Static electricity can harm delicate components inside the system. To prevent static damage, discharge static electricity from your body before touching any of the electronic components, such as the microprocessor. This can be done by periodically touching an unpainted metal surface on the chassis.

The following steps can also be taken prevent damage from electrostatic discharge (ESD):

- When unpacking a static-sensitive component from its shipping carton, do not remove the component from the antistatic packing material until ready to install the component in the system. Just before unwrapping the antistatic packaging, be sure to discharge static electricity from your body.
- When transporting a sensitive component, first place it in an antistatic container or packaging.
- Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads, workbench pads and an antistatic grounding strap.

Warranty

Technical Support