D-Link®
Building Networks for People

Hardware Installation Guide

Product Model: DXS-3400 Series

Lite Layer 3 Stackable 10GbE Managed Switch
Release 1.00

February, 2016 P/N 651XS3400005G

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 manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his expense.

CE Mark Warning

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

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。VCCI-A.

BSMI Notice

此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。

Safety Compliance

Warning: Class 1 Laser Product:

- **EN:** When using a fiber optic media expansion module, never look at the transmit laser while it is powered on. Also, never look directly at the fiber TX port and fiber cable ends when they are powered on.

- **FR:** Ne regardez jamais le laser tant qu'il est sous tension. Ne regardez jamais directement le port TX (Tramsmission) à fibres optiques et les embouts de câbles à fibres optiques tant qu'ils sont sous tension.

SFP (Mini-GBIC), XENPAK, and XFP Regulatory Compliance

Networks pluggable optical modules meet the following regulatory requirements:

- Class 1.

- IEC/EN60825-1:2007 2nd Edition or later, European Standard

- FCC 21 CFR Chapter 1, Subchapter J in accordance with FDA and CDRH requirements.

- Application of CE Mark in accordance with 2004/108/EEC EMC Directive and the 2006/95/EC Low Voltage Directives.

- UL and/or CSA registered component for North America.

- 47 CFR Part 15, Class A when installed into products.

Intended Readers

The DXS-3400 Series Lite Layer 3 Stackable 10GbE Managed Switch Hardware Installation Guide contains detailed information about the hardware specifications of the switches in this series. It also contains brief information on how to configure and manage a switch in this series. This manual is intended for advanced level users that are familiar with network management concepts and terminology. For all practical reasons, all the switches in this series will simply be referred to as the Switch throughout this manual.

Typographical Conventions

Convention	Description
Boldface Font	This convention is used to place emphasis on keywords. It also indicates a button, toolbar icon, menu, menu item, system message, or a prompt appearing on the screen. 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 Command Line Interface (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.

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:

- 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

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.

- 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.

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.

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.

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1. Introduction

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Switch Description

DXS-3400 Series is D-Link's latest 10G, Light Layer 3, managed switch, containing 20 10GBASE-T ports with 4 10GBASE-T/SFP+ combo ports, or 20 SFP+ ports with 4 10GBASE-T/SFP+ combo ports. The major target application for the DXS-3400 Series is the aggregation of switches in the network, or integration of the DXS-3400 Series as the Top-of-Rack (ToR) switch in a corporation's Data Center or server farm.

DXS-3400 Series supports a High Availability (HA) design by utilizing virtual and physical stacking, a redundant power supply, and multiple removable fans. With stacking architecture, only a single IP address is needed to manage all switches in the stack. The DXS-3400 Series also provides great flexibility to adding or removing a switch to and from the network without interrupting normal network operation. The redundant power supply design provides a reliable HA architecture to ensure non-stop operation.

The DXS-3400-24TC supports 20 10GBASE-T ports with 4 10GBASE-T/SFP+ combo ports.
The DXS-3400-24SC supports 20 10G SFP+ ports with 4 10GBASE-T/SFP+ combo ports.

The 10GBASE-T standard provides the requisite backwards compatibility that allows end users to transparently upgrade from a 10/100/1000 Mbps network to a 10 Gbps network by using cost-effective unshielded or shielded, Category 6, 6A, or 7 RJ45 cables.

10G SFP+ has advantages of lower power consumption, longer distance support, and better latency performance.

Package Contents

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

- One DXS-3400 Series switch
- One Quick Installation Guide
- One AC power cord
- One AC power supply module
- Three Fan modules
- One console cable (RJ45 to RS-232)
- One console cable (USB to mini-USB)
- One rack mounting kit (two brackets and screws)
- Four rubber feet with adhesive backing
- One CD containing the Web UI Reference Guide, CLI Reference Guide, D-View module, and additional software

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

Features

This switch is packed with an abundance of networking features that span inside and outside of the traditional Layer 3 framework. The list below highlights the significant protocols and features supported by this switch.

Features that can be found on this switch are:

- Virtual Stacking. D-Link Single IP Management (SIM)
- Physical Stacking, using the SFP+ ports with 80G (full-duplex) in Linear and Ring topologies
- Jumbo Frames (12 KBytes)
- Spanning Tree Protocol (STP, RSTP, and MSTP)
- Ethernet Ring Protection Switching (ERPS)
- Link Aggregation
- Mirroring (Port Mirroring, VLAN Mirroring, Flow-based (ACL) Mirroring, and RSPAN)
- Loopback Detection (LBD)
- L2 Protocol Tunneling
- IGMP Snooping (Version 1, 2, and 3)
- MLD Snooping (Version 1 and 2)
- PIM Snooping
- Priority-based Flow Control (PFC) on 10G ports
- 802.1Q VLAN, Port-based VLAN, 802.1v Protocol-based VLAN , MAC-based VLAN, Subnet-based VLAN, Voice VLAN, Surveillance VLAN, Private VLAN, Asymmetric VLAN, and VLAN Trunking
- Double VLAN (Q-in-Q) and VLAN Translation
- ISM VLAN (Multicast VLAN)
- Gratuitous ARP
- ARP Proxy
- IPv6 Neighbor Discovery (ND)
- IPv6 Tunneling
- Virtual Router Redundancy Protocol (VRRPv2/VRRPv3)
- Policy-based Route (PBR)
- Route Preference Setting
- Route Redistribution
- Bidirectional Forwarding Detection (BFD)
- Routing Information Protocol (RIPv1/RIPv2), and RIPng
- Class of Service (CoS)
- Single-rate Three-color Marker (srTCM) and Two-rate Three-color Marker (trTCM)
- Policy Map (Remark 802.1p priority, Remark ToS/DSCP, Rate Limiting, and Time-based QoS)
- Queue Handling: Strict Priority Queue (SPQ), Weighted Round Robin (WRR), SPQ+WRR,

- Weighted Deficit Round Robin (WDRR), and 802.1Qaz Enhanced Transmission Selection (ETS)
- Congestion Control: Weighted Random Early Detection (WRED), 802.1Qau Congestion Notification (QCN), Port-based Bandwidth Control, Flow-based bandwidth Control, and Queue-based Bandwidth Control
- Access Control List (ACL): IP Access List, IPv6 Access List, Time-based ACL, and CPU Interface Filtering
- iSCSI Awareness
- Secure Shell (SSHv2) IPv4/IPv6
- Secure Sockets Layer (SSLv1/SSLv2/SSLv3) IPv4/IPv6
- Port Security
- Broadcast, Multicast, and Unicast Storm Control
- Traffic Segmentation
- IP-MAC-Port Binding (IMPB)
- IP Source Guard (IPv4/IPv6)
- DHCP Snooping
- IPv6 Snooping
- Dynamic ARP Inspection (DAI)
- DHCPv6 Guard
- IPv6 Route Advertisement (RA) Guard
- IPv6 ND Inspection
- Duplicate Address Detection (DAD)
- D-Link Safeguard Engine
- Layer 3 Control Packet Filtering
- NetBIOS/NetBEUI Filtering
- DHCP Server Screening (IPv4/IPv6)
- DHCP Client Filtering
- ARP Spoofing Prevention
- BPDU Attack Protection
- DoS Attack Prevention
- Authentication, Authorization, and Accounting (AAA)
- RADIUS/TACACS+ Accounting (IPv4/IPv6)
- 802.1X Network Access Control
- Web-based Access Control (WAC)
- MAC-based Access Control (MAC)
- Compound Authentication
- Guest VLAN
- Microsoft® NAP Support (IPv4/IPv6)

- Trusted Host
- Cable Diagnostics
- 802.3ah Ethernet Link OAM (Dying Gasp)
- 802.1ag Connectivity Fault Management (CFM)
- Y.1731 OAM
- Optical Transceiver Digital Diagnostic Monitoring (DDM)
- D-Link Unidirectional Link Detection (DULD)
- Network Time Protocol (NTP) IPv4/IPv6
- Simple Network Time Protocol (SNTP) IPv4/IPv6
- Precision Time Protocol (PTP)
- Link Layer Discovery Protocol (LLDP), and LLDP-MED
- User Account Privilege for Management Access
- Command Line Interface (CLI)
- Simple Network Management Protocol (SNMPv1/SNMPv2c/SNMPv3) IPv4/IPv6
- Remote Network MONitoring (RMONv1/RMONv2)
- SNMP Trap
- Web User Interface (Web UI)
- D-Link Discover Protocol (DDP), and D-Link Network Assistant (DNA)
- DHCP Server and Client, and DHCP Auto-configuration (IPv4/IPv6)
- DHCP Relay (IPv4/IPv6)
- Telnet Server and Client
- TFTP Client (IPv4/IPv6)
- FTP Client (IPv4/IPv6)
- Secured FTP (SFTP) Server (IPv4/IPv6)
- Remote Copy Protocol (RCP) IPv4/IPv6
- System Log and Command Logging
- SMTP (IPv4/IPv6)
- DNS Resolver and Relay (IPv4/IPv6)
- Multiple Image and Configuration, and Flash File System (FFS)
- Password Recovery and Encryption
- Debug Command
- CPU and Port Utilization Monitoring, and Packets Counter
- Trap and Log Severity Control
- Traceroute and Ping (IPv4/IPv6)
- Microsoft® Network Load Balancing (NLB)
- sFlow (IPv4/IPv6)

- Management Information Base (MIBs) for MIBII, Bridge MIB, SNMPv2 MIB, RMON MIB, RMONv2 MIB, Ether-like MIB, 802.3 MAU MIB, 802.1p MIB, IF MIB, RADIUS Authentication Client MIB, RADIUS Accounting Client MIB, Ping & TRACEROUTE MIB, IPv6 MIB, ICMPv6 MIB, Entity MIB, VRRP MIB, RIPv2 MIB, OSPF MIB, IPv4 Multicast Routing MIB, PIM MIB for IPv4, IP Forwarding Table MIB, IPv6 SNMP MGMT Interface MIB, DDM MIB, Private MIB, and D-Link Zone Defense MIB

Front Panel Components

The front panel of the Switches in this series features a variety of LED indicators and ports.
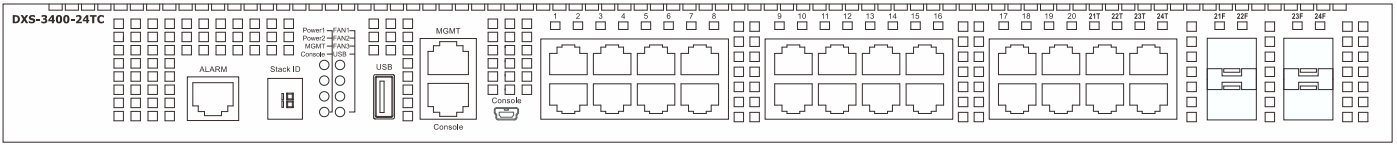

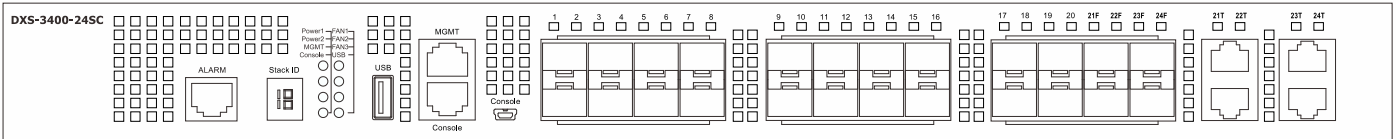**Figure 1-1 Front panel view of the DXS-3400-24TC**

Figure 1-2 Front panel view of the DXS-3400-24SC

Ports that can be found on the front panel of this switch are listed in the table below.

Port	Description
Alarm	The RJ45 (8 pins) Alarm port provides an external alarm detection. The Switch will send out the traps and logs when two of the pins are shorted among the pair.
USB	Inserting a flash drive into the USB 2.0 Type-A port provides an additional storage space for portable firmware images and configuration files that can be copied to and from the NVRAM of the Switch.
MGMT	The RJ45 MGMT port is an out-of-band management port that operates at 10/100/1000 Mbps wire-speed. This port can be used to configure the Switch without being connected to the network.
Console (RJ45)	The RJ45 console port can be used to connect to the Command Line Interface (CLI) of the Switch for configuration, management, and monitoring. This port uses a special console cable (included in this package) with a DB9 interface to connect the Switch to the serial port (COM) of the PC.
Console (Mini-USB)	The Mini-USB console port can be used to connect to the Command Line Interface (CLI) of the Switch for configuration, management, and monitoring.
10 Gigabit RJ45 Ports	The DXS-3400-24TC is equipped with 20 RJ45 Ethernet ports. These ports can operate at 100/1000/10000 Mbps wire-speeds.
10 Gigabit SFP+ Ports	The DXS-34000-24SC is equipped with 20 SFP/SFP+ ports. These ports can operate at 1/10 Gbps wire-speeds and support a wide collection of SFP/SFP+ transceivers.
10 Gigabit Combo RJ45/SFP+ Ports	The Switch is equipped with 4 combo ports that can either operate as RJ45 Ethernet ports or SFP/SFP+ ports. The RJ45 ports can operate at 100/1000/10000 Mbps wire-speeds. The SFP/SFP+ ports can operate at 1/10 Gbps wire-speeds and support a wide collection of SFP/SFP+ transceivers.

For a complete list of SFP/SFP+ transceivers that are compatible with this switch, refer to the **SFP+ Ports** section in **Appendix A - Technical Specifications**.

LED Indicators

Located on the front panel of the Switch are LED indicators: Stack ID, Power1, Power2, MGMT, Console, Fan1, Fan2, Fan3, and USB. For each port there is a light representing the port speed and activity.
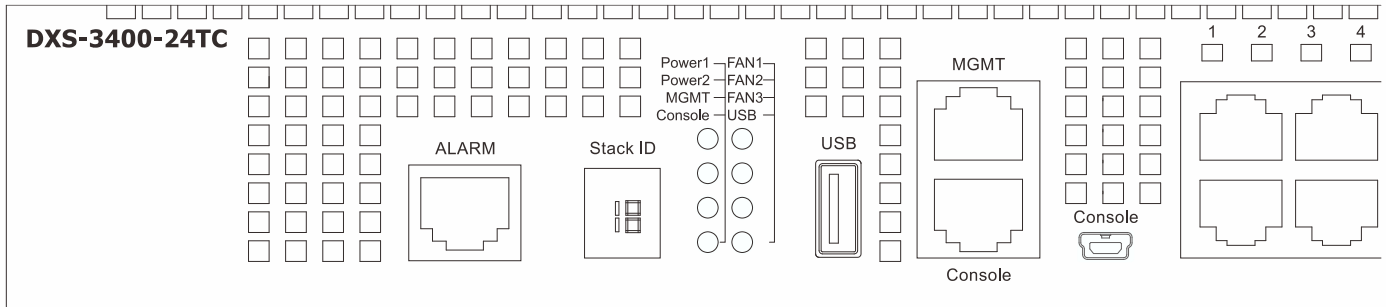

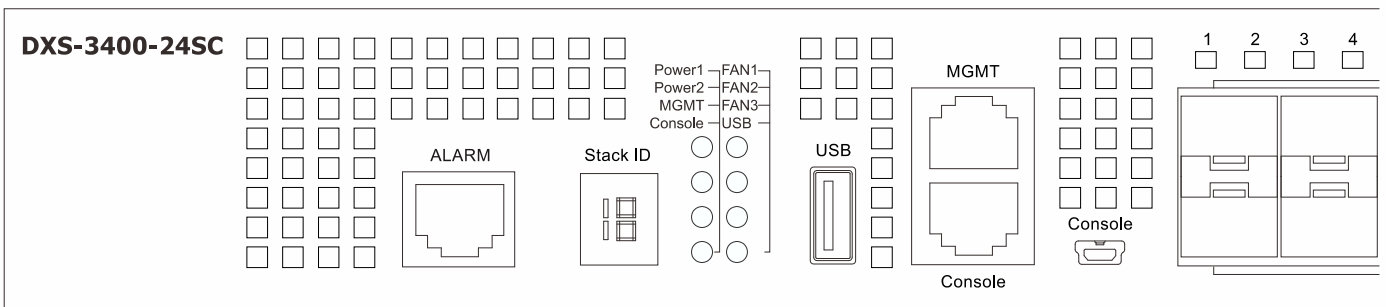**Figure 1-3 LED indicators for the DXS-3400-24TC**

Figure 1-4 LED indicators for the DXS-3400-24SC

LED	Description
Stack ID	This 7-segment LED can display numbers from 1 to 4 and the following letters H, h, E, and G. The stacking ID (1 to 4) can be assigned manually by the user or automatically by the system. The letter '**H**' will be displayed if this switch is the **master switch** in the stack. The letter '**h**' will be displayed if this switch is the **backup master switch** in the stack. The letter '**E**' will be displayed if there was an error in the system's self-test. The letter '**G**' will be displayed when the **Safeguard** engine entered the **exhausted mode**.
Power 1, Power 2	This LED will light solid green after the Switch has been powered on successfully. This LED will light solid amber if the Switch's power supply fails. This LED will be off when the Switch is no longer receiving power (i.e. powered off).
Management (MGMT)	This LED will light solid green after a link to the management port was successfully established. This LED will blink when activity on this port is taking place. This LED will be off when there is no link present or when this interface was shut down from within the Switch's configuration.
Console	This LED will light solid green when the RJ45 console port is active. The LED will light solid amber when the mini-USB console port is active.

LED	Description
	This LED will be off when both console ports are not active.
Fan1, Fan2, Fan3	This LED will light solid green when the fan is operating normally.
	This LED will light solid amber when the Switch is booting up or when a diagnostics test is taking place.
	This LED will blink amber when a fan fails.
	This LED will be off when the fan is not receiving power.
USB	This LED will light solid green if a USB flash drive is plugged in.
	This LED will blink green when the Switch is reading or writing data to and from the USB drive.
	This LED will be off when no USB drive is plugged into the USB port.
	This LED will light solid red when a USB drive failure has been detected.
Port LEDs	This LED will light solid green when there is a connection to a 10 Gbps Ethernet device on any of the ports.
	This LED will light solid amber when there is a connection to a 100/1000 Mbps Ethernet device on any of the RJ45 ports.
	This LED will light solid amber when there is a connection to a 1 Gbps Ethernet device on any of the SFP+ fiber ports.
	This LED will blink when a port is active.
	This LED will be off when there is no link or activity.

Refer to the **LED Indicators** section in the **Appendix A - Technical Specifications** for more LED information.

Rear Panel Components

The rear panel of the Switches in this series features a security lock, a GND, power supply module slots, and fan module slots. **One AC power supply module** and **three fan modules** are included in the package for the Switch. Any additional power supply module needs to be bought separately. This switch also supports the use of a DC power supply module.
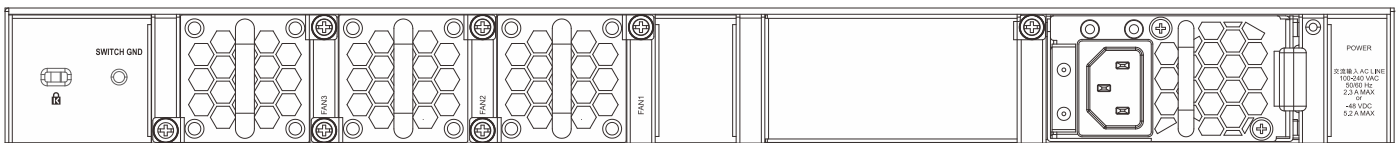

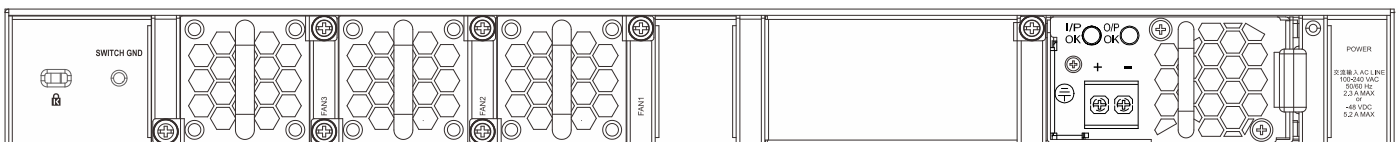**Figure 1-5 Rear panel view of the DXS-3400-24TC with an AC Power Supply**

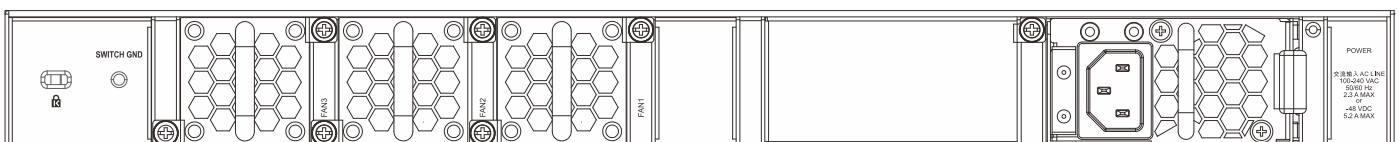**Figure 1-6 Rear Panel view of the DXS-3400-24TC with a DC Power Supply**

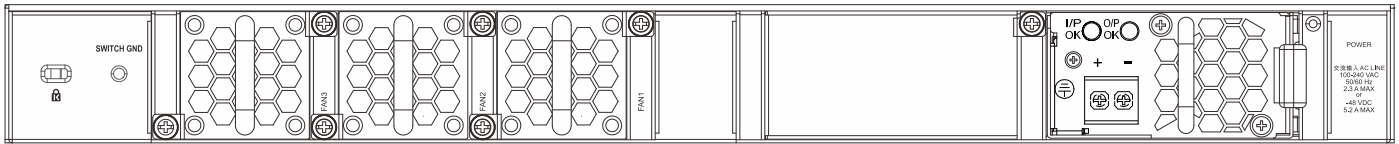**Figure 1-7 Rear panel view of the DXS-3400-24SC with a AC Power Supply**

Figure 1-8 Rear Panel view of the DXS-3400-24SC with a DC Power Supply

Components that can be found on the rear panel of this switch are listed in the table below.

Component	Description
Security Lock	Provide a Kensington-compatible security lock 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.
Switch GND	Use an electrical grounding wire and connect one end of the wire to the Switch GND and the other end of the wire to an electrical grounding point most commonly found on the Switch mounting rack itself.
Three Fan Module Slots	These slots can be equipped with the following fan module. • **DXS-FAN100** (Normal fan tray with front-to-back airflow)
Two Power Supply Module Slots	These slots can be equipped with the following additional power modules. Only one power supply module is included. Any additional modules should be bought separately. • **DXS-PWR300AC** (300 Watt AC power supply tray with front-to-back airflow) • **DXS-PWR300DC** (300 Watt DC power supply tray with front-to-back airflow)

Power Supply Module

Connect the one end of the AC power cord supplied to the AC power connector and the other end into a properly grounded electrical outlet. The Switch will automatically adjust the power setting to adapt to any voltage supply in the range from 100~240 VAC at 50~60 Hz. In addition, an optional second power supply module can be plugged into the second power supply connector slot. The primary and secondary power supply can be either AC supplied or DC supplied, depending on the power supply module inserted. This makes it dual redundant.

Fan Module

The fan modules on the Switch provide front-to-back airflow and are hot-swappable. The Switch also includes **smart fans** that will automatically change their speed depending on the internal temperature detected by the sensors built-in the hardware. These smart fans support two states. They can either running at a **low speed**, or running at a **high speed**.

The following will explain when these fans will toggle between low and high speeds:
- **DXS-3400-24TC:** When the internal temperature, detected by the sensor, rises above 37 °C, the fan will automatically change to the high speed. When the internal temperature, detected by the sensor, falls below 33 °C, the fan will automatically change to the low speed.
- **DXS-3400-24SC:** When the internal temperature, detected by the sensor, rises above 39 °C, the fan will automatically change to the high speed. When the internal temperature, detected by the sensor, falls below 36 °C, the fan will automatically change to the low speed.

Side Panel Components

The side panels of the Switches in this series feature rack-mounting bracket screw holes that can be used when the Switch is installed into a rack-mount unit.
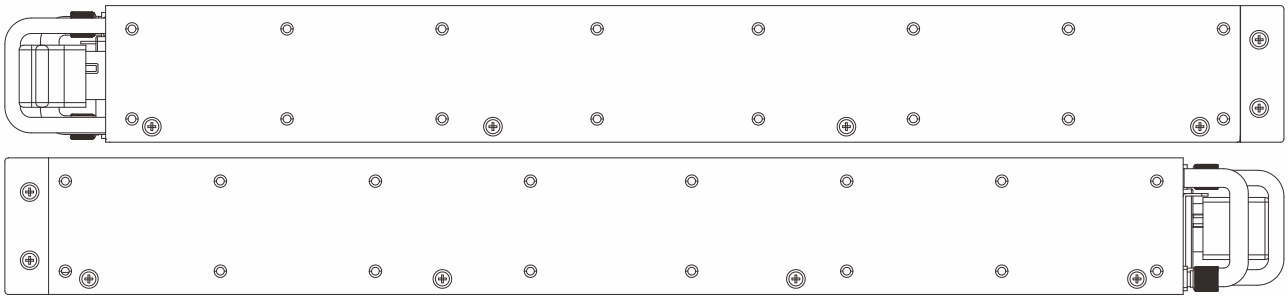
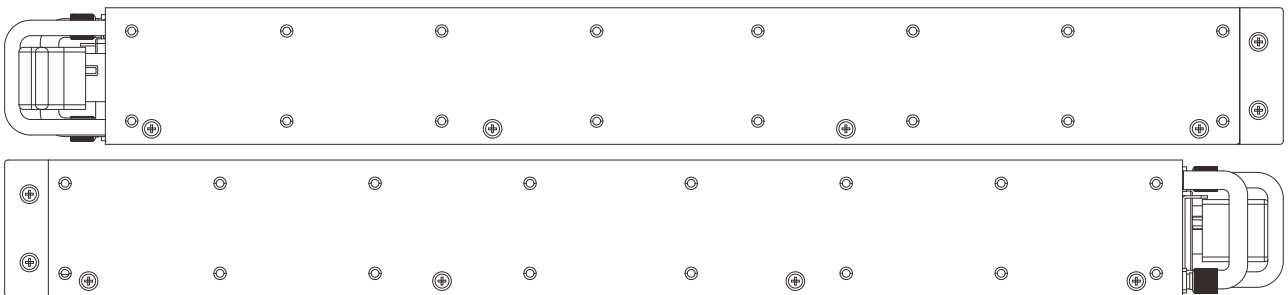**Figure 1-9 Side panels of the DXS-3400-24TC**

Figure 1-10 Side panels of the DXS-3400-24SC

2. Installation

Installation Guidelines
Installing the Switch without a Rack
Installing the Switch into a Rack
Installing Transceivers into the Transceiver Ports
Installing Power Modules into the Power Module
Installing Fan Modules into the Fan Module

Installation Guidelines

This section will discuss the hardware installation guidelines that the user must follow in order to properly and safely install this switch into the appropriate environment.

- Visually inspect the power cord and see that it is fully secured to both the power connector, on the Switch, and the electrical outlet that supplies power.
- Install the Switch in a fairly cool and dry place within the acceptable operating temperature and humidity ranges. For more information about the acceptable operating temperature and humidity ranges, refer to the Physical and Environmental section.
- Install the Switch in a site free from strong electromagnetic field generators such as motors, vibration, dust, and direct exposure to sunlight.

Installing the Switch without a Rack

This section is used to guide the user through installing the Switch in an area other than a switch rack. Attach the included rubber feet to the bottom of the Switch. Take note that there should be marked blocks on the bottom of the Switch to indicate where to attach the rubber feet. These markings are usually found in each corner on the bottom of the device. The rubber feet cushion the Switch, protecting the casing from scratches and preventing it from scratching other surfaces.
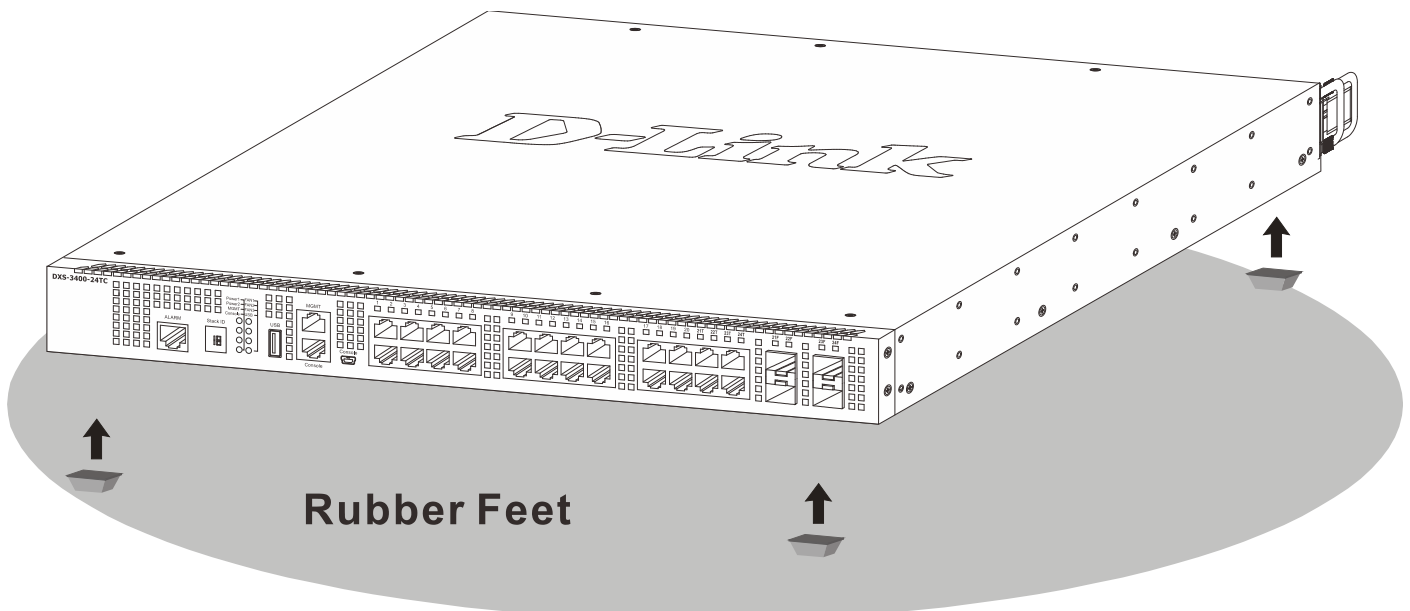
Figure 2-1 Attaching rubber feet to the Switch

Install the Switch on a sturdy, level surface that can support the weight of the Switch (see the **Weight** section in **Appendix A - Technical Specifications**.). Do not place any heavy objects on the Switch. The power outlet should be within 1.82 meters (6 feet) of the Switch. Make sure that there is proper heat dissipation from and adequate ventilation around the Switch. Leave at least 10 cm (4 inches) of space at the front and rear of the Switch for ventilation. Without proper heat dissipation and air circulation, system components might overheat which could lead to system failure or even severely damaged components.

Installing the Switch into a 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" (1 U) rack using the provided mounting brackets.

1. Fasten the mounting brackets to the sides of the Switch using the screws provided.
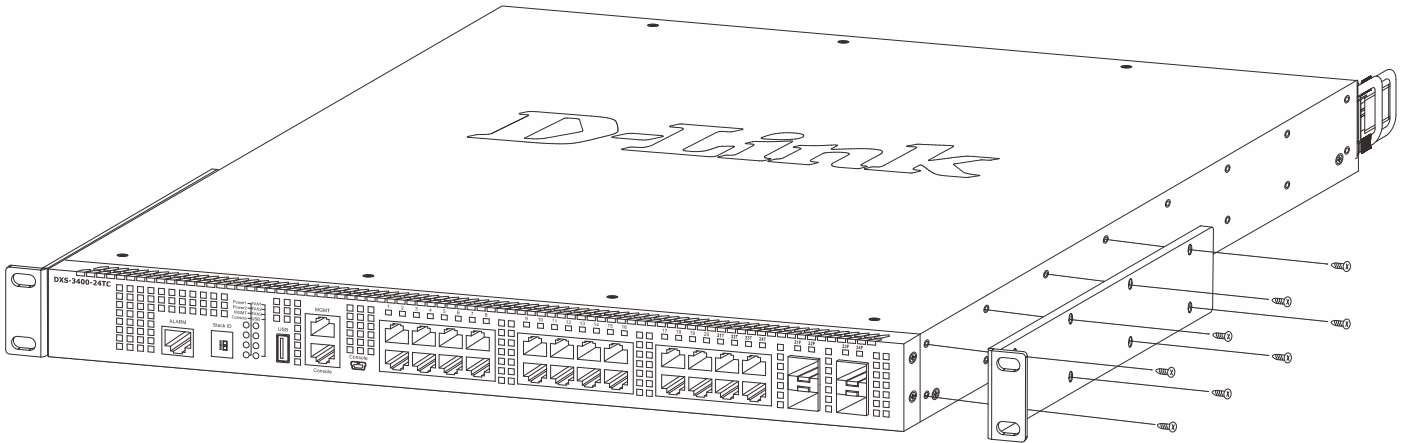
Figure 2-2 Attaching rack-mount brackets to the Switch

2. Fasten the mounting brackets in any available open space in the rack using the screws provided.
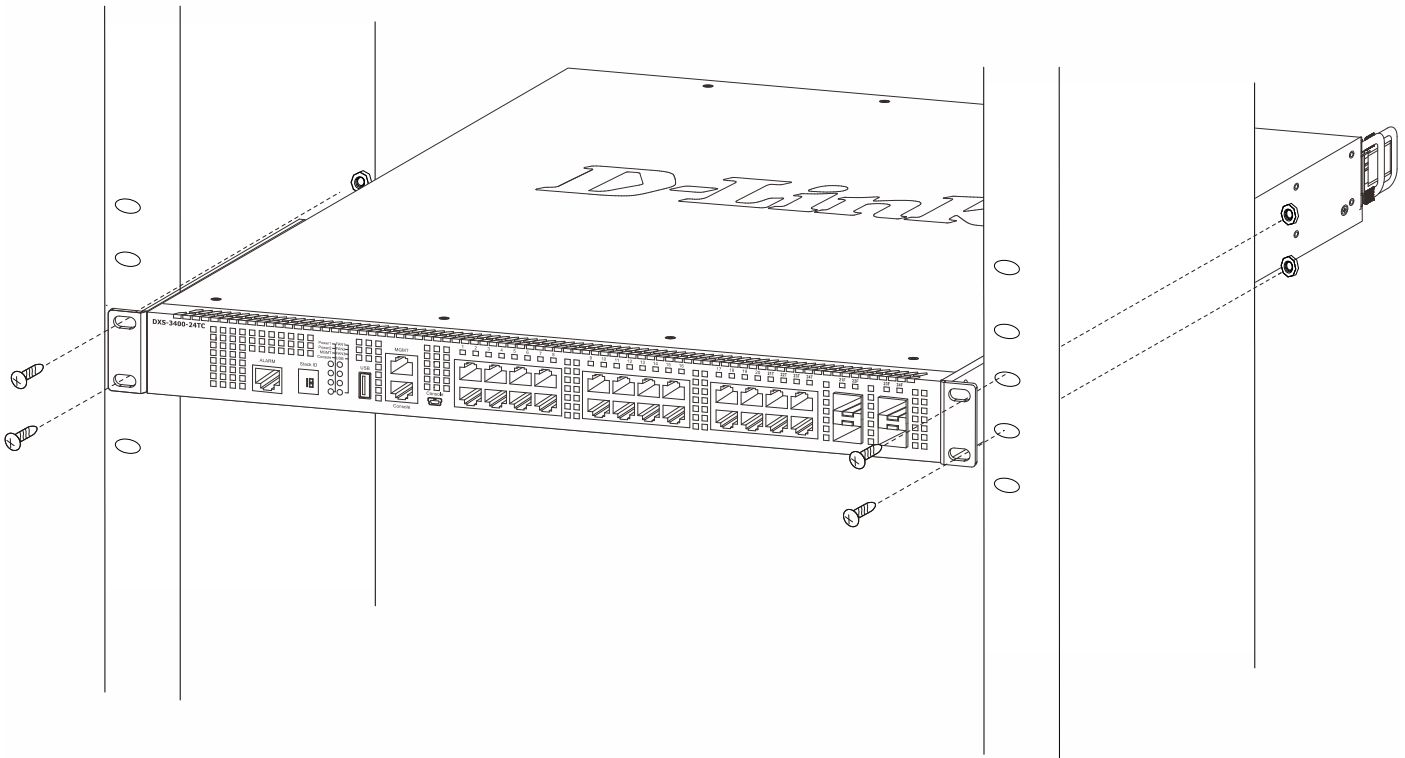
Figure 2-3 Installing the Switch in a Rack

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

Installing Transceivers into the Transceiver Ports

The Switch is equipped with Enhanced Small Form-factor Pluggable (SFP+) ports that can be used to connect various other networking devices to this switch that do not support the standard RJ45 wiring connection. These ports are

generally used to connect this switch to optical fiber connections and can be used to connect devices to the Switch over great distances. The maximum distance that the RJ45 wiring connection can reach is 100 meters. Fiber optic connections can span several kilometers.

The figure below illustrates how to properly insert SFP+ transceivers into the Switch's SFP+ ports.
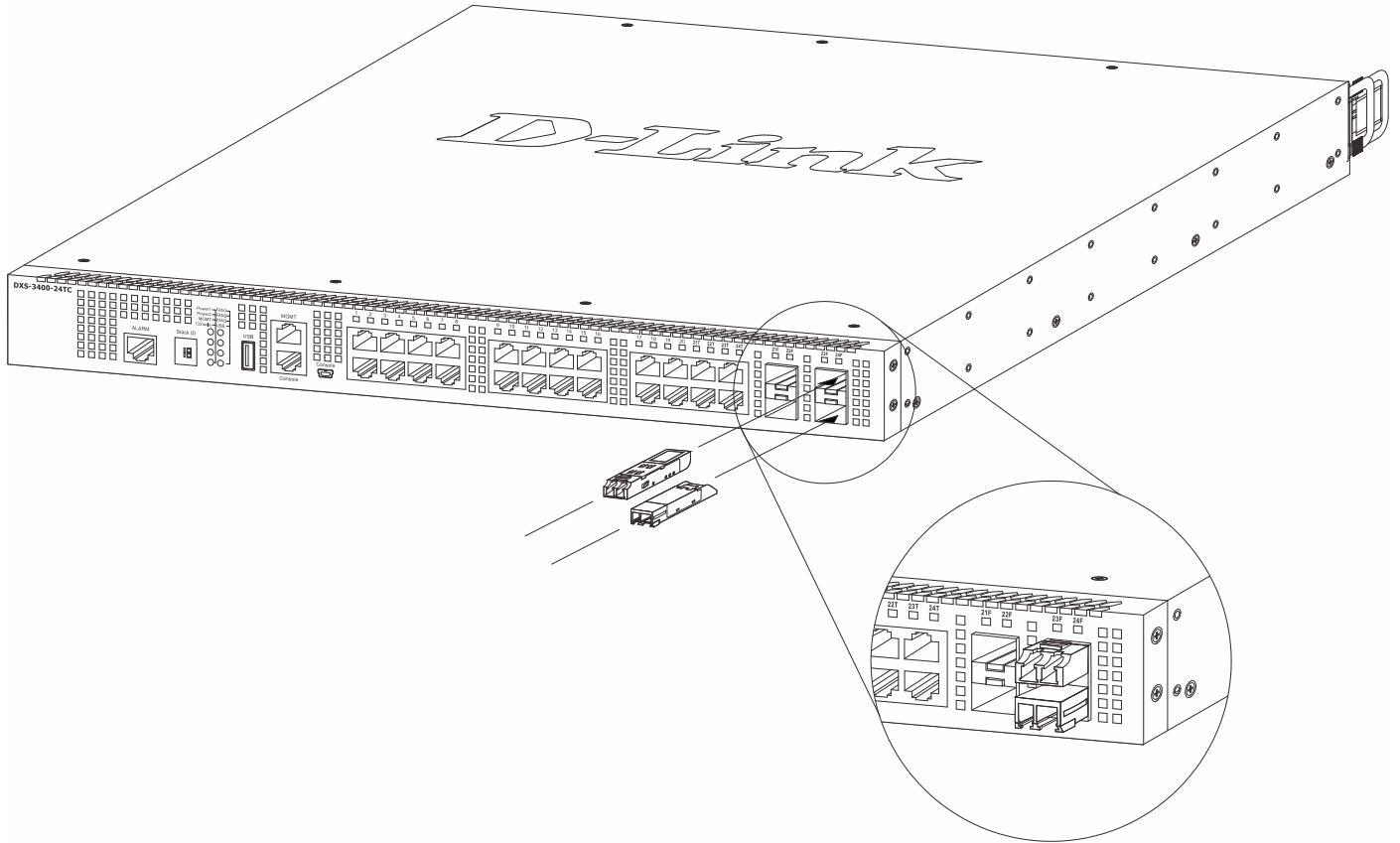
Figure 2-4 Inserting transceivers into the transceiver ports

The SFP+ ports also support other transceiver form factors like **SFP** and **SFP+** transceivers. A complete list of SFP/SFP+ transceivers, compatible with this switch, can be found the **SFP+ Ports** section in **Appendix A - Technical Specifications** at the end of this document.

Installing Power Modules into the Power Module Slots

The power module slots, located on the rear panel of this switch, support two types of power supply modules.
AC Power Supply Module:

- **DXS-PWR300AC**: A 300 Watt AC power supply tray with front-to-back airflow.

DC Power Supply Module:

- **DXS-PWR300DC**: A 300 Watt DC power supply tray with front-to-back airflow.

Installing an AC Power Module

Insert the AC power supply module into the power module slot until the clip clicks in place. Connect the one end of the AC power cord supplied to the AC power connector and the other end into a properly grounded electrical outlet. The Switch will automatically adjust the AC power setting to adapt to any voltage supply in the range from 100~240 VAC at 50~60 Hz.
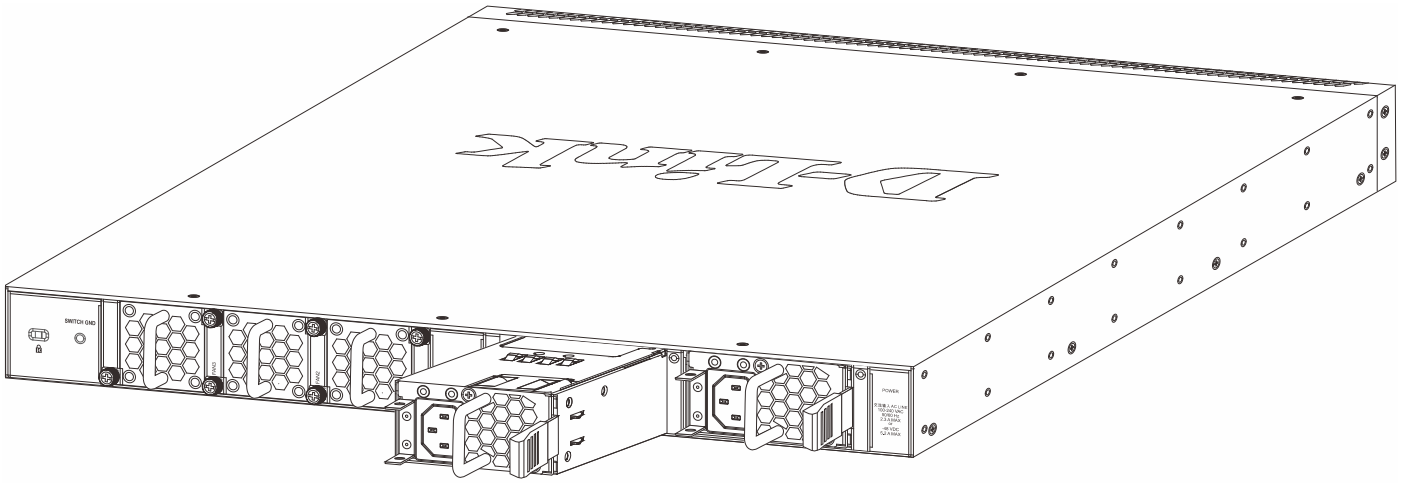
Figure 2-5 Installing an AC Power Supply Module
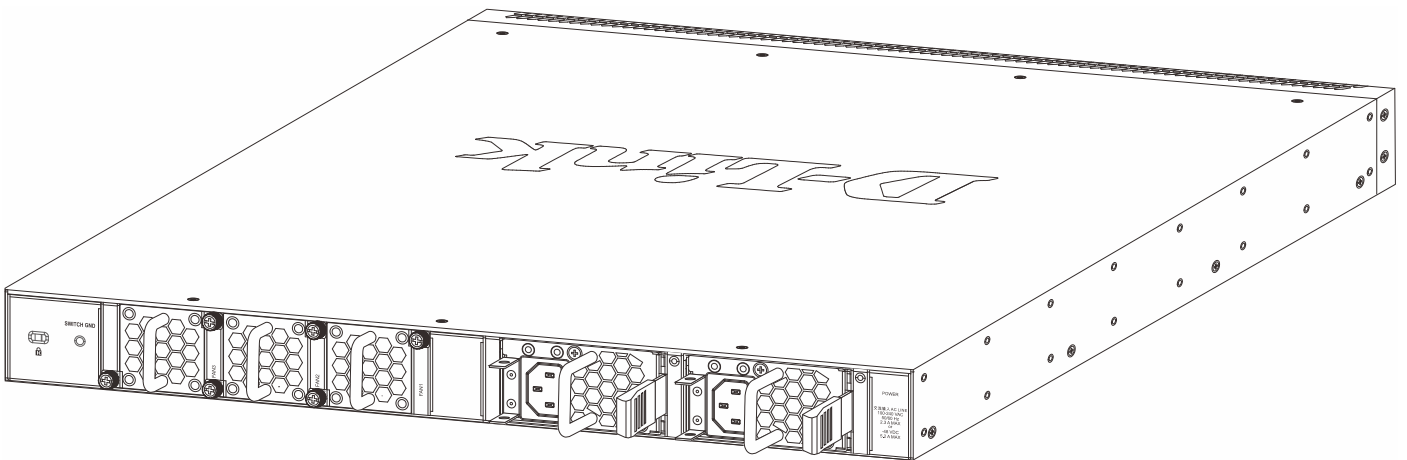
Figure 2-6 Installed AC Power Supply Module

In addition, an optional second AC power supply module can be plugged into the second power supply module slot, as displayed above. When two AC Power supply modules are inserted, and both are supplying power to the Switch, the AC power load will be shared between them. When one of the AC power supply modules fails, the other AC power supply module will continue to supply power to the Switch automatically.

The AC power supply modules are hot-swappable, meaning, that they can be inserted and removed while the Switch is powered on. This feature enhances the reliability of this switch.

Installing a DC Power Module

This switch supports a unique dual power input feature. Insert the DC power supply module into the power module slot until the clip clicks in place. Connect the one end of the DC power cord supplied to a DC power source (-48 VDC, 5.2 A). Make sure that connection polarity (positive and negative) is correct before supplying DC power to the Switch to avoid any damage to the Switch. Connect the power source to the DC plug before plugging it into the Switch. This will protect the Switch from a possible shortage on the DC cable.
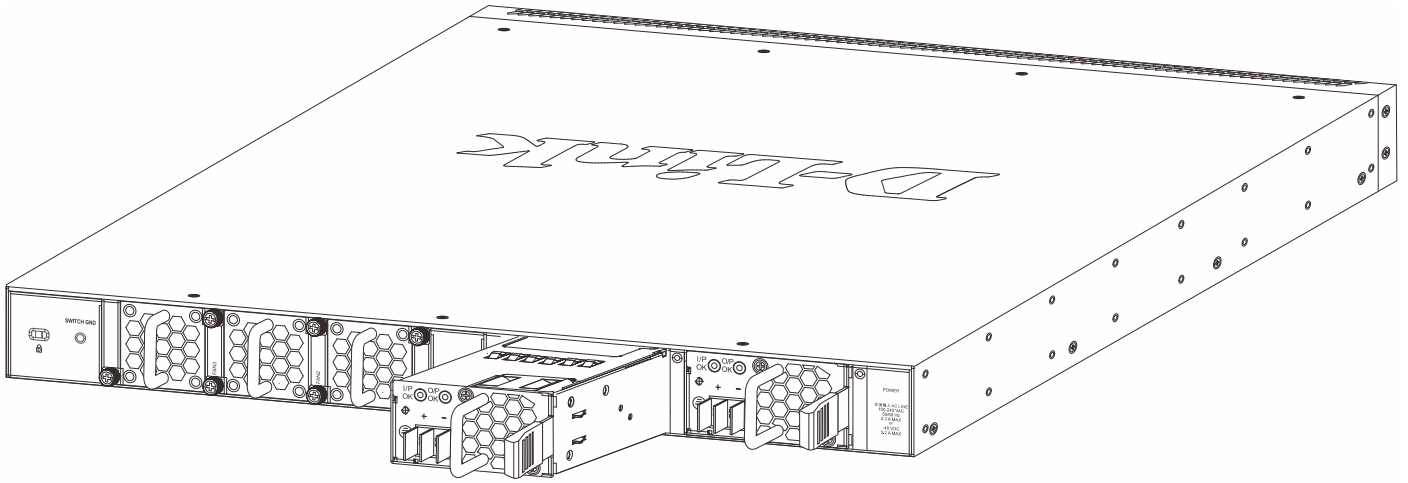
Figure 2-7 Installing a DC Power Supply Module
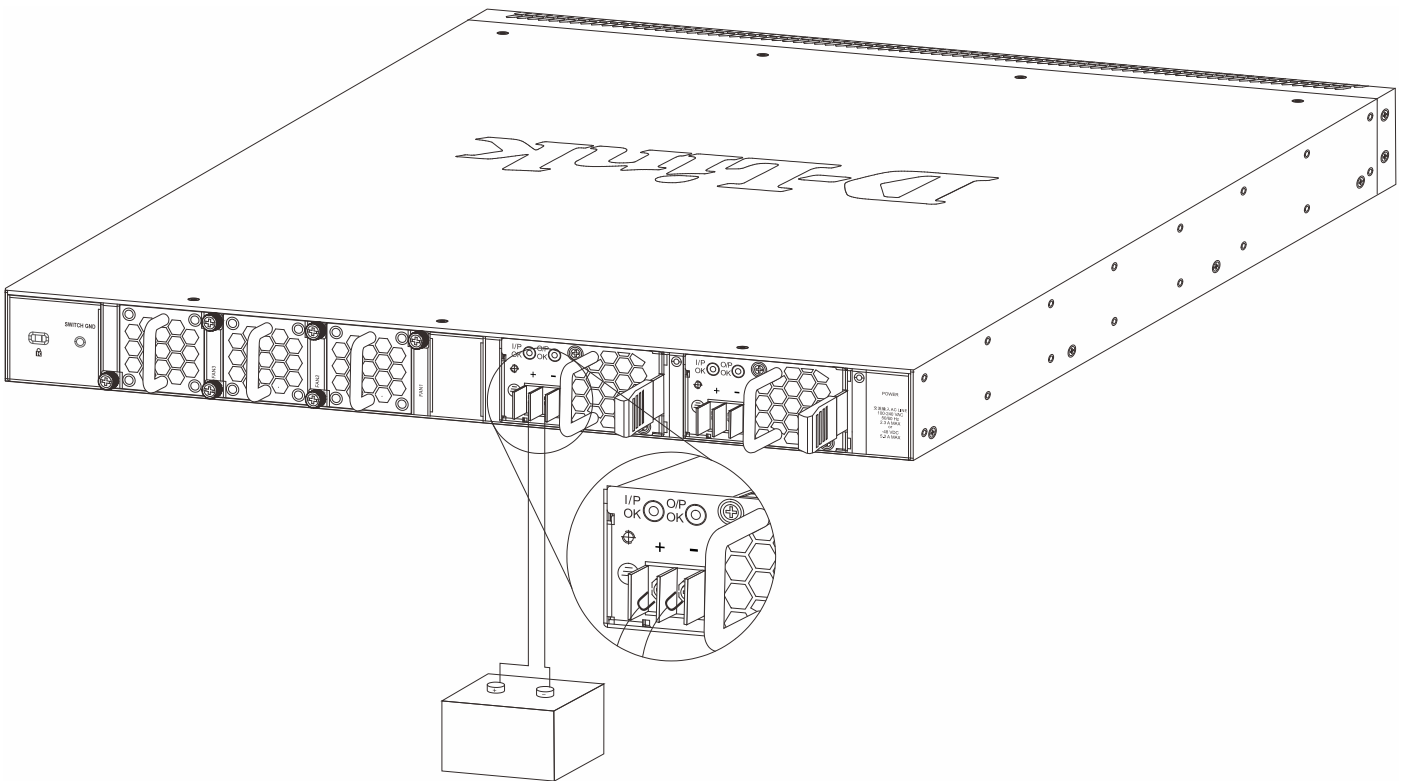
Figure 2-8 Connecting a DC Battery to the DC Power Supply Module

The DC power and AC power of the device will back each other up immediately when one of the power sources fails.

Before connecting the DC power cable to the DC power input socket on the Switch, the DC power cable must be properly connected to DC source at your facility by a qualified licensed electrician. The DC power cable's wire gauge must be 18 AWG. Connect the DC power cable to a DC main circuit breaker rated no greater than 15 A.

If you are installing a DC-powered switch, you must ground the chassis before connecting the Switch to the DC power source, using the following instructions:

- Use a minimum of 18 AWG stranded copper wire. The wire should be long enough to reach from the Switch to the facility ground point.
- Torque screwdriver with a 1/4-inch flat blade.
- Ground additional hardware appropriately to the earth ground connection at your site.

Installing Fan Modules into the Fan Module Slots

Located on the rear panel of this switch there are three fan module slots.
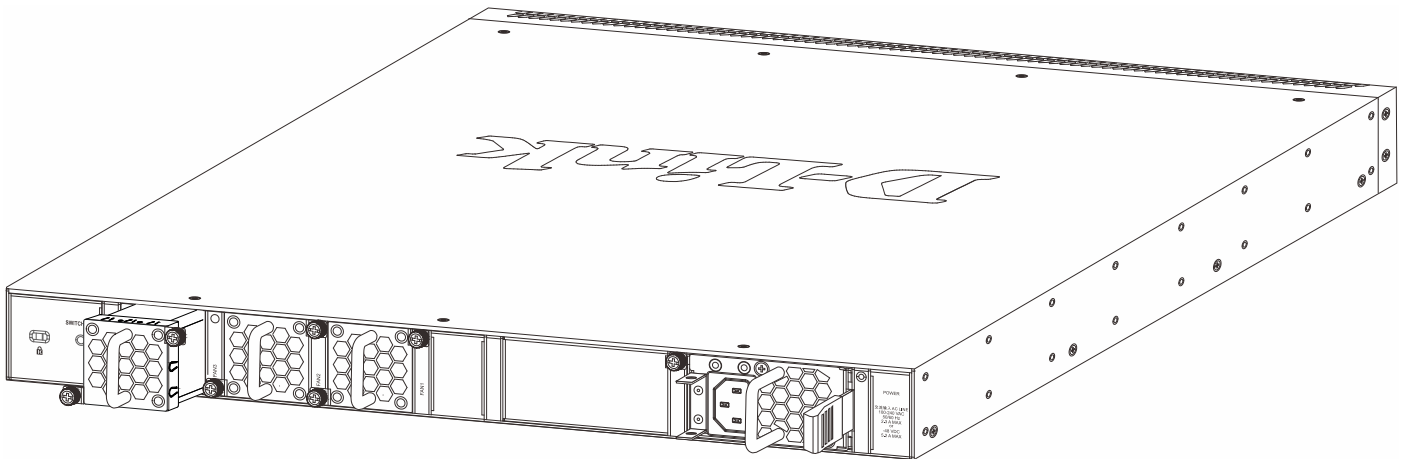
Figure 2-9 Installing a Fan Module

The user can easily remove and insert the DXS-FAN100 fan module into these slots. Use the screws on the fan modules to securely fasten the fan modules to the Switch.

3. Switch Connections

Switch to an End Node
Switch to Another Switch
Switch Stacking
Switch to a Server

Switch to an End Node

An end node is a generic name for edge networking devices that will be connected to this switch. Typical examples of end nodes are Personal Computers (PCs), Notebooks, Access Points, Print Servers, VoIP Phones and more. Each end node should be fitted with a 100/1000/10000 Mbps RJ45 networking port. Normally, end nodes will connect to this switch by using a standard twisted-pair UTP/STP network cable. When a successful connection is established, the corresponding port light will illuminate and blink to indicate that network activity is taking place on that port.

The diagram below displays a typical end node connected to the Switch.
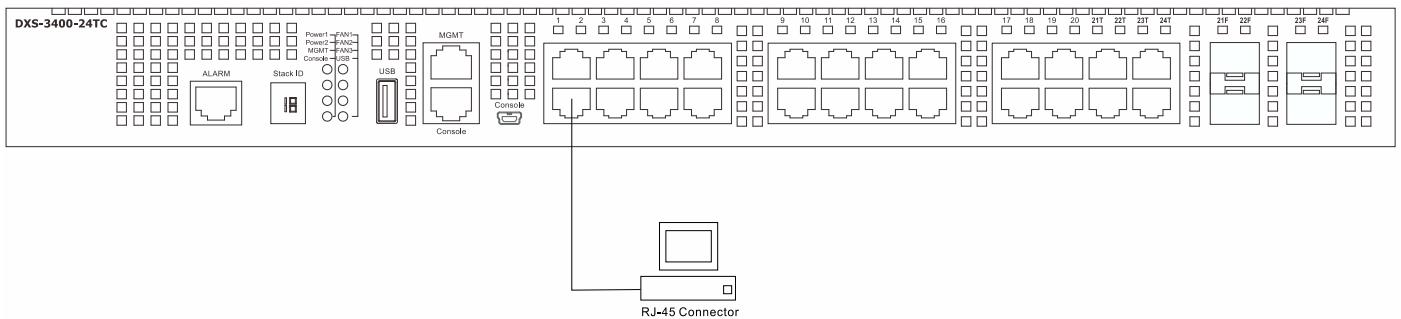
Figure 3-1 Connecting the Switch to an End Node

Switch to Another Switch

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

There is a great deal of flexibility on how connections are made using the appropriate cabling.

- Connect a 100BASE-TX switch port to the Switch via a twisted-pair Category 5 UTP/STP cable.
- Connect a 1000BASE-T switch port to the Switch via a twisted pair Category 5e UTP/STP cable.
- Connect a 10GBASE-T switch port to the Switch via a twisted pair Category 6a UTP/STP cable.
- Connect a switch supporting a 1/10 Gbps optical uplink to the Switch's SFP+ ports via fiber optical cabling.
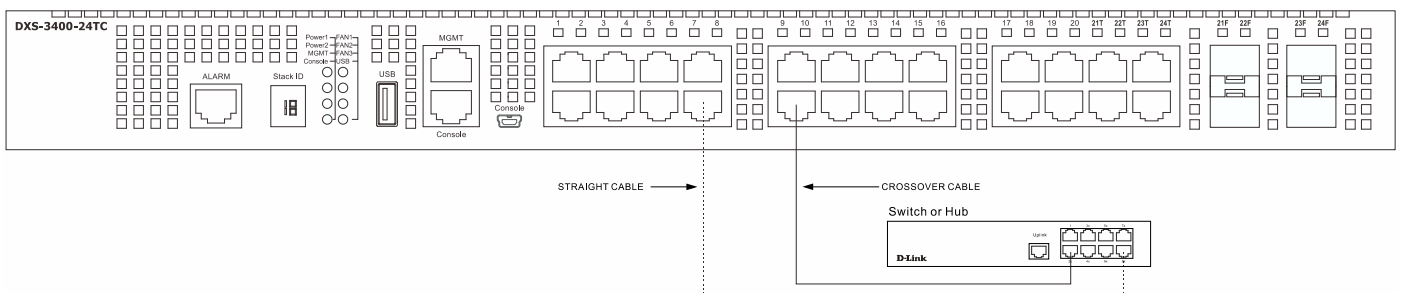
Figure 3-2 Connecting the Switch to another switch/hub

Switch Stacking

The DXS-3400 series supports stacking up to 4 switches together while being managed through one console connection on the master switch, or by an IP address through the MGMT port, or by multiple IP addresses through any of the RJ45/SFP+ ports using Telnet, the Web UI, and SNMP. This cost-effective switch provides an affordable solution for administrators to upgrade their networks using the combo RJ45/SFP+ ports to scale and stack the Switches. This increases overall reliability, serviceability, and availability.

- **Duplex Chain** – The Duplex Chain topology stacks switches together in a chain-link format. Using this method, data transfer is only possible in one direction. If there is a break in the chain, then data transfer will be affected.
- **Duplex Ring** – The Duplex Ring stacks switches in a ring or circle format where data can be transferred in two directions. This topology is very resilient due to the fact that, if there is a break in the ring, data can still be transferred through the stacking cables between switches in the stack using the alternate path.

Switches in the series can be physically stacked using standard Category 6a cables with RJ45 connectors, optical fiber cables connected to SFP+ transceivers, or Direct Attached Cables (DAC) with SFP+ connectors. Only the last 4 ports on the Switch can be used for physical stacking.

Physical stacking needs to be enabled and can be configured to support either a **2-port** or a **4-port** stacking configuration. When the **2-port** stacking configuration is used, a full-duplex speed of up to 40 Gbps will be used between two switches. When the **4-port** stacking configuration is used, a full-duplex speed of up to 80 Gbps will be used between two switches.

The figure below illustrates how switches can be stacked in a **Duplex Chain** formation using Category 6a cables with RJ45 connectors where the **2-port** stacking configuration is used.
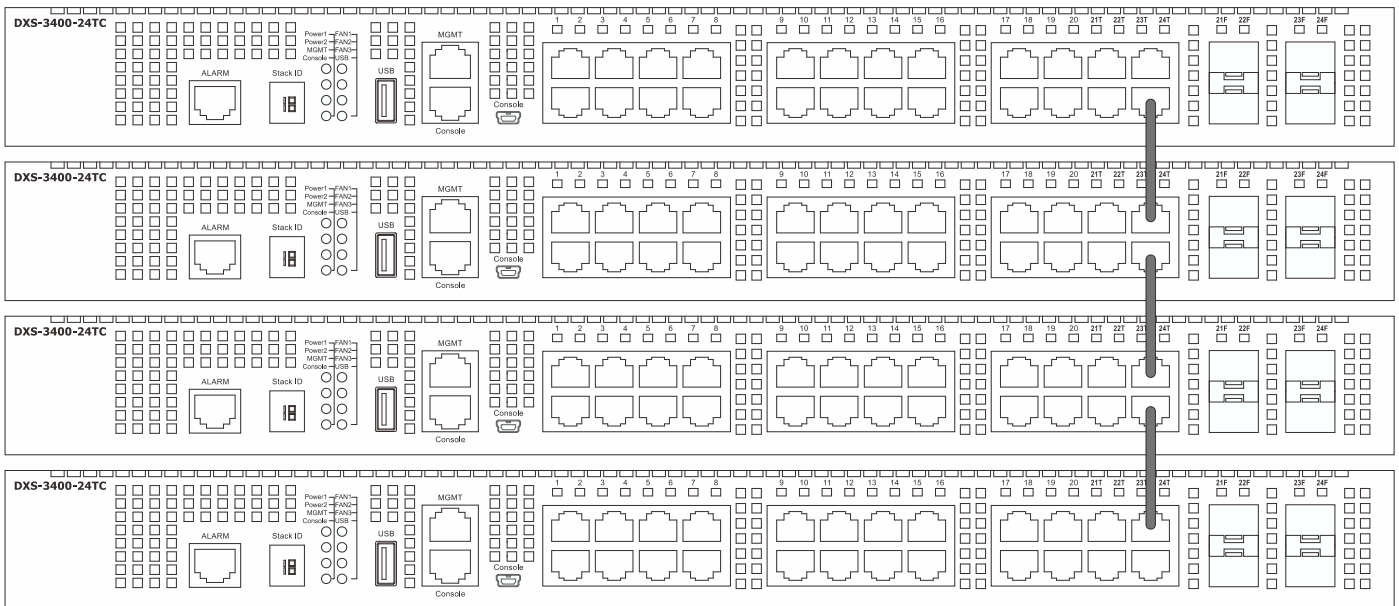
Figure 3-3 Duplex Chain stacking topology (RJ45)

The figure below illustrates how switches can be stacked in a **Duplex Chain** formation using optical fiber cables connected to SFP+ transceivers or DAC with SFP+ connectors where the **2-port** stacking configuration is used.
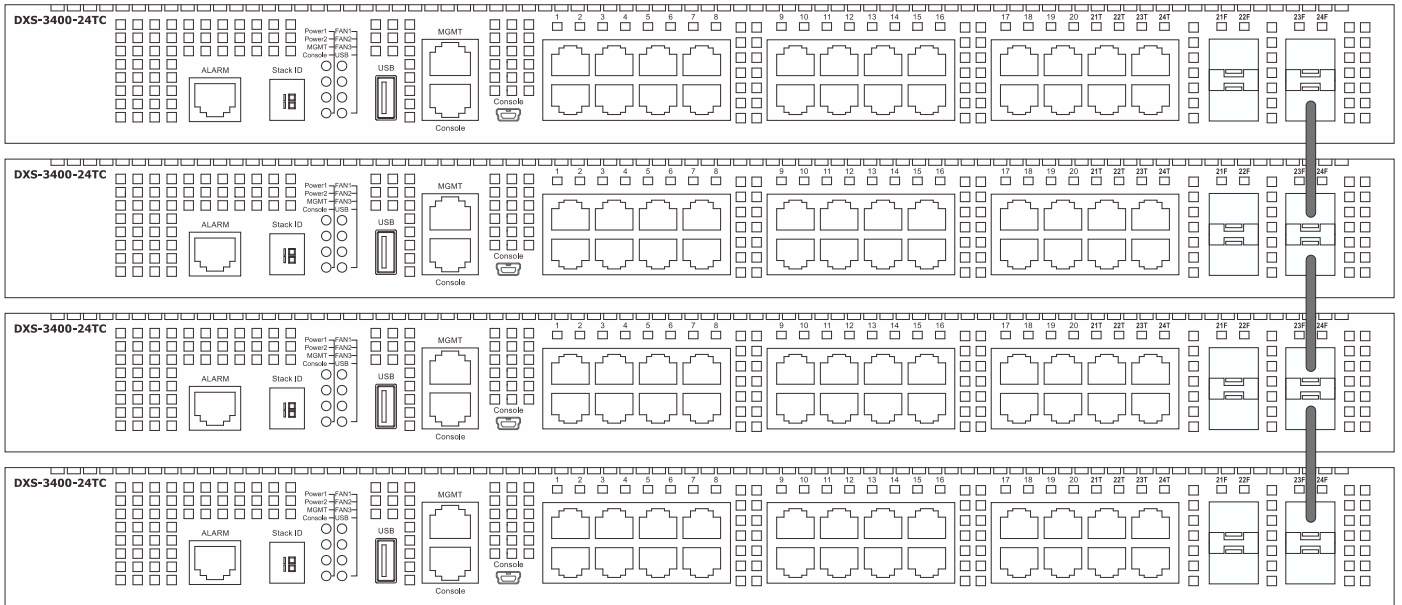
Figure 3-4 Duplex Chain stacking topology (SFP+)

The figure below illustrates how switches can be stacked in a **Duplex Ring** formation using Category 6a cables with RJ45 connectors where the **2-port** stacking configuration is used.
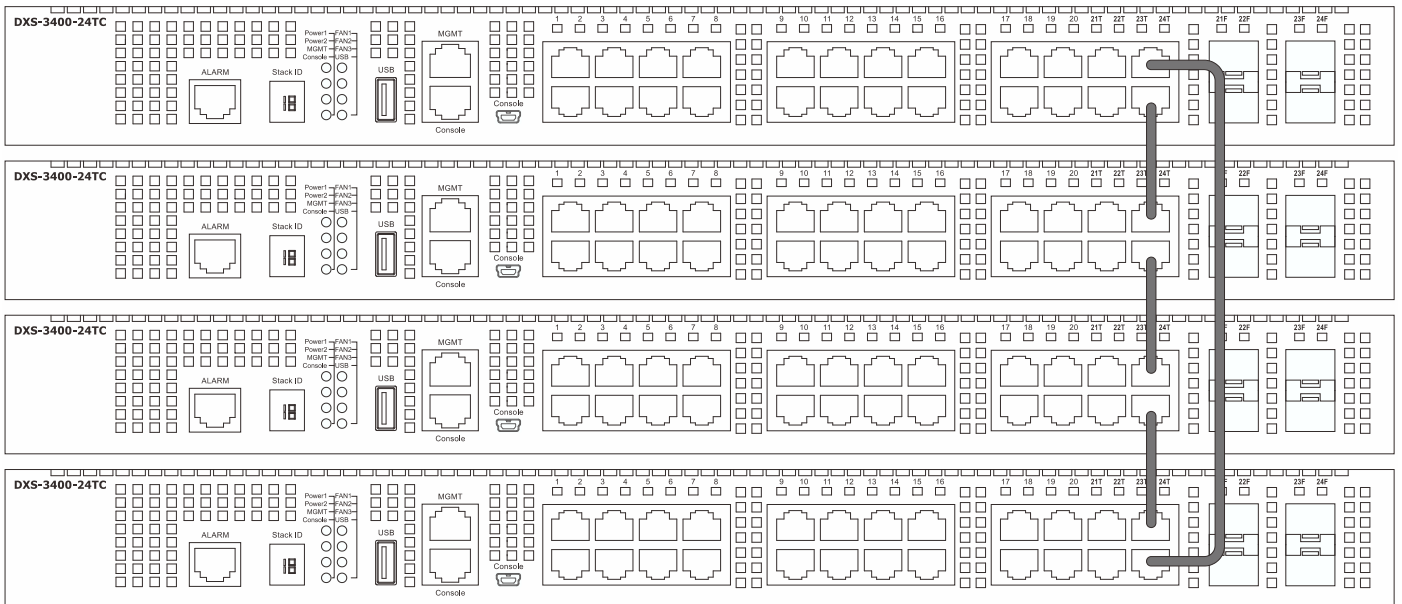
Figure 3-5 Duplex Ring stacking topology (RJ45)

The figure below illustrates how switches can be stacked in a **Duplex Ring** formation using optical fiber cables connected to SFP+ transceivers or DAC with SFP+ connectors where the **2-port** stacking configuration is used.
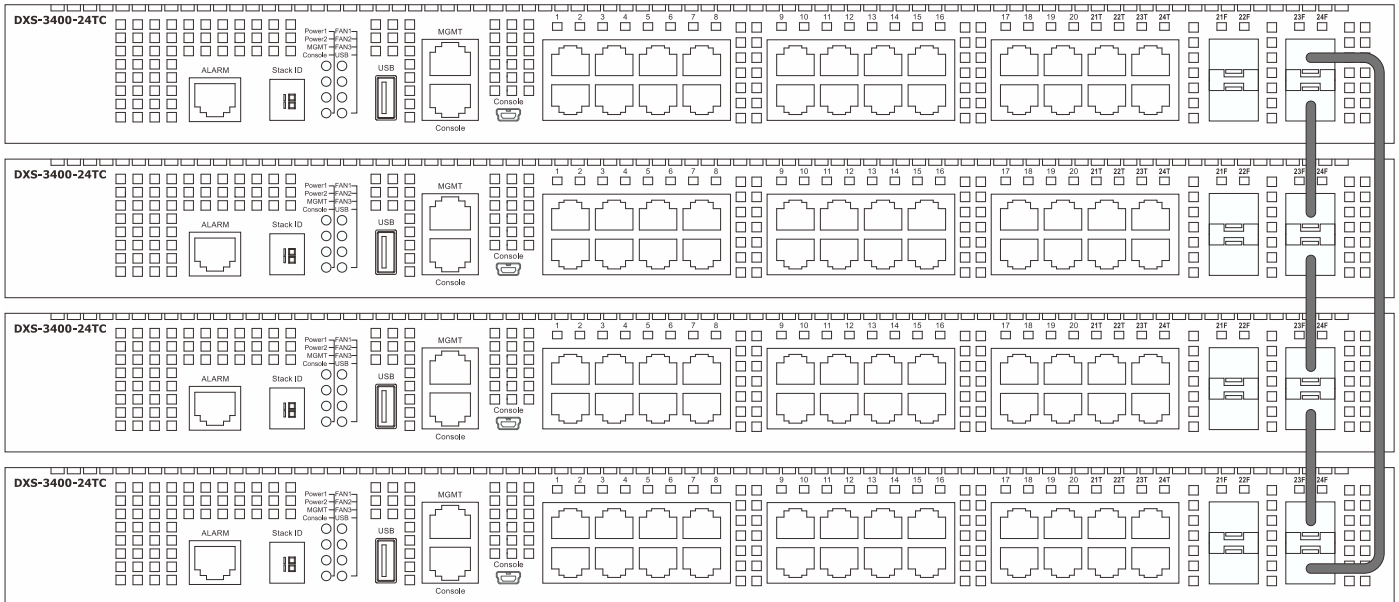
Figure 3-6 Duplex Ring stacking topology (SFP+)

NOTE: Stacking Input/Output 1 (SIO1) is a logical stacking port pair. SIO2 is also a logical stacking port pair. A logical stacking port pair must always be connected to the same Switch in the stack. Splitting logical stacking port pairs between different Switches in the stack might not guarantee a stable stacking connection.

Switch to a Server

The Switch is ideal for connecting to a network backbone, server, or server farm. The RJ45 ports operate at a speed of 100/1000/10000 Mbps. The SFP+ ports operate at a speed of 1/10 Gbps.
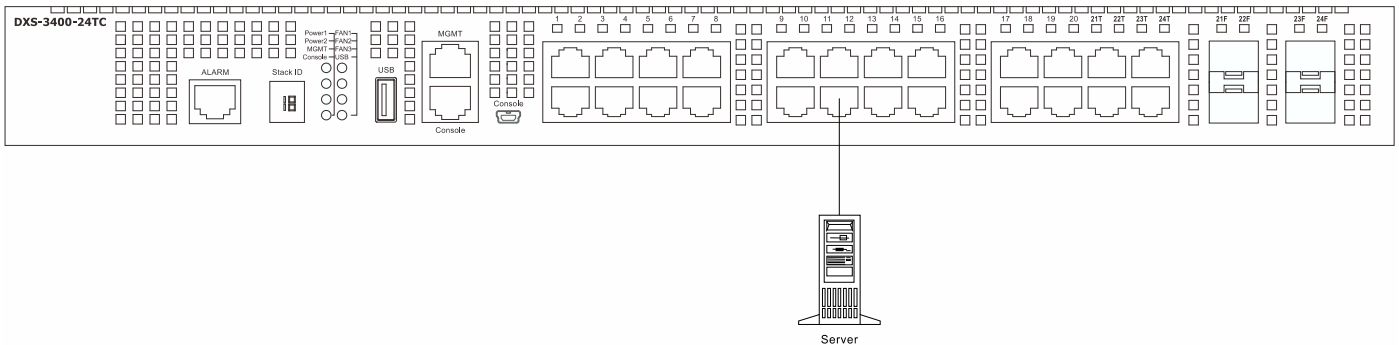
Server

Figure 3-7 Connecting the Switch to a server

4. Switch Management

Management Options
Connecting to the Console Port
Connecting to the MGMT Port
Connecting using SNMP

Management Options

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

Command Line Interface (CLI)

This switch can be managed, out-of-band, by using the console port or the MGMT port on the front panel of the Switch. Alternatively, the Switch can also be managed, in-band, using a Telnet connection to any of the LAN ports on the Switch. The command line interface provides complete access to all switch management features.

For more detailed information about the CLI, refer to the *DXS-3400 Series CLI Reference Guide*.

SNMP-based Management

The Switch can be managed with an SNMP-compatible console program. The Switch supports SNMP v1, SNMPv2c and SNMPv3. 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.

Web User Interface (Web UI)

The Web UI can be accessed from any computer running web browsing software from its MGMT port, or LAN port when it is connected to any of the RJ45 or SFP/SFP+ ports. The Web UI on the Switch can also be accessed using an HTTPS (SSL) connection.

This management interface is a more graphical representation of the features that can be viewed and configured on this Switch. Most of the features available through the CLI can be accessed through the Web UI. Web browsers like Microsoft's Internet Explorer, Mozilla Firefox, or Google Chrome can be used.

For more detailed information about the Web UI, refer to the *DXS-3400 Series Web UI Reference Guide*.

Connecting to the Console Port

The front panel of the Switch provides an RJ45 and a mini-USB console port to connect a remote system for monitoring and configuring the Switch. Both ports require their respective cables included with the Switch, to establish the physical connection.

NOTE: When an active console connection is made to both the RJ45 console port and the mini-USB console port at the same time, the mini-USB console port will have higher priority.

Connecting to the RJ45 Console Port

To use the RJ45 console port, the following equipment is needed:

- A terminal or a computer with both an RS-232 serial port and terminal emulation software.
- A console cable with a male DB9 connector on one end and an RJ45 connection on the other. This cable should be included with the Switch. It establishes the physical connection to the console port.

To connect the RJ45 console port on the Switch to the computer:

- Connect the male DB9 connector on the console cable (shipped with the Switch) to the RS-232 serial port on the computer running terminal emulation software then insert the RJ45 connector into the RJ45 console port on the front of the Switch.

To configure the terminal emulation software as follows:
- Select the appropriate serial port (COM1 or COM2).
- Set the data rate to 115200 baud.
- Set the data format to 8 data bits, 1 stop bit, and no parity.
- Set flow control to none.

Figure 4-1 COM Port Configuration

To be able to view the boot procedure, the Switch needs to be rebooted. The simplest way, at this stage, to reboot the Switch is to unplug and re-insert the power cable from and into the power receptacle on the back of the Switch.

After correctly configuring the terminal settings and re-inserting the power cable, the boot procedure will appear in the terminal.

```
Boot Procedure                                             V1.00.005
----------------------------------------------------------------------------

Power On Self Test ........................................  100 %

MAC Address    : F0-7D-68-10-20-30
H/W Version    : A1

Please Wait, Loading 1.00.013 Runtime Image ..............  100 %
UART init ................................................  100 %
Starting runtime image
Device Discovery .........................................  100 %
Configuration init .......................................  100 %
```

After the boot sequence has been completed, the console login screen will be displayed.

Connecting to the Mini-USB Console Port

To use the mini-USB console port, the following equipment is needed:

- A terminal or a computer with a USB 2.0 port and the ability to emulate a terminal.
- A console cable with a 5-pin mini-B male connector on one end and a USB Type A male connecter on the other. This cable should be included with the Switch. It establishes the physical connection to the console port.
- Software to emulate a virtual COM port to be used in the terminal emulation software. This software can be found on the CD included in this package and can only be used on a Microsoft® Windows operating system.

To connect the mini-USB console port on the Switch to the computer:

1. Install the software to emulate a virtual COM port on the computer.
2. Connect the USB Type A male connecter on the console cable (shipped with the Switch) to the USB port on the computer, then insert the mini-B male connector into the mini-USB console port on the front of the Switch.
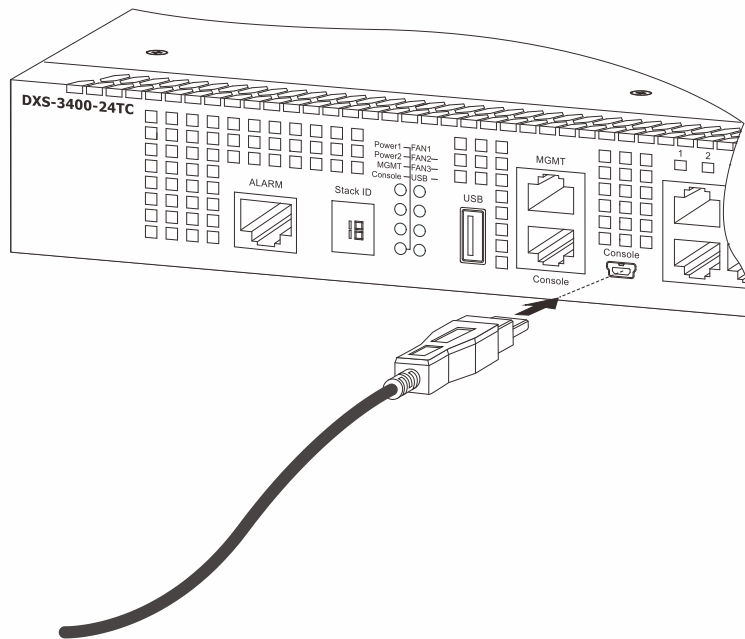
Figure 4-2 Connect Mini-USB Console Port

3. Check the serial port number in Device Manager. The name of the virtual COM port is **Prolific USB-to-Serial Comm Port**.
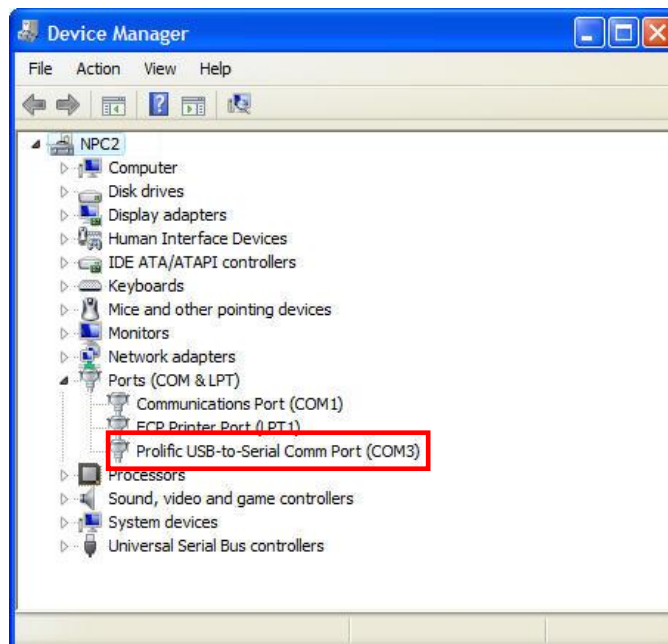
Figure 4-3 Device Manager

Set the terminal emulation software as follows:

- Select the serial port that belongs to the virtual COM port.
- Set the data rate to 115200 baud.
- Set the data format to 8 data bits, 1 stop bit, and no parity.
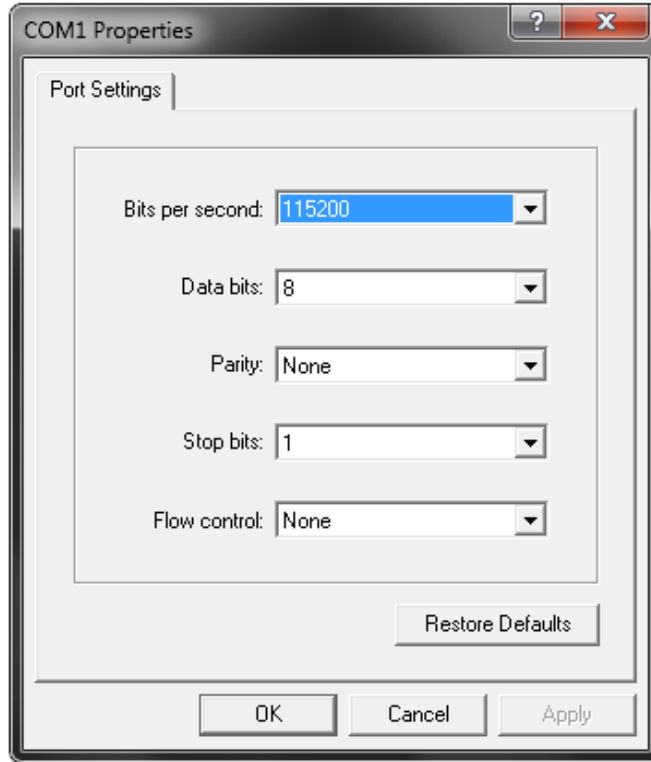- Set flow control to none.
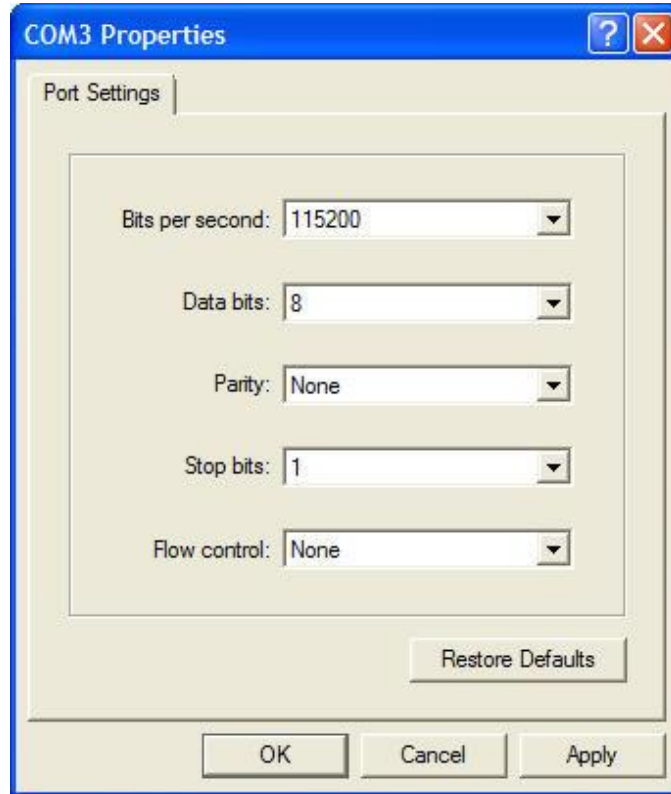
Figure 4-4 COM Port Configuration

To be able to view the boot procedure, the Switch needs to be rebooted. The simplest way, at this stage, to reboot the Switch is to unplug and re-insert the power cable from and into the power receptacle on the back of the Switch.

After correctly configuring the terminal settings and re-inserting the power cable, the boot procedure will appear in the terminal.

```
  Boot Procedure                                          V1.00.005
-----------------------------------------------------------------------------

  Power On Self Test ....................................... 100 %

  MAC Address   : F0-7D-68-10-20-30
  H/W Version   : A1

  Please Wait, Loading 1.00.013 Runtime Image ............... 100 %
  UART init ................................................. 100 %
  Starting runtime image
  Device Discovery .......................................... 100 %
  Configuration init ........................................ 100 %
```

After the boot sequence has been completed, the console login screen will be displayed.

Connecting to the Switch for the First Time

The Switch supports user-based security that can prevent unauthorized users from accessing the Switch or changing its configuration. This section will explain how to log into the Switch's Command Line Interface via the out-of-band console connection.

Upon initial connection to the Switch, the login screen appears (see example below).

```
                    DXS-3400-24SC TenGigabit Ethernet Switch


                            Command Line Interface
                            Firmware: Build 1.00.013
                Copyright(C) 2016 D-Link Corporation. All rights reserved.
Switch>
```

By default, there is no **Username** and **Password** configured in the account settings of this switch. This will allow the user to simply connect to this Switch for the first time by pressing the '**Enter**' key. After pressing **Enter**, access will be given to enter commands after the command prompt (**Switch>**) appears.

> **NOTE:** The first user automatically gets Administrator level privileges. At least one Administrator-level user account must be created for the Switch.

> **NOTE:** It is highly recommended to create a user account containing a username and a password on the Switch to prevent unauthorized access to the management interface.

Creating a User Account

One of the first and most important tasks after powering-on the Switch for the first time is to create a user account with administrator-level privileges. Logging in using a predefined administrator-level username will give the user privileged access to the Switch's management software.

An example to create an administrator-level account for the Switch called 'NewUser':

```
Switch>enable
Switch#configure terminal
Switch(config)#username NewUser password 12345
Switch(config)#username NewUser privilege 15
Switch(config)#line console
Switch(config-line)#login local
Switch(config-line)#end
Switch#
```

In the example above:
1. At the CLI command prompt, enter the **enable** command to enter the **Privileged EXEC Mode**. Press **Enter**.
2. Enter the **configure terminal** command to enter the **Global Configuration Mode**. Press **Enter**.
3. Enter the **username NewUser password 12345** command. Press **Enter**. This will create a user account with the username of NewUser and a password of 12345.
4. Enter the **username NewUser privilege 15** command. Press **Enter**. This will configure this user account to have **Administrative** (**15**) privileges.
5. Enter the **line console** command to enter the **Line Configuration Mode**. Press **Enter**.
6. Enter the **login local** command. Press **Enter**. This specifies that the local line requires login credentials.
7. Enter the **end** command to exit back to the **Privileged EXEC Mode**.

NOTE: Passwords are case sensitive. Usernames can be up to 32 characters in length. Passwords can be up to 32 plain-text characters in length.

Configuring the IP Address

Each switch must be assigned its own in-band IP Address, which is used for communication with an SNMP network manager or other TCP/IP applications. The Switch's default IP address is 10.90.90.90 with a subnet mask of 255.0.0.0. You can change the IP address of the Switch to meet the specification of your networking address scheme.

The IP address of the Switch must be configured before it can be managed, by the user, via the Web UI.

An example to change the IP address of the Switch to '10.50.50.50', using a subnet mask of '255.0.0.0':

```
Switch>enable
Switch#configure terminal
Switch(config)#interface vlan 1
Switch(config-if)#ip address 10.50.50.50 255.0.0.0
Switch(config-if)#
```

In the above example,

1. We accessed the **Privileged EXEC Mode** by entering the command **enable**.
2. Then we entered the **Global Configuration Mode** by entering the command, **configure terminal**.
3. Then we entered the **VLAN Configuration Mode** of the default VLAN, which is VLAN 1, by entering the command, **interface vlan 1**.
4. Then we changed the IP address of the Switch to 10.50.50.50 and the subnet mask to 255.0.0.0 by entering the command **ip address 10.50.50.50 255.0.0.0**.

The Switch can now be accessed and configured using the IP address through Telnet or the Web UI. Alternatively, the Switch can also be configured to receive its IP address using DHCP.

Connecting to the MGMT Port

The front panel of the Switch features an Out-Of-Band (OOB) RJ45 MGMT port which can be used to connect to a computer using a standard Ethernet cable. A web browser or Telnet client can be used to connect to the Switch using the MGMT port.

To use the MGMT port, connect one end of an Ethernet cable to a computer and the other end to the Switch. The default IP address of the MGMT port is 192.168.0.1 and the subnet mask is 255.255.255.0. Make sure that the computer being used for the switch management has a non-conflicting IP address in the 192.168.0.0/24 network.

To view the IP settings of the MGMT port, use the following command:

```
Switch#show ip interface mgmt 0

mgmt_ipif 0 is enabled, Link status is up
  IP address is 192.168.0.1/24
  Gateway is 0.0.0.0

Switch#
```

The IP settings or enabled status of the MGMT port can be changed through the console port. For example, to change the IP address of the MGMT port, use the following commands:

```
Switch#configure terminal
Switch(config)#interface mgmt 0
Switch(config-if)#ip address 192.168.1.1 255.255.255.0
Switch(config-if)#
```

Connecting using SNMP

The Simple Network Management Protocol (SNMP) is an OSI Layer 7 (Application Layer) protocol, designed specifically for managing and monitoring network devices. The SNMP protocol enables Network Management Station (NMS) to read and modify the settings of gateways, routers, switches, and other network devices. Use SNMP to configure system features for proper operation, monitor performance, and detect potential problems in the Switch, switch group, or network.

Managed devices that support SNMP include software (referred to as an agent), which runs locally on the device. A defined set of variables (managed objects) is maintained by the SNMP agent and used to manage the device. These objects are defined in a Management Information Base (MIB), which provides a standard presentation of the information controlled by the on-board SNMP agent. SNMP defines both the format of the MIB specifications and the protocol used to access this information over the network.

The Switch supports SNMPv1, SMNPv2c, and SNMPv3. The administrator may specify which SNMP version to use to monitor and control the Switch. The three SNMP versions vary in the level of security provided between the management station and the network device.

In SNMPv1 and SNMPv2c, user authentication is accomplished using 'community strings', which function like passwords. The remote user SNMP application and the Switch SNMP must use the same community string. SNMP packets from any station that has not been authenticated are ignored (dropped).

$$The default community strings for the Switch used for SNMPv1 and SNMPv2c management access are:
- **public** - Allows authorized management stations to retrieve MIB objects.
- **private** - Allows authorized management stations to retrieve and modify MIB objects.

SNMPv3 uses a more sophisticated authentication process that is separated into two parts. The first part is to maintain a list of users and their attributes that are allowed to act as SNMP managers. The second part describes what each user on that list can do as an SNMP manager.

The Switch allows groups of users to be listed and configured with a shared set of privileges. The SNMP version may also be set for a listed group of SNMP managers. Thus, a group of SNMP managers can be created to view read-only information or receive traps using SNMPv1 while assigning a higher level of security to another group, granting read/write privileges using SNMPv3.

Using SNMPv3 individual users or groups of SNMP managers can be allowed to perform or be restricted from performing specific SNMP management functions. The functions that have been allowed or restricted are defined using the Object Identifier (OID) associated with a specific MIB. An additional layer of security is available for SNMPv3 in that SNMP messages may be encrypted.

Traps

Traps are messages that are sent by an SNMP-enabled device to the NMS, and can be used to alert network personnel of events that occur on the Switch. The events can be as serious as a reboot (someone accidentally turned off the Switch), or less serious like a port status change. The Switch generates traps and sends them to a pre-configured IP address, usually an NMS. Typical traps include trap messages for Authentication Failure and Topology Change.

Management Information Base (MIB)

A Management Information Base (MIB) stores management and counter information. The Switch uses the standard MIB-II Management Information Base module. Consequently, values for MIB objects can be retrieved from any SNMP-based network management software. In addition to the standard MIB-II, the Switch also supports its own proprietary enterprise MIB as an extended Management Information Base. The proprietary MIB may also be retrieved by specifying the MIB Object Identifier. MIB values can be either read-only or read-write.

5. Web-based Switch Configuration

Introduction
Logging into the Web UI
Web User Interface (Web UI)

Introduction

Most software functions of the Switch can be managed, configured, and monitored via the embedded HTML Web UI. Management can be done on 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 (SSL) protocol.

The following web browsers are supported:

- Internet Explorer (version 7 and later)
- Firefox
- Google Chrome
- Safari

Logging into the Web UI

To access the Web UI, open a standard web browser, enter the Switch's IP address into the address bar of the browser, and press the ENTER key. By default, the MGMT port, located just above the RJ45 console port, can be accessed using the IP address of 192.168.0.1. To access the Web UI from normal LAN ports, the default IP address is 10.90.90.90.

> **NOTE:** To configure the IP address of the Switch, refer to the **Configuring the IP Address** section.

After pressing the ENTER key, the following authentication window should appear, as shown below.

Figure 5-1 Web UI Login Window

When connecting to the Web UI of the Switch for the first time, leave the **User Name** and **Password** fields blank and click **Login** since there are no login user accounts created by default on this switch.

> **NOTE:** After a user account was created, login credentials will be required to access the Web UI. During the sending and receiving of the login password to and from the Switch, this information will be protected using a strong encryption algorithm to prevent attackers from snooping this information to gain unauthorized access to the Switch.

Web User Interface (Web UI)

The Web UI provides access to various Switch configuration and management windows. It allows the user to view performance statistics, and permits graphical monitoring of the system's status.

Areas of the Web UI

After logging into the Switch's Web UI, the following page will be displayed. The Web UI can be divided into four distinct areas that are described in more detail in the table below.

Figure 5-2 Main Web UI Window

Four main areas are displayed in the window.

Area Number	Function
AREA 1	This area displays a graphical, near real-time image of the front panel of the Switch. This area displays the Switch's ports. It also shows port activity based on a specific mode. Some management functions, including port monitoring, are accessible from here. Click the D-Link logo to go to the D-Link website.

AREA 2	This area displays a file explorer-type menu tree with all configurable options. Select the folder or window to display. Open folders and click the hyperlinked window buttons and subfolders contained within them to display information pertaining to that category.
AREA 3	This area displays a toolbar used to access **Save** and **Tools** menus.
AREA 4	This area displays graphical, real-time monitoring gauges of **Device Information**, **Temperature**, **CPU Usage**, **System Log**, **Fan Status**, and **Memory Usage**.

Web Pages

In area 2, mentioned above, the following main folders will be available for selecting.

Folder Name	Description
System Configuration	Features regarding the Switch's configuration can be viewed and configured in this folder.
Management	Features regarding the Switch's management can be viewed and configured in this folder.
L2 Features	Features regarding the Layer 2 functionality of the Switch can be viewed and configured in this folder.
L3 Features	Features regarding the Layer 3 functionality of the Switch can be viewed and configured in this folder.
QoS	Features regarding the Quality of Service functionality of the Switch can be viewed and configured in this folder.
ACL	Features regarding the Access Control List functionality of the Switch can be viewed and configured in this folder.
Security	Features regarding the Switch's security can be viewed and configured in this folder.
OAM	Features regarding the Switch's Operations, Administration and Maintenance (OAM) can be viewed and configured in this folder.
Monitoring	The Switch's configuration and statistics can be viewed and configured in this folder.
Green	Features regarding the D-Link Green Technology can be viewed and configured in this folder.

Appendix A - Technical Specifications

General

Feature	Description	
Data Transfer Rates		**Full-duplex**
	Fast Ethernet	200 Mbps
	Gigabit Ethernet	2 Gbps
	10 Gigabit Ethernet	20 Gbps
Physical Stacking	**Stacking Topology:** Duplex Ring, Duplex Chain	
	Stacking Bandwidth: Up to 80 Gbps	
	Stacking Ports: Up to 4 switches can be stacked using the 10 Gbps RJ45/SFP+ combo ports	
	Backup Master Support: Yes	
Network Cables	UTP/STP Category 5, 5e for 100BASE-TX UTP/STP Category 5e for 1000BASE-T UTP/STP Category 6a for 10GBASE-T EIA/TIA-568 100-ohm screened twisted-pair (STP) (100 m)	

Physical and Environmental

Feature	Description
AC Power Supply	AC Input: 100~240 VAC, 50~60 Hz, 2 A
DC Power Supply	DC Input: -48 VDC, 5.2 A
Real Time Clock (RTC)	Be able to maintain the time setting when the device power is off
Fans	3 removable fan modules, front-to-back airflow
USB Slot	Supports a USB 2.0 Type-A flash drive with a maximum current of 1 A. This slot only supports FAT16 and FAT32 file system architectures
Power Consumption	**DXS-3400-24TC:** 159.82 Watts (Max.), 85.1 Watts (Standby) **DXS-3400-24SC:** 118.6 Watts (Max.), 64.8 Watts (Standby)
Temperature	**Operating:** -5 °C to 50 °C (23 °F to 122 °F) **Storage:** -40 °C to 70 °C (-40 °F to 158 °F)
Humidity	**Operating:** 0 % to 95 % RH (non-condensing) **Storage:** 0 % to 95 % RH (non-condensing)
Heat Dissipation	**DXS-3400-24TC:** 544.9862 BTU/Hr **DXS-3400-24SC:** 404.426 BTU/Hr

Feature	Description
Dimensions	**DXS-3400-24TC:** 441 mm (W) x 380 mm (D) x 44 mm (H), 19-inch, 1 U Rack-mount size
	DXS-3400-24SC: 441 mm (W) x 380 mm (D) x 44 mm (H), 19-inch, 1 U Rack-mount size
Weight	**DXS-3400-24TC:** 6.65 kg with one power supply module and three fan modules
	DXS-3400-24SC: 6.5 kg with one power supply module and three fan modules
MTBF	**DXS-3400-24TC:** 134447.0178 Hours
	DXS-3400-24SC: 144437.7428 Hours
EMC Certifications	CE Class A, FCC Class A, VCCI Class A, C-Tick Class A, BSMI Class A, CCC Class A
Safety Certifications	UL/cUL, CE, CCC, BSMI, CB

Performance

Feature	Description
Transmission Method	Store-and-forward
Packet Buffer	4 MBytes per device
Jumbo Frame Size	12 KBytes
Switching Capacity	**DXS-3400-24TC:** 480 Gbps
	DXS-3400-24SC: 480 Gbps
64 Byte System Packet Forwarding Rate	**DXS-3400-24TC:** 357.12 Mpps
	DXS-3400-24SC: 357.12 Mpps
Priority Queues	8 Priority Queues per port
MAC Address Table	Supports 48K MAC addresses (SRM's LAN mode)
	Supports 1024 Static MAC addresses
IP Routing Tables	**IPv4:** 4K entries
	IPv6: 1K entries
IP Host Tables (L3 Forwarding Table)	**IPv4:** 32K entries (SRM's IP mode)
	IPv6: 16K entries (SRM's IP mode)
	NOTE: IPv4 host table, IPv6 host table, IPv4 multicast group and IPv6 multicast group share the 32K/16K IP host tables
Virtual Stacking / Clustering	Supports D-Link Single IP Management version 1.61
	Manages up to 32 devices in a virtual stack with a single IP address

LED Indicators

Location	LED	Color	Status	Description
Per Device	**Power 1, Power 2**	Green	Light on (Solid)	Power on
		Amber	Light on (Solid)	Power supply failure. Voltage, current, or temperature exceeded the maximum threshold
		Off	Light off	Power off
	MGMT	Green	Light on (Solid)	Link present and no data transmission
			Light blinking	Activity and data transmission
		Off	Light off	No link present or the port was shutdown
	Console	Green	Light on (Solid)	RJ45 console port is active
		Amber	Light on (Solid)	Mini-USB console port is active
		Off	Light off	Console off
	Fan 1, Fan 2, Fan 3	Green	Light on (Solid)	Diagnostics pass, functioning normal
		Amber	Light on (Solid)	Busy booting or running diagnostics
			Light blinking	Fan failure
		Off	Light off	No power
	USB	Green	Light on (Solid)	USB plugged in
			Light blinking	Busy reading or writing
		Red	Light on (Solid)	Read or write failure
		Off	Light off	No USB plugged in
	Stacking ID (7-segment LED)	Green	Light on (1-4)	Stacking number displayed
			Light on (H)	Stacking Master
			Light on (h)	Stacking Backup Master
			Light on (E)	System self-test error
			Light on (G)	Safeguard engine in exhausted mode
Per Port	**RJ45 Port**	Green	Light on (Solid)	When there is a connection (or link) to a 10 Gbps Ethernet device at any of the ports
			Light blinking	When there is reception or transmission of data occurring at 10 Gbps
		Amber	Light on (Solid)	When there is a connection (or link) to a 100/1000 Mbps Ethernet device at any of the ports
			Light blinking	When there is reception or transmission of data occurring at 100/1000 Mbps
		Off	Light off	Link down or no link
	SFP+ Port	Green	Light on (Solid)	When there is a connection (or link) to a 10 Gbps Ethernet device at any of the ports
			Light blinking	When there is reception or transmission of data occurring at 10 Gbps
		Amber	Light on (Solid)	When there is a connection (or link) to a 1 Gbps Ethernet device at any of the ports
			Light blinking	When there is reception or transmission of data occurring at 1 Gbps

Location	LED	Color	Status	Description
		Off	Light off	Link down or no link

Port Functions

Feature	Description
Console Port	RJ45 or mini-USB interface for Out-Of-Band (OOB) CLI configuration
RJ45 Ports	Compliant with the following standards: • IEEE 802.3u compliance • IEEE 802.3ab compliance • IEEE 802.3an compliance • IEEE 802.3az compliance (Energy Efficient Ethernet)
	Support full-duplex operations • IEEE 802.3x Flow Control support for full-duplex mode
SFP+ Ports	Compliant with the following standards: • IEEE 802.3ae compliance • IEEE 802.3z compliance
	1000BASE-T transceiver supported: • DGS-712 (1000BASE-T copper SFP transceiver)
	SFP transceivers supported: • DEM-302S-LX (1000BASE-LX, single-mode, 2 km) • DEM-310GT (1000BASE-LX, single-mode, 10 km, with DDM) • DEM-311GT (1000BASE-SX, multi-mode, 550 m) • DEM-312GT2 (1000BASE-SX, multi-mode, 2 km) • DEM-314GT (1000BASE-LHX, single-mode, 50 km) • DEM-315GT (1000BASE-ZX, single-mode, 80 km) WDM (BiDi) SFP transceivers supported: • DEM-220T (100BASE-BX-D, single-mode, 20 km, TX-1550 nm / RX-1310 nm) • DEM-220R (100BASE-BX-U, single-mode, 20 km, TX-1310 nm / RX-1550 nm) • DEM-302S-BXD (1000BASE-BX-D, single-mode, 2 km, TX-1550 nm / RX-1310 nm) • DEM-302S-BXU (1000BASE-BX-U, single-mode, 2 km, TX-1310 nm / RX-1550 nm) • DEM-330T (1000BASE-BX-D, single-mode, 10 km, TX-1550 nm / RX-1310 nm) • DEM-330R (1000BASE-BX-U, single-mode, 10 km, TX-1310 nm / RX-1550 nm) • DEM-331T (1000BASE-BX-D, single-mode, 20 km, TX-1550 nm / RX-1310 nm) • DEM-331R (1000BASE-BX-U, single-mode, 20 km, TX-1310 nm / RX-1550 nm)
	SFP+ transceivers supported: • DEM-431XT (10GBASE-SR, multi-mode, 10 km, without DDM) • DEM-431XT-DD (10GBASE-SR, multi-mode, 10 km, without DDM) • DEM-432XT (10GBASE-LR, single-mode, 10 km, without DDM)

Feature	Description
	• DEM-432XT-DD (10GBASE-LR, single-mode, 10 km, with DDM) • DEM-433XT (10GBASE-ER, single-mode, 40 km, without DDM) • DEM-433XT-DD (10GBASE-ER, single-mode, 40 km, with DDM) • DEM-434XT (10GBASE-ZR, single-mode, 80 km, without DDM) • DEM-435XT (10GBASE-LRM, multi-mode, 200 m, without DDM) • DEM-435XT-DD (10GBASE-LRM, multi-mode, 200 m, with DDM) WDM (Bidi) SFP+ transceivers supported: • DEM-436XT-BXD (10GBASE-LR, single-mode, 20 km, TX-1330 nm / RX-1270 nm, without DDM) • DEM-436XT-BXU (10GBASE-LR, single-mode, 20 km, TX-1270 nm / RX-1310 nm, without DDM) CWDM SFP+ transceivers supported: • DEM-X10CS-1271 (10GBASE-LR, single-mode, 10 km, 1271 nm) • DEM-X10CS-1291 (10GBASE-LR, single-mode, 10 km, 1291 nm) • DEM-X10CS-1311 (10GBASE-LR, single-mode, 10 km, 1311 nm) • DEM-X10CS-1331 (10GBASE-LR, single-mode, 10 km, 1331 nm) • DEM-X40CS-1471 (10GBASE-LR, single-mode, 40 km, 1471 nm) • DEM-X40CS-1491 (10GBASE-LR, single-mode, 40 km, 1491 nm) • DEM-X40CS-1511 (10GBASE-LR, single-mode, 40 km, 1511 nm) • DEM-X40CS-1571 (10GBASE-LR, single-mode, 40 km, 1571 nm)
	SFP+ Direct Attached Cables (DAC) supported: • DEM-CB100QXS-4XS (40G QSFP+ to 4 x 10G SFP+, 1 m) • DEM-CB100S (10G SFP+, 1 m) for stacking or uplinking • DEM-CB300S (10G SFP+, 3 m) for stacking or uplinking

Appendix B - Cables and Connectors

Ethernet Cable

When connecting the Switch to another switch, a bridge or hub, a straight-through Cat5/5e/6a/7 cable is necessary. Please review these products for matching cable pin assignment.

The following diagrams and tables show the standard RJ45 socket/connector and their pin assignments.
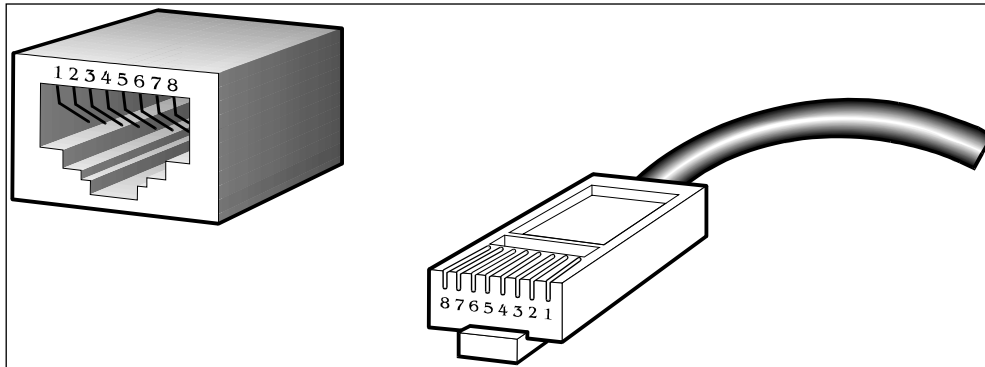
Figure B-1 Standard RJ45 socket and connector pin assignments

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	1000BASE-T
5	1000BASE-T	1000BASE-T
6	TD - (transmit)	RD - (receive)
7	1000BASE-T	1000BASE-T
8	1000BASE-T	1000BASE-T

Console Cable (RJ45 to RS-232)

A console cable is used to connect to the 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

Contact	Console (DB9/RS232)	RJ-45
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

Console Cable (USB to Mini-USB)

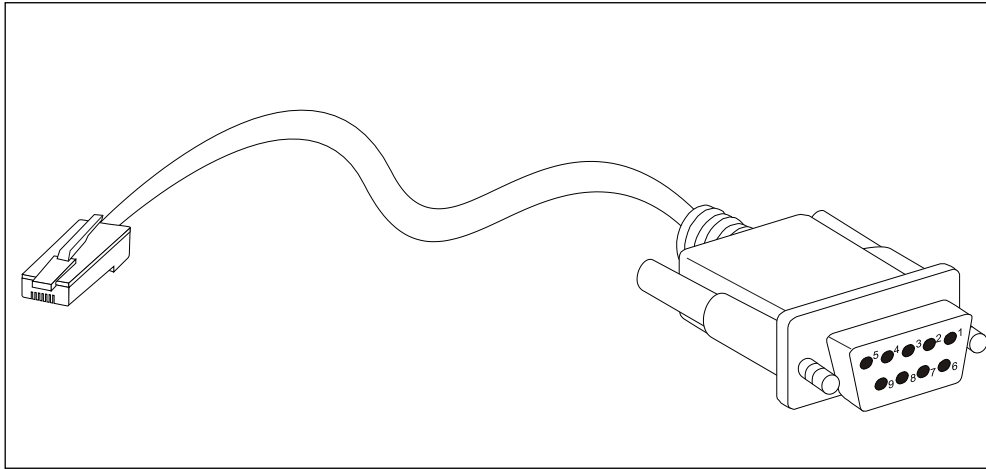A console cable is used to connect to the USB console port of the Switch to access the command line interface. The following diagram and table show the standard USB (Type A) to mini-USB (Type B) cable and pin assignments.

Figure B-3 USB to Mini-USB Cable
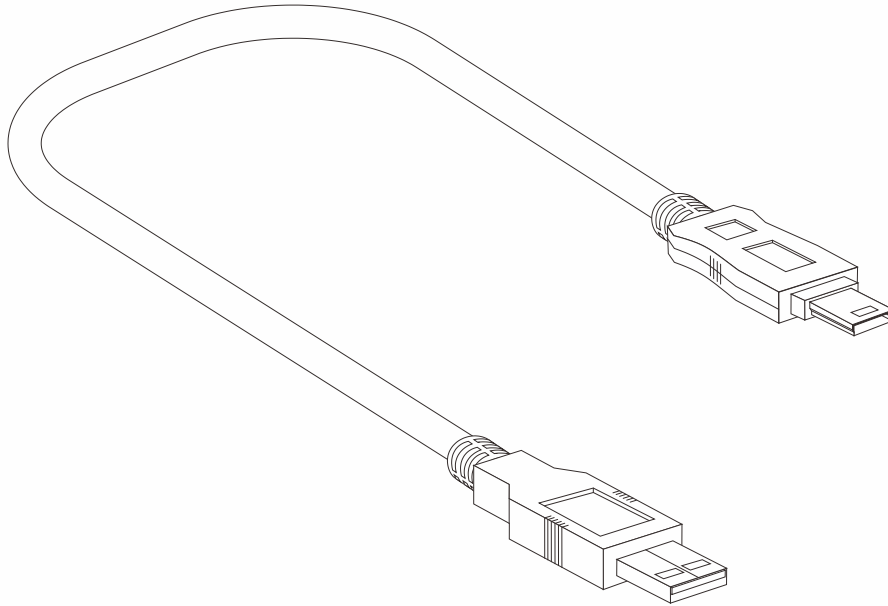
Pin	USB (Type A)	Mini-USB (Type B)
1	VBUS (Red)	VBUS (Red)
2	D- (White)	D- (White)
3	D+ (Green)	D+ (Green)
4	GND (Black)	ID (Not Connected)
5	N/A	GND (Black)

Alarm Connector (RJ45)

External devices can be connected to the alarm port to either trigger an alarm event or to be the recipient of an alarm event triggered by the Switch. External device connections can be paired together and connected to the alarm port using a standard RJ45 connector. As with any RJ45 connector, there are four pairs of copper wires that can be used, two pairs for external input connections like temperature sensors and two pairs for external output connections like speakers or LED lights.
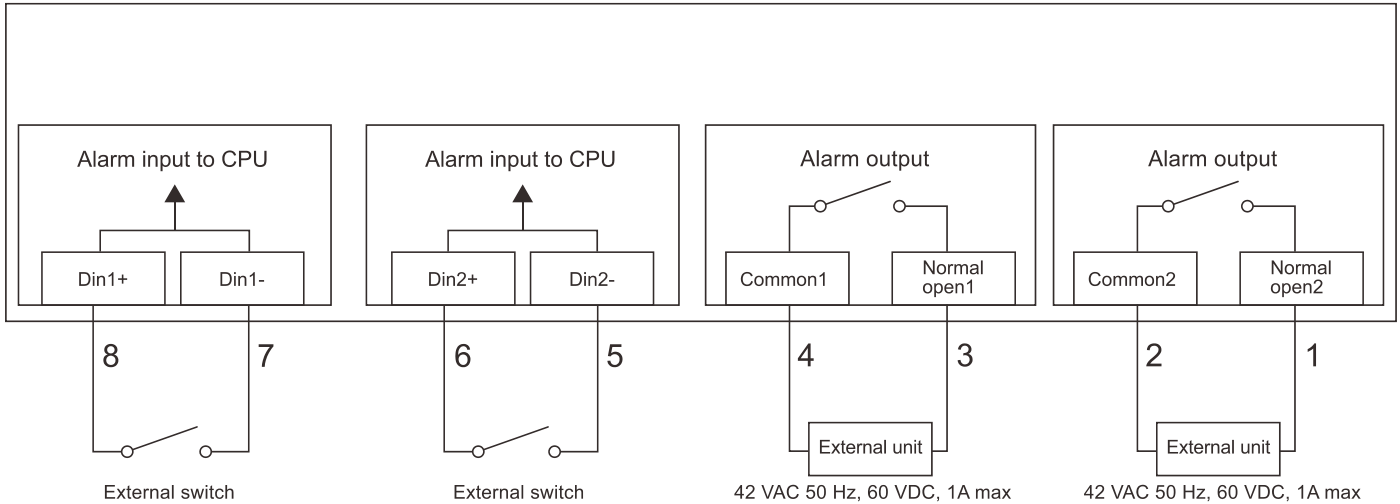

Figure B-4 Alarm Connector pinout

Alarm Connector Port	
Contact	**Description**
1	Normal open2 (42 VAC, 50 Hz, 60 VDC, 1 A max.)
2	Common2 (42 VAC, 50 Hz, 60 VDC, 1 A max.)
3	Normal open1 (42 VAC, 50 Hz, 60 VDC, 1 A max.)
4	Common1 (42 VAC, 50 Hz, 60 VDC, 1 A max.)
5	Din2- (Maximum input voltage: 3 VDC)
6	Din2+ (Maximum input voltage: 3 VDC)
7	Din1- (Maximum input voltage: 3 VDC)
8	Din1+ (Maximum input voltage: 3 VDC)

The alarm input pin-pairs, pair1 (Din1+/Din1-) and pair2 (Din2+/Din2-), are used to send alarm signals to the CPU of the Switch. When the circuit between Din+ and Din- is shorted, an alarm signal will be sent to the CPU.

The alarm output pin-pairs, pair1 (Common1/Normal open1) and pair2 (Common2/Normal open2), are controlled by the CPU of the Switch and are used to send alarm signals to external devices. When the circuit between the Common and Normal is open, 42 VAC 50 Hz, 60 VDC, 1 A current is sent. The CPU can short this circuit when an alarm event occurs.

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, or addresses with an APO or FPO.

Limited Warranty: D-Link warrants that the hardware portion of the D-Link product described below ("Hardware") will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product, for the period set forth below ("Warranty Period"), except as otherwise stated herein.

Limited Lifetime Warranty for the product is defined as follows:

- Hardware: For as long as the original customer/end user owns the product, or five (5) years after product discontinuance, whichever occurs first (excluding power supplies and fans)
- Power supplies and fans: Three (3) Year
- Spare parts and spare kits: Ninety (90) days

The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement hardware need not be new or have an identical make, model or part. D-Link may, at its option, replace the defective Hardware or any part thereof with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware or part thereof that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty: D-Link warrants that the software portion of the product ("Software") will substantially conform to D-Link's then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days ("Software Warranty Period"), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software or to refund the portion of the actual purchase price paid that is attributable to the Software. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

Non-Applicability of Warranty: The Limited Warranty provided hereunder for Hardware and Software portions of D-Link's products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold "As-Is" without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim: The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.

- The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form and entering the assigned Case ID Number at https://rma.dlink.com/.

- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.

- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery ("COD") is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to **D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708**. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer.

D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered: The Limited Warranty provided herein by D-Link does not cover: Products that, in D-Link's judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; and Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited Warranty.

Disclaimer of Other Warranties: EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO NINETY (90) DAYS. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

Limitation of Liability: TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH D-LINK'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NON-CONFORMING PRODUCT. THE MAXIMUM LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY.

Governing Law: This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This Limited Warranty provides specific legal rights and you may also have other rights which vary from state to state.

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

FCC Statement: 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 in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. Operation of this equipment in a residential environment is likely to cause harmful interference to radio or television reception. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures**:**

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For detailed warranty information applicable to products purchased outside the United States, please contact the corresponding local D-Link office.

Product Registration

Technical Support

U.S. and Canadian customers

This guide is only for initial configuration. Please refer to the user manual to learn more or visit http://www.mydlink.com for more information. Also feel free to contact us. U.S. and Canadian customers can contact D-Link Technical Support through our website.

USA

http://support.dlink.com

Canada

http://support.dlink.ca

Europe customers

TECHNICAL SUPPORT	
TECHNISCHE UNTERSTÜTZUNG	
ASSISTANCE TECHNIQUE	
ASISTENCIA TÉCNICA	
SUPPORTO TECNICO	
TECHNISCHE ONDERSTEUNING	
POMOC TECHNICZNA	
TECHNICKÁ PODPORA	
TECHNICKÁ PODPORA	**dlink.com/support**
TECHNIKAI TÁMOGATÁS	
TEKNISK SUPPORT	
TEKNISK SUPPORT	
TEKNISK STØTTE	
TEKNINEN TUKI	
ASSISTÊNCIA TÉCNICA	
ΤΕΧΝΙΚΉ ΥΠΟΣΤΉΡΙΞΗ	
TEHNIČKA PODRŠKA	
TEHNIČNA PODPORA	
SUPORT TEHNIC	
ТЕХНИЧЕСКА ПОДДРЪЖКА	

Australia customers

Tel: 1300-700-100
24/7 Technical Support
Web: http://www.dlink.com.au
E-mail: support@dlink.com.au

India customers

Tel: +91-832-2856000
Toll Free 1800-233-0000 Web:
www.dlink.co.in
E-Mail: helpdesk@in.dlink.com

Singapore, Thailand, Indonesia, Malaysia, Philippines, Vietnam customers

Singapore - www.dlink.com.sg
Thailand - www.dlink.co.th
Indonesia - www.dlink.co.id
Malaysia - www.dlink.com.my
Philippines - www.dlink.com.ph
Vietnam - www.dlink.com.vn

Korea customers

Tel : +82-2-2028-1810
Monday to Friday 9:00am to 6:00pm
Web : http://d-link.co.kr
E-mail : g2b@d-link.co.kr

New Zealand customers

Tel: 0800-900-900
24/7 Technical Support
Web: http://www.dlink.co.nz
E-mail: support@dlink.co.nz

South Africa and Sub Sahara Region customers

Tel: +27 12 661 2025
08600 DLINK (for South Africa only)
Monday to Friday 8:30am to 9:00pm South Africa Time
Web: http://www.d-link.co.za
E-mail: support@d-link.co.za

D-Link Middle East - Dubai, U.A.E. customers

Plot No. S31102,
Jebel Ali Free Zone South,
P.O.Box 18224, Dubai, U.A.E.
Tel: +971-4-8809022
Fax: +971-4-8809066 / 8809069
Technical Support: +971-4-8809033
General Inquiries: info.me@dlinkmea.com
Tech Support: support.me@dlinkmea.com

Egypt customers

1, Makram Ebeid Street -
City Light Building - floor 5
Nasrcity - Cairo, Egypt
Tel.: +2 02 23521593 - +2 02 23520852
Technical Support: +2 02 26738470
General Inquiries: info.eg@dlinkmea.com
Tech Support: support.eg@dlinkmea.com

Kingdom of Saudi Arabia customers

Office # 84 ,
Al Khaleej Building (Mujamathu Al-Khaleej)
Opp. King Fahd Road, Olaya
Riyadh - Saudi Arabia
Tel: +966 1121 70008
Technical Support:
+966 1121 70009
General Inquiries: info.sa@ dlinkmea.com
Tech Support: support.sa@ dlinkmea.com

Pakistan customers

Islamabad Office:
61-A, Jinnah Avenue, Blue Area,
Suite # 11, EBC, Saudi Pak Tower,
Islamabad - Pakistan
Tel.: +92-51-2800397, 2800398
Fax: +92-51-2800399

Karachi Office:
D-147/1, KDA Scheme # 1,
Opposite Mudassir Park, Karsaz Road,
Karachi – Pakistan
Phone: +92-21-34548158, 34326649
Fax: +92-21-4375727
Technical Support: +92-21-34548310, 34305069
General Inquiries: info.pk@dlinkmea.com
Tech Support: support.pk@dlinkmea.com

Iran customers

Unit 5, 5th Floor, No. 20, 17th Alley , Bokharest St. , Argentine Sq. ,
Tehran IRAN
Postal Code : 1513833817
Tel: +98-21-88880918,19
+98-21-88706653,54
General Inquiries: info.ir@dlinkmea.com
Tech Support: support.ir@dlinkmea.com

Morocco customers

M.I.T.C
Route de Nouaceur angle RS et CT 1029 Bureau N° 312 ET 337
Casablanca , Maroc
Phone : +212 663 72 73 24
Email: support.na@dlinkmea.com

Lebanon RMA center customers

Dbayeh/Lebanon
PO Box:901589
Tel: +961 4 54 49 71 Ext:14
Fax: +961 4 54 49 71 Ext:12
Email: taoun@dlinkmea.com

Bahrain customers

Technical Support: +973 1 3332904

Kuwait customers

Technical Support: + 965 22453939 / +965 22453949

Türkiye customers

Büyükdere Cad. Ferro Plaza No:155
D: 1 K: 1 Zincirlikuyu / Istanbul
Tel: +90 (212) 289-56-59
Email: info.tr@dlink.com.tr

לארשי

מטלוו סנטר

חר' המגשימים 20

קרית מטלוו, פ"ת 49348, ד"ת 7060

טל: 03-9215173

טל: 073-7962797

דואל"י כללי: info@dlink.co.il

דואל"י תמיכה: support@dlink.co.il

Техническая Поддержка

Обновления программного обеспечения и документация доступны на Интернет-сайте D-Link. D-Link предоставляет бесплатную поддержку для клиентов в течение гарантийного срока. Клиенты могут обратиться в группу технической поддержки D-Link по телефону или через Интернет.

Техническая поддержка компании D-Link работает в круглосуточном режиме ежедневно, кроме официальных праздничных дней. Звонок бесплатный по всей России.

Техническая поддержка D-Link:
8-800-700-5465

Техническая поддержка через Интернет:
http://www.dlink.ru
e-mail: support@dlink.ru

Офисы

Россия
Москва, Графский переулок, 14
Тел. : +7 (495) 744-00-99
E-mail: mail@dlink.ru

Україна
Київ, вул. Межигірська, 87-А
Тел.: +38 (044) 545-64-40
E-mail: ua@dlink.ua

Moldova
Chisinau; str.C.Negruzzi-8
Tel:+373(22) 80-81-07
E-mail:info@dlink.md

Беларусь
Мінск, пр-т Незалежнасці, 169
Тэл.: +375 (17) 218-13-65
E-mail: support@dlink.by

Қазақстан
Алматы, қ. Құрманғазы,143 үй
Тел.: +7 (727) 378-55-90
E-mail: almaty@dlink.ru

Հայաստան
Երևան, Դավթաշեն 3-րդ
թաղամաս, 23/5
Հեռ.՝ +374 (10) 39-86-67
Էլ. փոստ՝ info@dlink.am

საქართველო
თბილისი, მარიჯანის ქუჩა N4
ტელ.: +995 (032) 220-77-01
E-mail: info@dlink.ge

Latvija
Rīga, Lielirbes iela 27
Tel.: +371 (6) 761-87-03
E-mail: info@dlink.lv

Lietuva
Vilnius, Žirmūnų 139-303
Tel.: +370 (5) 236-36-29
E-mail: info@dlink.lt

Eesti
E-mail: info@dlink.ee

Soporte Técnico Para Usuarios En Latino America

Por favor revise el número telefónico del Call Center de su país en
http://www.dlinkla.com/soporte/call-center

Soporte Técnico de D-Link a través de Internet

Horario de atención Soporte Técnico en www.dlinkla.com
e-mail: soporte@dlinkla.com & consultas@dlinkla.com

Clientes de Brasil

Caso tenha dúvidas na instalação do produto, entre em contato com o Suporte Técnico D-Link.

Acesse o site: **www.dlink.com.br/suporte**

D-Link 友訊科技 台灣分公司 技術支援資訊

如果您還有任何本使用手冊無法協助您解決的產品相關問題，台灣地區用戶可以透過我們的網站、電子郵件或電話等方式與D-Link台灣地區技術支援工程師聯絡。

D-Link 免付費技術諮詢專線

0800-002-615

手機付費電話 (02)6600-0123#8715

服務時間：週一至週五，早上9:00到晚上9:00
　　　　　　週六日及國定假日(不含農曆春節) 早上10:00到晚上7:00

網　　　站：http://www.dlink.com.tw

電子郵件：dssqa_service@dlink.com.tw

**如果您是台灣地區以外的用戶，請參考D-Link網站，全球各地分公司
的聯絡資訊以取得相關支援服務。**

產品保固期限、台灣區維修據點查詢，請參考以下網頁說明：
http://www.dlink.com.tw

產品維修：
使用者可直接送至全省聯強直營維修站或請洽您的原購買經銷商。

Pelanggan Indonesia

Update perangkat lunak dan dokumentasi pengguna dapat diperoleh pada situs web D-Link.

Dukungan Teknis untuk pelanggan:
Tel: +62-21-5731610

Dukungan Teknis D-Link melalui Internet:
Email : support@dlink.co.id
Website : http://support.dlink.co.id

日本のお客様

この度は弊社製品をお買い上げいただき、誠にありがとうございます。

製品に同梱されている保証書の購入元にお問い合わせください。

中国客户

技术支持中心电话：400-629-6688

技术支持中心传真：(028)-61317620

各地维修中心地址请登陆官方网站查询

网址：http://www.dlink.com.cn

400电话工作时间：工作日9:00-19:00；节假日9:00-18:00

Registration Card
All Countries and Regions Excluding USA

Print, type or use block letters.

Your name: Mr./Ms_____

Organization: _____ Dept. _____

Your title at organization: _____

Telephone: _____ Fax:_____

Organization's full address: _____

_____

Country: _____

Date of purchase (Month/Day/Year): _____

Product Model	Product Serial No.	* Product installed in type of computer	* Product installed in computer serial No.

(* Applies to adapters only)

Product was purchased from:

Reseller's name: _____

Telephone: _____

Answers to the following questions help us to support your product:

1. Where and how will the product primarily be used?
☐Home ☐Office ☐Travel ☐Company Business ☐Home Business ☐Personal Use

2. How many employees work at installation site?
☐1 employee ☐2-9 ☐10-49 ☐50-99 ☐100-499 ☐500-999 ☐1000 or more

3. What network protocol(s) does your organization use ?
☐XNS/IPX ☐TCP/IP ☐DECnet ☐Others_____

4. What network operating system(s) does your organization use ?
☐D-Link LANsmart ☐Novell NetWare ☐NetWare Lite ☐SCO Unix/Xenix ☐PC NFS ☐3Com 3+Open ☐Cisco Network
☐Banyan Vines ☐DECnet Pathwork ☐Windows NT ☐Windows 98 ☐Windows 2000/ME ☐Windows XP
☐Others_____

5. What network management program does your organization use ?
☐D-View ☐HP OpenView/Windows ☐HP OpenView/Unix ☐SunNet Manager ☐Novell NMS
☐NetView 6000 ☐Others_____

6. What network medium/media does your organization use ?
☐Fiber-optics ☐Thick coax Ethernet ☐Thin coax Ethernet ☐10BASE-T UTP/STP
☐100BASE-TX ☐1000BASE-T ☐Wireless 802.11b and 802.11g ☐wireless 802.11a ☐Others_____

7. What applications are used on your network?
☐Desktop publishing ☐Spreadsheet ☐Word processing ☐CAD/CAM
☐Database management ☐Accounting ☐Others_____

8. What category best describes your company?
☐Aerospace ☐Engineering ☐Education ☐Finance ☐Hospital ☐Legal ☐Insurance/Real Estate ☐Manufacturing
☐Retail/Chain store/Wholesale ☐Government ☐Transportation/Utilities/Communication ☐VAR
☐System house/company ☐Other_____

9. Would you recommend your D-Link product to a friend?
☐Yes ☐No ☐Don't know yet

10.Your comments on this product?
_____
_____

TO:

D-Link ®