



X S T A C K[®]

Hardware Installation Guide

Product Model: **xStack**[®] DES-3810 Series

Layer 3 Managed Ethernet Switch

Release 2.10



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Oct. 2011 P/N 651ES3810035G

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 own expense.

CE Mark Warning

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

Warnung!

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

Precaución!

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

Attention!

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

Attenzione!

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

VCCI Warning

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

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Intended Readers

Intended Readers

Typographical Conventions

Notes, Notices, and Cautions

Safety Instructions

General Precautions for Rack-Mountable Products

Protecting Against Electrostatic Discharge

The **DES-3810 Series Hardware Installation Guide** contains information for set up and management of the Switch. This manual is intended for network managers familiar with network management concepts and terminology. For all practical reasons the **DES-3810-28** and the **DES-3810-52** will be simply referred to as the Switch throughout this manual. All example screenshots are taken from the **DES-3810-28** Switch.

Typographical Conventions

Convention	Description
[]	In a command line, square brackets indicate an optional entry. For example: [copy filename] means that optionally you can type copy followed by the name of the file. Do not type the brackets.
Bold font	Indicates a button, a toolbar icon, menu, or menu item. For example: Open the File menu and choose Cancel . Used for emphasis. May also indicate system messages or prompts appearing on screen. For example: You have mail . Bold font is also used to represent filenames, program names and commands. For example: use the copy command .
Boldface Typewriter Font	Indicates commands and responses to prompts that must be typed exactly as printed in the manual.
Initial capital letter	Indicates a window name. Names of keys on the keyboard have initial capitals. For example: Click Enter.
<i>Italics</i>	Indicates a window name or a field. Also can indicate a variables or parameter that is replaced with an appropriate word or string. For example: type <i>filename</i> means that the actual filename should be typed instead of the word shown in italic.
Menu Name > Menu Option	Menu Name > Menu Option Indicates the menu structure. Device > Port > Port Properties means the Port Properties menu option under the Port menu option that is located under the Device menu.

Table 1. Typographical Conventions

Notes, Notices, and Cautions



A **NOTE** indicates important information that helps make better use of the device.




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



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

Safety Instructions

Use the following safety guidelines to ensure your own personal safety and to help protect your system from potential damage. Throughout this safety section, the caution icon () is used to indicate cautions and precautions that need to be reviewed and followed.

Safety Cautions

To reduce the risk of bodily injury, electrical shock, fire, and damage to the equipment observe the following precautions:

- Observe and follow service markings.
 - Do not service any product except as explained in the system documentation.
 - Opening or removing covers that are marked with the triangular symbol with a lightning bolt 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.
- Keep your 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, see the appropriate section in the troubleshooting guide or 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.
- Use the product only with approved equipment.
- Allow the product to cool before removing covers 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.
- To help avoid damaging the system, be sure the voltage selection switch (if provided) on the power supply is set to match the power available at the Switch's location:
 - 115 volts (V)/60 hertz (Hz) in most of North and South America and some Far Eastern countries such as South Korea and Taiwan
 - 100 V/50 Hz in eastern Japan and 100 V/60 Hz in western Japan
 - 230 V/50 Hz in most of Europe, the Middle East, and the Far East
- Also, 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 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/national wiring rules.
- When connecting or disconnecting power to hot-pluggable power supplies, if offered with your system, 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; ensure that all casters and/or stabilizers are firmly connected to the system. Avoid sudden stops and uneven surfaces.

General Precautions for Rack-Mountable Products

Observe the following precautions for rack stability and safety. Also, refer to the rack installation documentation accompanying the system and the rack for specific caution statements and procedures.

- Systems are considered to be components in a rack. Thus, "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.



NOTE: A qualified electrician must perform all connections to DC power and to safety grounds. All electrical wiring must comply with applicable local or national codes and practices.



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):

1. 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.
2. When transporting a sensitive component, first place it in an antistatic container or packaging.
3. Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads, workbench pads and an antistatic grounding strap.

Chapter 1 Introduction

Switch Description

Features

Ports

Front-Panel Components

Rear Panel Description

Side Panel Description

This manual describes the installation, maintenance, and configurations concerning the Switch.

Switch Description

D-Link's DES-3810 Series is a high performance member of the D-Link xStack® family. Ranging from 10/100Mbps edge switches to core gigabit switches, the xStack® switch family has been future-proof designed to provide fault tolerance, flexibility, port density, robust security and maximum throughput with a user-friendly management interface for the networking professional

The Series features the following list of switches:

Switch	Description
DES-3810-28	Twenty-four 10/100Mbps Copper ports, Four 10/100/1000Mbps Copper or 100/1000Mbps SFP Combo ports, Layer 3 Managed Switch
DES-3810-52	Forty-eight 10/100Mbps Copper ports, Two 1000Mbps SFP Ports, Two 10/100/1000Mbps Copper or 100/1000Mbps SFP Combo ports, Layer 3 Managed Switch

Table 2. Switch Descriptions

The Switch has a combination of 1000BASE-T ports and SFP ports that may be used in uplinking various network devices to the Switch, including PCs, hubs and other switches to provide a gigabit Ethernet uplink in full-duplex mode. The SFP (Small Form Factor Portable) combo ports are used with fiber-optical transceiver cabling in order to uplink various other networking devices for a gigabit link that may span great distances.

The advanced ACL and user authentication functions on the Switch extend the network security coverage from core to the edge. A unique D-Link Safeguard Engine protects the Switch from the threat of worms and viruses, thereby increasing overall reliability, serviceability, and availability

Features

The list of features below highlights the significant features of the Switch.

- Supports 3 Level User Account Priledges called Adminstator, Operator, and User.
- Supports a 16K MAC address table.
- Supports Access Authentication Control utilizing TACACS, XTACACS, TACACS+, and RADIUS protocols
- Supports Access Control List (ACL) with Ingress ACL, Egress ACL, Time-based ACL, ACL Statistics, and CPU Interface Filtering.
- Supports Accessibility using multiple interfaces like the Command Line Interface (CLI), Web-based Graphical User Interface (Web-based GUI), and more.
- Supports BPDU Attack Protection and ARP Spoofing Prevention.
- Supports Broadcast, Multicast, and Unicast Storm Control.
- Supports Cable Diagnostics and Loopback Diagnostics.
- Supports Compound Authentication.
- Supports Connectivity Fault Management (CFM) using 802.1ag.
- Supports DHCP Server Screening and DHCP Client Filtering.
- Supports Distance Vector Multicast Routing Protocol (DVMRP)
- Supports Dynamic Host Configuration Protocol (DHCP) Server and Relay.
- Supports D-Link Green Version 3.0, which includes Power Saving using LED Shut-Off, Port Shut-Off, Port Standby, and System Hibernation.
- Supports D-Link SafeGuard Engine.
- Supports Ethernet Link Object Access Method (OAM) with 802.3ah D-Link Unidirectional Link Detection (DULD).
- Supports Ethernet Ring Protection Switching (ERPS) including Multi-ERPS.
- Supports Flow Control (802.3x) in full-duplex compliant.
- Supports Gratuitous ARP and ARP Proxy.
- Supports Guest VLAN.
- Supports IGMP and MLD Proxy.
- Supports IGMP Snooping (v1/2/3).
- Supports Internet Group Management Protocol (IGMP)
- Supports IP Interfaces with up to 256 IPv4 interfaces and 32 IPv6 interfaces.
- Supports IP-MAC-Port Binding (IMPB) version 3.5
- Supports IPv6 Ready Phase 2 compliancy.
- Supports IPv6 Tunneling.
- Supports ISM, Private, Subnet-based, Voice, and Double VLAN (Q-in-Q).
- Supports Japanese Web-based Access Control (JWAC).
- Supports Jumbo Frames of up to 10,240 bytes
- Supports Layer 2 Multicast Filtering.
- Supports Layer 2 Protocol Tunneling (L2PT) with tunneling across GVRP and STP with Protocol MAC types 01000CCCCCCC and 01000CCCCCD.
- Supports Layer 3 Control Packet Filtering.
- Supports Limited IP Multicast (IGMP Filtering).
- Supports Link Aggregation (802.3ad).
- Supports Link Layer Discovery Protocol (LLDP) and LLDP-MED.
- Supports Loopback Detection (LBD).
- Supports Loopback Interface.
- Supports MAC-based Access Control (MAC).
- Supports MIBs like MIBII, Bridge MIB, SNMPv2 MIB, RMON MIB, RMONv2 MIB, Ether-like MIB, 802.1p MIB, IF MIB, RADIUS Authentication Client MIB, RIPv2 MIB, IP Forwarding Table MIB (CIDR), RADIUS Accounting Client MIB, Ping MIB, Trace out MIB, L2 Specific MIB, L3 Specific MIB, Private MIB, and Entity MIB.

- Supports Mirroring with RSPAN.
- Supports MLD Snooping.
- Supports Multicast Duplication.
- Supports Multicast Filtering.
- Supports Multicast Replication.
- Supports Multicast Routing Tables.
- Supports Multiple IP interfaces per VLAN.
- Supports Multiprotocol Label Switching (MPLS) including LDP.
- Supports Network Access Protection (NAP) using 802.1X guest VLAN.
- Supports Network Load Balancing (NLB).
- Supports OSPF, including OSPFv2 and Policy-based Routing.
- Supports Password Encryption and Password Recovery.
- Supports Remote Copy Protocol (RCP).
- Supports Port-based and MAC-based VLAN.
- Supports Port Security.
- Supports Port Status, Device Status, and Traffic Monitoring.
- Supports Protocol Independent Multicast - Sparse-Mode and Dense Mode like PIM-SM, PIM-SSM, and PIM-DM.
- Supports Quality of Service (QoS) with Queue Handling, Class of Service (CoS), and Bandwidth Control.
- Supports Routing Information Protocol (RIP) including RIPv1 and RIPv2.
- Supports Secure Shell (SSHv2) with IPv4 or IPv6 access.
- Supports Secure Sockets Layer (SSL) versions 1, 2, and 3 with IPv4/IPv6 access.
- Supports sFLOW, BOOTP and DHCP Client.
- Supports Simple Mail Transfer Protocol (SMTP).
- Supports Simple Network Management Protocol (SNMP) version 1, 2c, and 3. Also supports SNMP Traps.
- Supports Simple Network Time Protocol (SNTP)
- Supports Spanning Tree with 802.1D 2004 STP/RSTP and 802.1Q 2005 MSTP.
- Supports Static and Dynamic Routing.
- Supports Switch Resource Management (SRM) in Routing and VPWS Mode.
- Supports Telnet Server and Client from IPv4 and IPv6.
- Supports Virtual Private Wire Service (VPWS)
- Supports Traffic Segmentation
- Supports Trap, Log, and Alarm Severity Control.
- Supports Trivial File Transfer Protocol (TFTP) Client.
- Supports Virtual LAN (802.1Q) with up to 4K static VLAN groups and 4,094 dynamic VLAN groups.
- Supports Virtual Stacking. D-Link Single IP Management (SIM).
- Supports VLAN Translation.
- Supports VLAN Trunking
- Supports Web-based Access Control (WAC) that also supports HTTPS.

Ports

The following table lists the ports that are present within each switch.

Switch	Description
DES-3810-28	Twenty-four 10/100BASE-T Copper ports. Four 10/100/1000BASE-T/SFP Combo Copper or 100/1000Mbps SFP ports.
DES-3810-52	Fourty-eight 10/100BASE-T Copper ports. Two 1000Mbps SFP ports. Two 10/100/1000BASE-T/SFP Combo Copper or 100/1000Mbps SFP ports.

Table 3. Switch Port Descriptions

- All the switches are equipt with one RJ-45 Console port (a special console cable with a DB9 interface is provided to connect the Switch to a PC)
- All the switches are equipt with one separate Management port. This port is used for isolated access to the Switch's CLI Interface.
- All the switches are equipt with one Redundant Power Supply (RPS) outlet for optional external RPS



Note: For customers interested in D-View, D-Link Corporation's proprietary SNMP management software, go t o <http://dview.dlink.com.tw/> and download the software and manual.

Front-Panel Components

The front panel of the **DES-3810-28** Switch consists of a Management and Console port, LED indicators for Power, Console, RPS, Master (stack control), Stacking ID, and Link/Act LEDs for each port on the Switch, including the SFP ports.

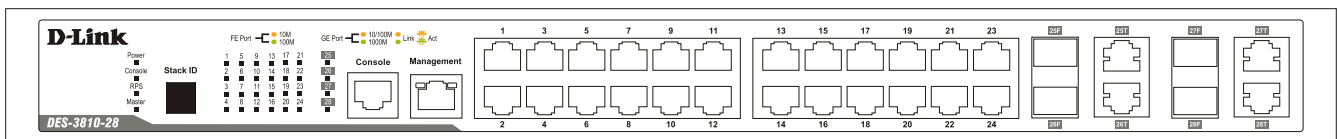


Figure 1–1 Front panel view of the DES-3810-28 Switch

The front panel of the **DES-3810-52** Switch consists of LED indicators for Power, Console, RPS, Master (stack control), Stacking ID, and Link/Act LEDs for each port on the Switch, including the SFP ports.

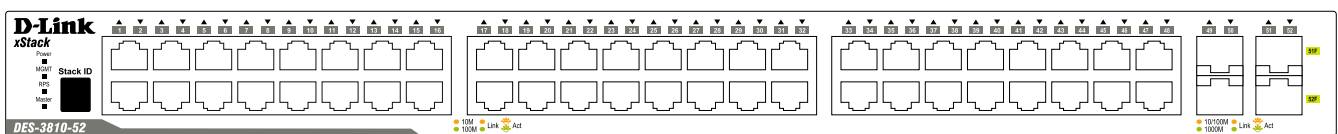


Figure 1–2 Front panel view of the DES-3810-52 Switch

A separate table below describes LED indicators in more detail.

LED Indicators

The Switch's front panel presents LED indicators for Power, Console, RPS, Master (stack control), Stacking ID and Link/Act indicators for all ports including the Gigabit Ethernet ports.

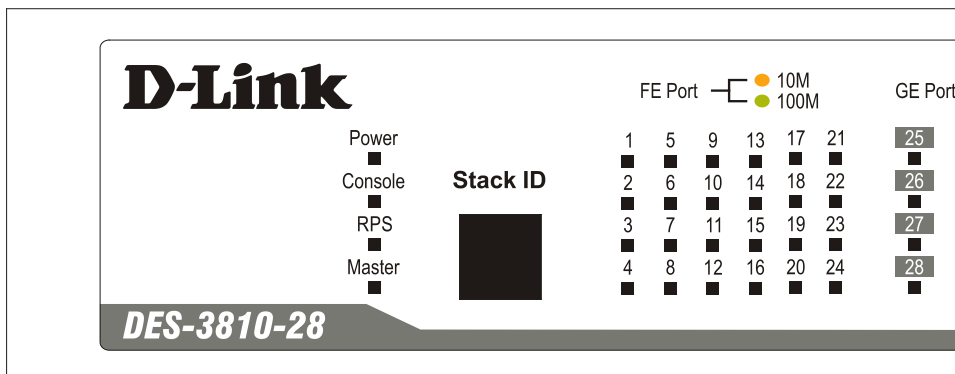


Figure 1-3 LED indicators for the DES-3810-28 Switch

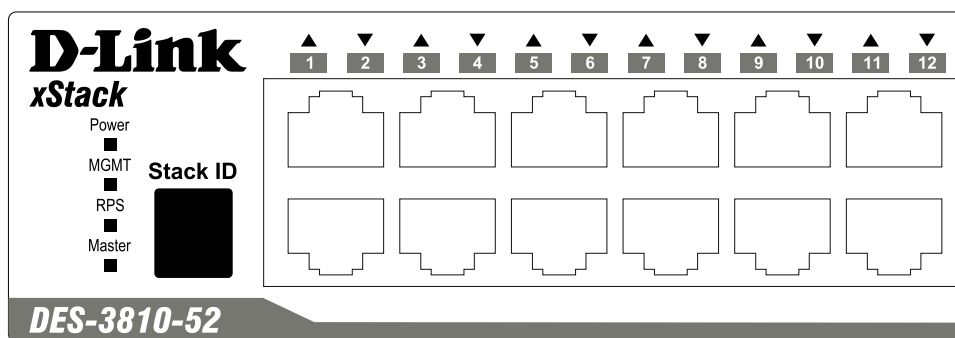


Figure 1-4 LED indicators for the DES-3810-52 Switch

LED	Description
Power	This LED will light green after powering the Switch on to indicate the ready state of the device. The indicator is dark when the Switch is no longer receiving power (i.e. powered off).
Console	This LED will blink green during the Power-On Self Test (POST). When the POST is finished, the LED goes dark. The indicator will light steady green when a user is logged in through the console port, remote Telnet or Web.
RPS	This LED will light green if the Redundant Powers Supply is in use. If the indicator is off, the RPS is not in use.
Master	For standalone Switches, this will light green. For stacked Switches, a solid Green light indicates this unit is the Master of the stack. (Note: Switch stacking is not available in Release 1.0)
Stack ID	For standalone Switches, this will display number 1. For stacked Switches, this indicates the position in the stacking box ID. (Note: Switch stacking is not available in this release)
FE Port	A steady green light denotes a valid 100Mbps link on the port while a blinking green light indicates activity on the port (at 100Mbps). A steady amber light denotes a valid 10Mbps link on the port while a blinking amber light indicates activity on the port (at 10Mbps). These LEDs will remain dark if there is no link/activity on the port.
GE Port	LED indicators for the Combo ports are located above the ports. A steady green light denotes a valid 1000Mbps link on the port while a blinking green one indicates activity on the port (at 1000Mbps). A steady amber light denotes a valid 10 or 100Mbps link on the port while a blinking amber one indicates activity on the port (at 10 or 100Mbps). These LEDs will remain dark if there is no link/activity on the port.

**Management Port
Link/Act LEDs**

The Management Port on the front panel presents LED indicators for Link and Activity. The left LED will light steady green for a valid 10/100Mbps link; the upper right LED will blink green when the port is active. The LED remains dark when there is no link or activity.

Rear Panel Description

The rear panel of the **DES-3810-28** Switch consists of an AC/DC power connector and an outlet for an external redundant power supply.

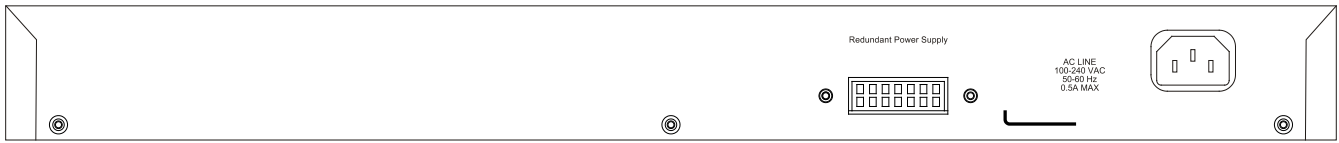


Figure 1–5 Rear panel view of a DES-3810-28 Switch

The rear panel of the **DES-3810-52** Switch consists of an AC/DC power connector, an outlet for an external redundant power supply, a Management port, a Console port, and two 10/100/1000BASE-T Copper ports (that are part of the two 10/100/1000BASE-T/SFP Combo ports).

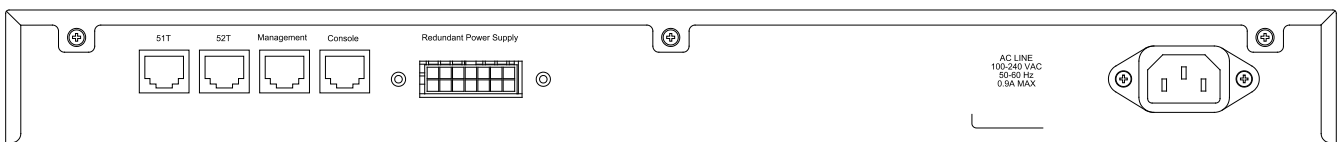


Figure 1–6 Rear panel view of a DES-3810-52 Switch

The AC power connector is a standard three-pronged connector that supports the power cord. Plug-in the female connector of the provided power cord into this socket, and the male side of the cord into a power outlet. The DES-3810 Series automatically adjusts the power setting to any supply voltage in the range from 100 ~ 240 VAC at 50 ~ 60 Hz.

In addition, an optional external Redundant Power Supply (DPS-200) can be plugged into the connector displayed above. When the internal power fails, this optional external RPS will take over all the power immediately and automatically.

Side Panel Description

The system heat vents located on each side dissipate heat. Do not block these openings. Leave at least 6 inches of space at the rear and sides of the Switch for proper ventilation. Be reminded that without proper heat dissipation and air circulation, system components might overheat, which could lead to system failure or even severely damage components.

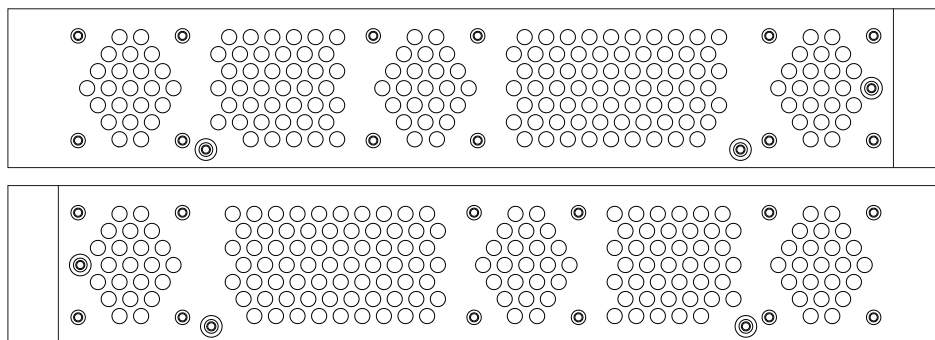


Figure 1–7 Side panels of the DES-3810-28 Switch

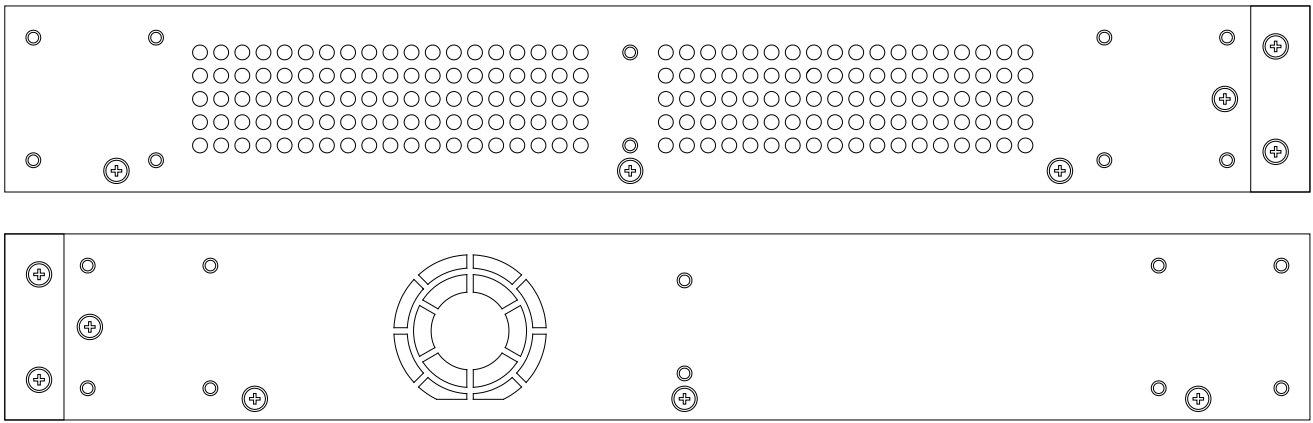


Figure 1-8 Side panels of the DES-3810-52 Switch

Chapter 2 Installation

Package Contents

Installation Guidelines

Installing the Switch without a Rack

Rack Installation

Power On

Installing SFP Ports

Package Contents

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

- One DES-3810 Series Switch
- One Quick Installation Guide
- One AC power cord
- One RJ-45 to RS-232 console
- One mounting kit (two brackets and screws)
- Four rubber feet with adhesive backing
- One CD kit for User's Guide/CLI/D-View module

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

Installation Guidelines

Please follow these guidelines for setting up the Switch:

- Install the Switch on a sturdy, level surface that can support the weight of the Switch (see the Appendix section for the weight specifications of each Switch). Do not place heavy objects on the Switch.
- The power outlet should be within 1.82 meters (6 feet) of the Switch.
- Visually inspect the power cord and see that it is fully secured to the AC power port.
- 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.
- Install the Switch in a fairly cool and dry place for the acceptable temperature and humidity operating ranges.
- Install the Switch in a site free from strong electromagnetic field generators (such as motors), vibration, dust, and direct exposure to sunlight.
- When installing the Switch on a level surface, attach the rubber feet to the bottom of the device. The rubber feet cushion the Switch, protect the casing from scratches and prevent it from scratching other surfaces.

Installing the Switch without a Rack

First, attach the rubber feet included with the Switch if installing on a desktop or shelf. Attach these cushioning feet on the bottom at each corner of the device. Allow enough ventilation space between the Switch and any other objects in the vicinity.

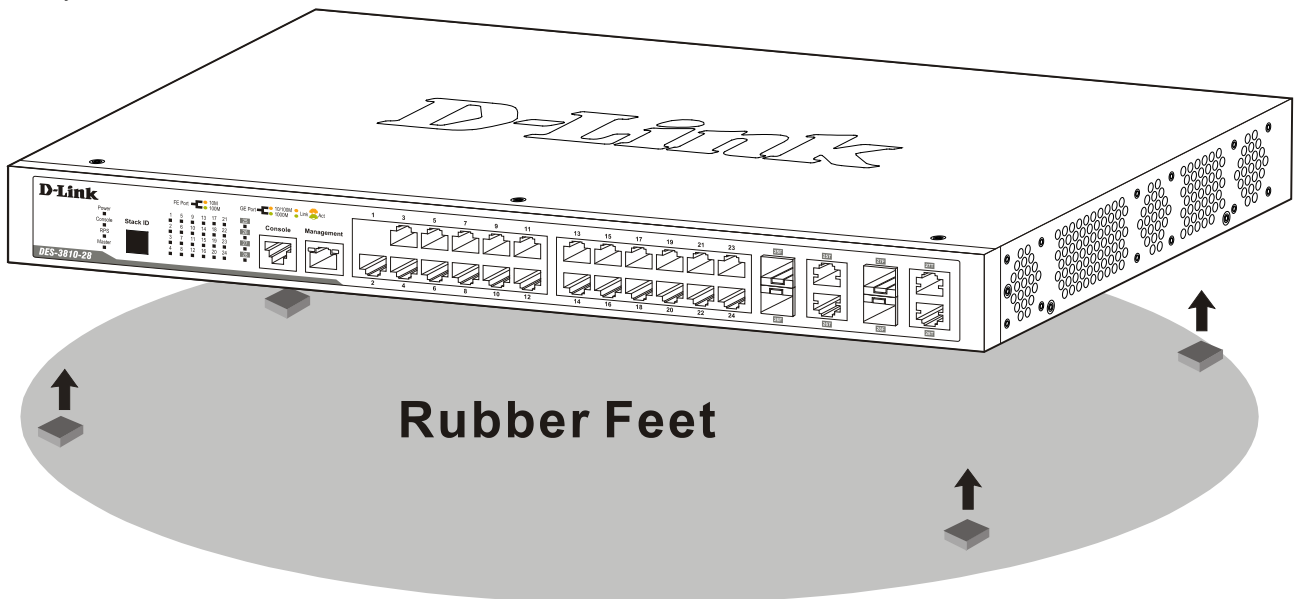


Figure 2-1 Prepare the Switch for installation on a desktop or shelf

Attaching Brackets to a Switch for Rack Mounting

The Switch can be mounted in a standard 19" rack using the provided mounting brackets. Use the following diagrams as a guide.

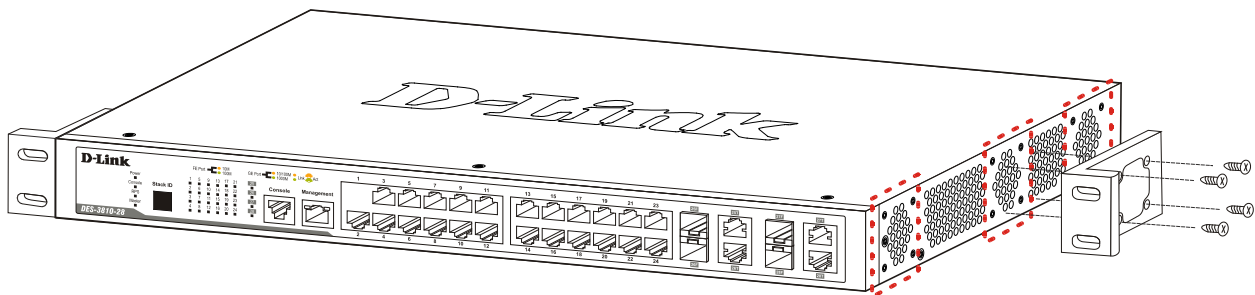


Figure 2-2 Fasten mounting brackets on the Switch

Fasten the mounting brackets to the Switch using the screws provided. With the brackets attached securely, the Switch can be mounted in a standard rack, as shown below.



Note: Please review the Installation Guidelines above before installing the Switch in a rack. Make sure there is adequate space around the Switch to allow for proper air flow, ventilation and cooling.

Mounting the Switch in a Standard 19" Rack

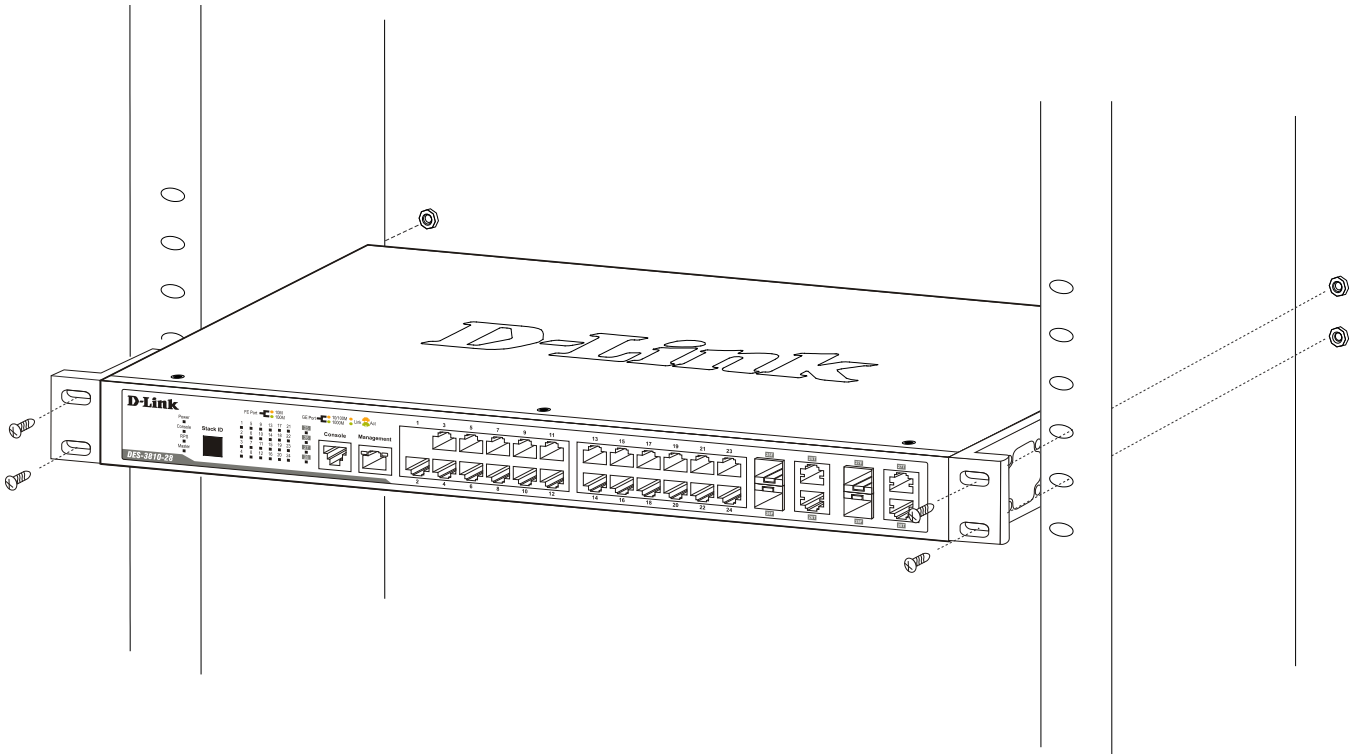


Figure 2-3 Installing the Switch into a rack

Power On

1. Plug one end of the AC power cord into the power connector of the Switch and the other end into the local power source outlet.
2. After powering on the Switch, the LED indicators will momentarily blink green. This blinking of the LED indicators represents a reset of the system.

Power Failure

As a precaution, in the event of a power failure, unplug the Switch. When power is resumed, plug the Switch back in.



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 components in a rack, do not 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 injury.

Installing SFP Ports

The Switch is equipped with SFP (Small Form Factor Portable) ports, which are to be used with fiber-optical transceiver cabling in order to uplink various other networking devices for a gigabit link that may span great distances. The SFP ports support data rates of up to 1Gbit/s.

See the figure below for installing the SFP ports in the Switch.

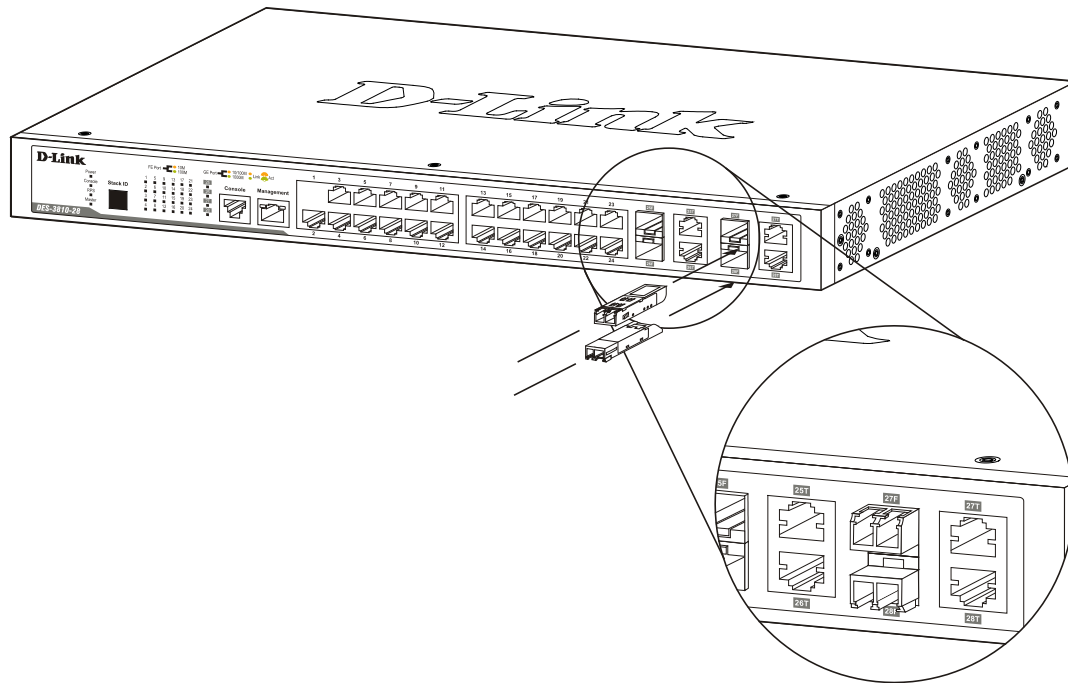


Figure 2-4 Inserting fiber-optic transceivers into the Switch

The following list of transceivers is supported with SFP ports:

- DEM-310GT (1000BASE-LX, Single-mode, 10km)
- DEM-311GT (1000BASE-SX, Mutli-mode, 550m)
- DEM-312GT2 (1000BASE-SX, Multi-mode, 2km)
- DEM-314GT (1000BASE-LHX, Single-mode, 50km)
- DEM-315GT (1000BASE-ZX, Single-mode, 80km)
- DEM-330T/R (1000BASE-BX, WDM transceiver, Single-Mode 10km)
- DEM-331T/R (1000BASE-BX, WDM transceiver, Single-Mode 40km)
- DEM-210 (100BASE-FX, Multi-mode, 2km,)
- DEM-211 (100BASE-FX, Single-mode, 15km,
- DEM-220T (100BASE-BX, Wavelength Tx:1550nm, Rx:1310nm, Single-mode, 20km)
- DEM-220R (100BASE-BX, Wavelength Tx:1310nm, Rx:1550nm, Single-mode, 20km)

Connecting to a Redundant Power Supply

The Master Switch can be connected to the Redundant Power Supply (RPS) using a 14-pin DC power cable. A standard, three-pronged AC power cable connects the redundant power supply to the main power source. The DES-3810 Series Switches must be used together with the DPS-200 Redundant Power Supply or an equivalent RPS.

Redundant Power Supply, the DPS-200

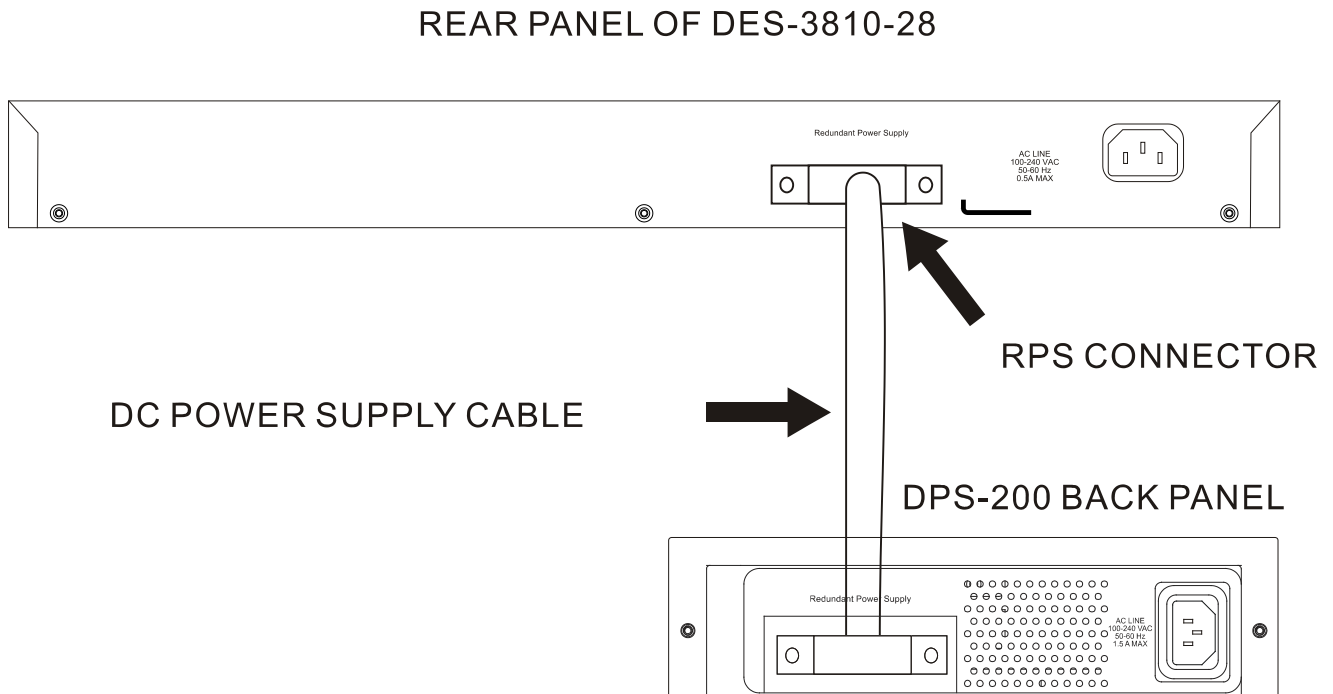


Figure 2–5 Connecting the DES-3810-28 Switch to the DPS-200

1. Insert one end of the 14-pin DC power cable into the receptacle on the Switch and the other end into the redundant power supply.
2. Using a standard AC power cable, connect the redundant power supply to the main AC power source. A green LED on the front of the DPS-200 will glow to indicate a successful connection.
3. Re-connect the switch to the AC power source. The LED indicator will show that a redundant power supply is now in operation.
4. No change in switch configuration is necessary for this installation.



Note: See the DPS-200 documentation for more information.

External Redundant Power System

The DPS-200 is a redundant power-supply unit designed to conform to the voltage requirements of the switches being supported. The DPS-200 can be installed into a DPS-900, or DPS-800 rack mount unit.



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

External Redundant Power Supply, the DPS-800

The DPS-800 is a standard-size rack mount (1 standard unit in height) designed to hold up to two DPS-200 redundant power supplies.

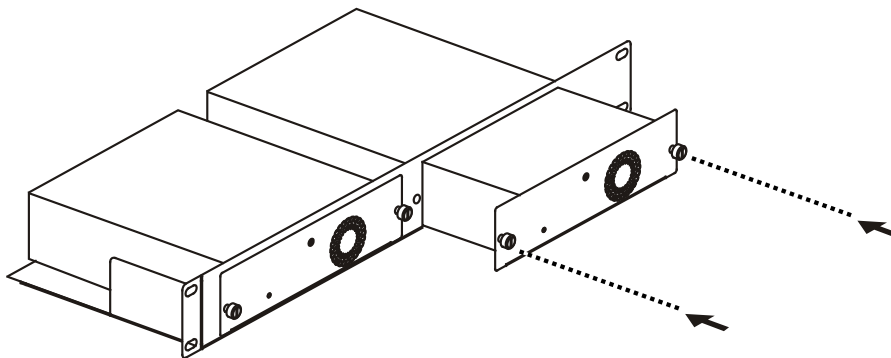


Figure 2-6 Installing the DPS-200 in the DPS-800

The RPS can be mounted in a standard 19" rack. Use the following diagram to guide you.

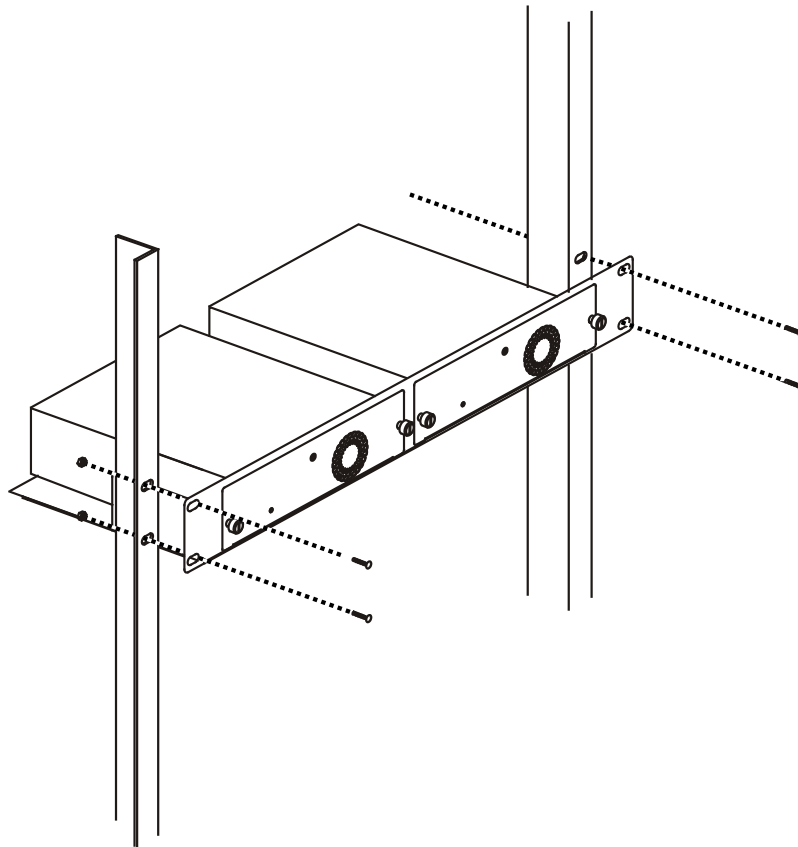


Figure 2-7 Installing the DPS-800 in an Equipment Rack

External Redundant Power Supply, the DPS-900

The DPS-900 is a standard-size rack mount (5 standard units in height) designed to hold up to eight DPS-200 redundant power supplies.

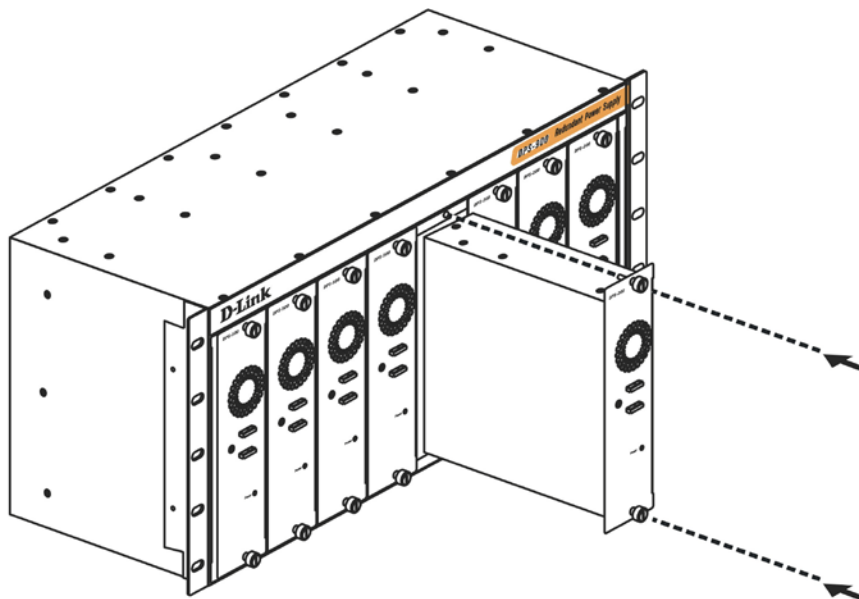


Figure 2-8 Inserting the DPS-200 into the DPS-900

The RPS can be mounted in a standard 19" rack. Use the following diagram to guide you.

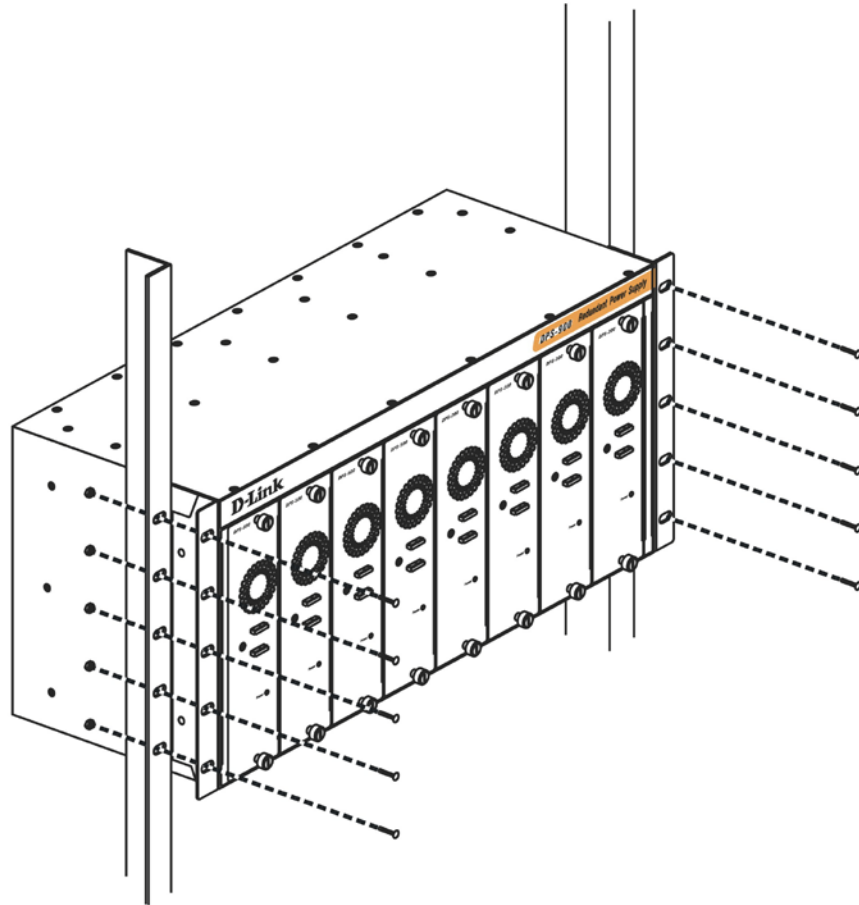


Figure 2-9 Installing the DPS-900 into the equipment rack



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 components in a rack, do not 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 injury.

Chapter 3 Connecting the Switch

Switch to End Node

Switch to Switch

Connecting To Network Backbone or Server



Note: All high-performance N-Way Ethernet ports can support both MDI-II and MDI-X connections.

Switch to End Node

End nodes include PCs outfitted with a 10/100/1000Mbps, RJ-45, Ethernet Network Interface Card (NIC) and routers. An end node connects to the Switch via a twisted-pair UTP/STP cable. Connect the end node to any of the 10/100/1000BASE-T ports of the Switch. The Link/Act LEDs for each Ethernet port will light green or amber when the link is valid. A blinking LED indicates packet activity on that port.

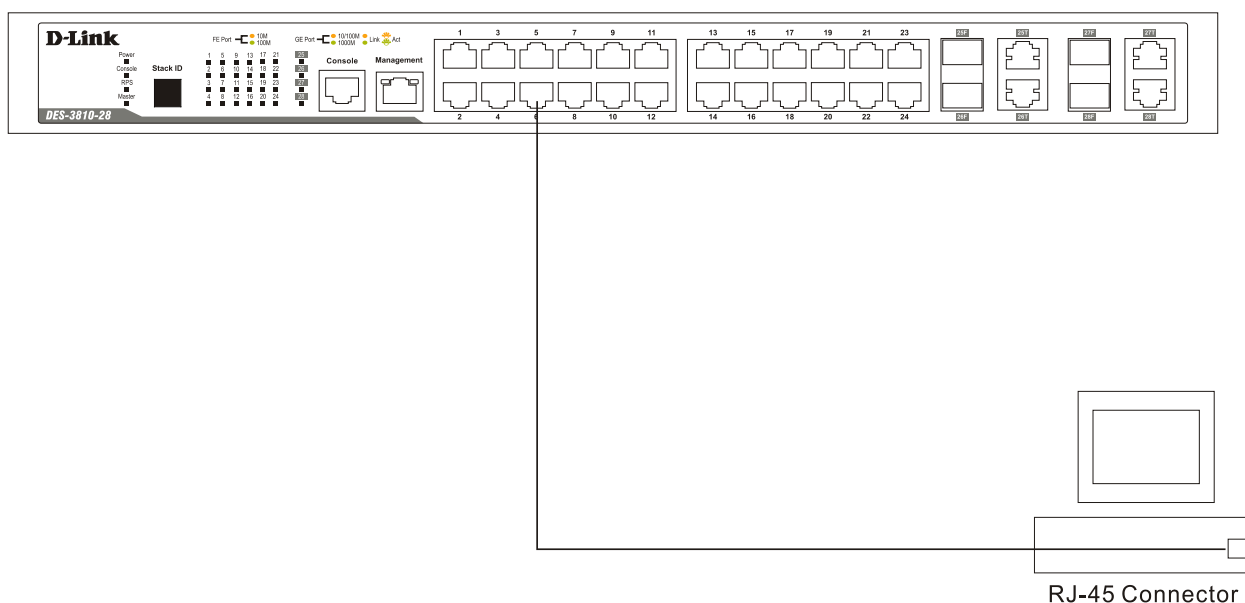


Figure 3–1 Connecting the Switch to an end node

Switch to Switch

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

- Connect a 10BASE-T switch port to the Switch via a twisted-pair Category 3, 4 or 5 UTP/STP cable.
- Connect a 100BASE-TX switch port to the Switch via a twisted-pair Category 5 UTP/STP cable.
- Connect 1000BASE-T switch port to the Switch via a twisted pair Category 5e UTP/STP cable.
- Connect switch supporting a fiber-optic uplink to the Switch's SFP ports via fiber-optic cabling. See cabling guidelines in Appendix B for more information.

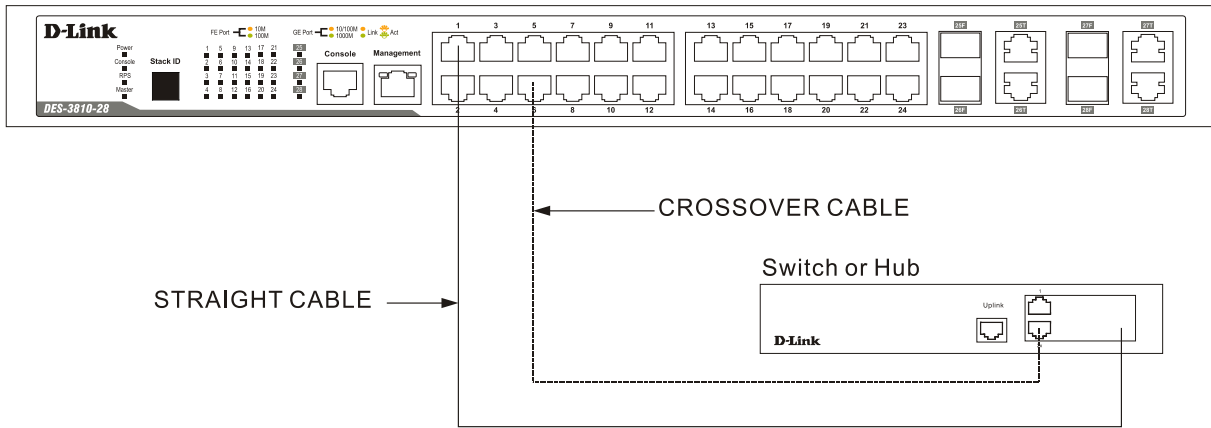


Figure 3–2 Connecting the Switch to another switch

Connecting To Network Backbone or Server

The 10/100/1000Mbps Copper/SFP Combo ports are ideal for uplinking to a network backbone, server or server farm. The copper ports operate at a speed of 10/100/1000Mbps in full or half duplex mode. The fiber-optic ports can operate at both 100Mbps and 1000Mbps in full duplex mode.

Connections to the Gigabit Ethernet ports are made using a fiber-optic cable or Category 5e copper cable, depending on the type of port. A valid connection is indicated when the Link LED is lit.

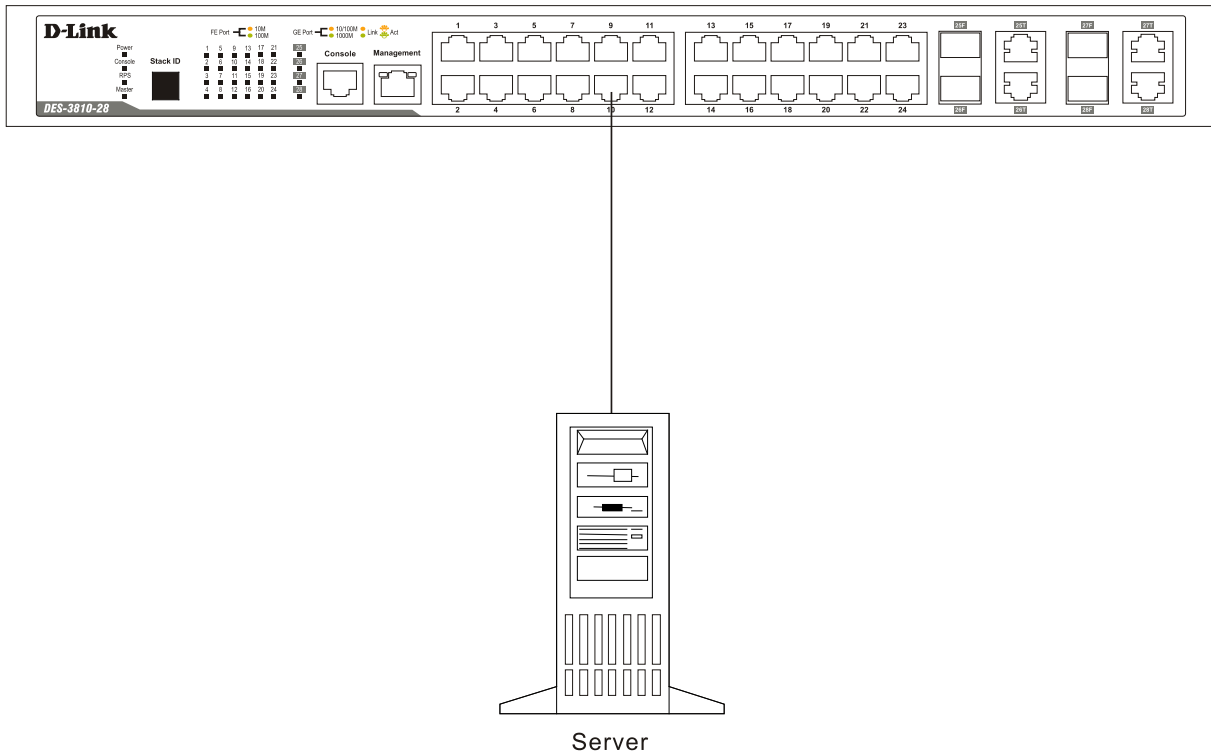


Figure 3–3 Connecting the Switch to a Server

Chapter 4 Introduction to Switch Management

Management Options

Connecting the Console Port

Connecting to the Switch for the first time

Connecting to the Management Port

Password Protection

Assigning IP Addresses

SNMP Settings

Management Options

This system may be managed out-of-band through the console port on the front panel or in-band using Telnet. The user may also choose the web-based management, accessible through a web browser.

Web-based Management Interface

After successfully installing the Switch, the user can configure the Switch, monitor the LED panel, and display statistics graphically using a web browser, such as Netscape Navigator (version 6.2 and higher) or Microsoft® Internet Explorer (version 5.0 and higher).

SNMP-Based Management

The Switch can be managed with an SNMP-compatible console program. The Switch supports SNMP version 1.0, version 2.0 and version 3.0. 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.

Command Line Interface through the Serial Port or remote Telnet

The user can also connect a computer or terminal to the serial console port to access the Switch. The command line interface provides complete access to all Switch management features.

Connecting the Console Port

The front panel of the DES-3810-28 Switch and the rear panel of the DES-3810-52 Switch provide a port that enables a connection to a computer monitoring and configuring the Switch. The console port is an RJ-45 port and requires a special cable that is included with the Switch, to establish the physical connection.

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

- A terminal or a computer with both an RS-232 serial port and the ability to emulate a terminal.
- A console cable with a male DB-9 connector on one end and an RJ-45 connection on the other. This cable should be included with the Switch. It establishes the physical connection to the console port.

To connect a terminal to the console port:

Connect the male DB-9 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 RJ-45 connector into the RJ-45 console port on the front of the Switch. Set the terminal emulation software as follows:

- Select the appropriate serial port (COM port 1 or COM port 2).
- 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.
- Under Properties, select VT100 for Emulation mode.
- Select Terminal keys for Function, Arrow and Ctrl keys. Make sure to use Terminal keys (not Windows keys) are selected.



Note: When using HyperTerminal with the Microsoft® Windows® 2000 operating system, ensure that Windows 2000 Service Pack 2 or later is installed. Windows 2000 Service Pack 2 allows use of arrow keys in HyperTerminal's VT100 emulation. See www.microsoft.com for information on Windows 2000 service packs.

- After you have correctly set up the terminal, plug the power cable into the power receptacle on the back of the Switch. The boot sequence appears in the terminal.
- After the boot sequence completes, the console login screen displays.
- If the user has not logged into the command line interface (CLI) program, press the Enter key at the User name and password prompts. There is no default user name and password for the Switch. The administrator must first create user names and passwords. If user accounts have been previously set up, log in and continue to configure the Switch.
- Enter the commands to complete desired tasks. Many commands require administrator-level access privileges. Read the next section for more information on setting up user accounts. See the DES-3810 Series CLI Manual on the documentation CD for a list of all commands and additional information on using the CLI.
- To end a management session, use the logout command or close the emulator program.

If you experience problems while making a connection, make sure the emulation is set to VT-100. The emulation settings can be configured by:

- Click File Menu in HyperTerminal
- Click Properties from the drop-down menu
- Click the Settings Tab

This is where you will find the Emulation options. If you still do not see anything, try rebooting the Switch by disconnecting its power supply.

Once connected to the console, the screen below will appear on the console screen. This is where the user will enter commands to perform all the available management functions. The Switch will prompt the user to enter a user name and a password. Upon the initial connection, there is no user name or password and therefore just press enter twice to access the command line interface.

```

Boot Procedure                                     V2.00.003
-----
Power On Self Test ..... 100%

MAC Address   : 00-22-B0-32-EB-00
H/W Version  : A1

Please Wait, Loading V2.10.018 Runtime Image ..... 100 %
UART init ..... 100 %
Device Discovery ..... 100 %
Configuration init ..... 100 %
    
```

Figure 4–1 Boot up display in console screen

Connecting to the Switch for the first time

The Switch supports user-based security that can allow prevention of unauthorized users from accessing the Switch or changing its settings. This section tells how to log onto the Switch via out-of-band console connection or out-of-band Management port connection.

Upon initial connection to the Switch, the following screen will appear:

```
Press any key to login...
```

Figure 4–2 Initial screen, first time connecting to the Switch

Press any key, on the keyboard, to view the login screen below:

```
DES-3810-28 Fast Ethernet Switch
Command Line Interface

Firmware: Build 2.10.018
Copyright(C) 2011 D-Link Corporation. All rights reserved.

UserName:
```

Figure 4–3 Login Screen

Press **Enter** in both the Username and Password fields. Then access will be given to enter commands after the command prompt **DES-3810-28:admin#**. There is no initial username or password. Leave the Username and Password fields blank.



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

Connecting to the Management Port

The front panel of the Switch features an out-of-band Management port. The port is an RJ-45 port so it can be easily connected to a notebook computer using a standard Ethernet cable. Connect to the port for out-of-band management using a web browser or Telnet command prompt interface. The Management port is enabled by default, so it can be used for the first time connection to the Switch.

To use the Management port, use an Ethernet cable to connect the port to the Ethernet interface of a computer used for Switch management. The default IP address of the Management port is 192.168.0.1 with a subnet mask of 255.255.255.0, make sure the computer used for Switch management has a nonconflicting IP address in the 192.168.0.x subnet.

The IP settings or enabled status of the Management port can be changed through the console port, or through the web-based Switch management interface. To change the configuration of the Management port, use the command:
config out_band_ipif {ipaddress <network_address> | state [enable | disable] | gateway <ipaddr>}

To view the status or IP settings, use the command:
show out_band_ipif

To change settings for the out-of-band Management port in the web interface, use the following path:
Management > Out of Band Management Settings

Password Protection

The switches do not have a default user name and password. One of the first tasks when settings up the Switch is to create user accounts. Logging in using a predefined administrator-level user name will give the user privileged access to the Switch's management software.

After the initial login, define new passwords for both default user names to prevent unauthorized access to the Switch, and record the passwords for future reference.

To create an administrator-level account for the Switch, do the following:

1. At the CLI login prompt, enter create account admin followed by the <user name> and press the Enter key.
2. The Switch will then prompt the user to provide a password. Type the <password> used for the administrator account being created and press the Enter key.
3. Once entered, the Switch will again ask the user to enter the same password again to verify it. Type the same password and press the Enter key.
4. A "Success" response by the Switch will verify the creation of the new administrator.



Note: Passwords are case sensitive. User names and passwords can be up to 15 characters in length.

Assigning IP Addresses

Each Switch must be assigned its own IP Address, which is used for communication with an SNMP network manager or other TCP/IP application (for example BOOTP, TFTP). The Switch's default IP address is 10.90.90.90. You can change the default Switch IP address to meet the specification of your networking address scheme.

The Switch is also assigned a unique MAC address by the factory. This MAC address cannot be changed, and can be found by entering the command "**show switch**" into the command line interface, as shown below.

```
DGS-3420-28SC:admin# show switch
Command: show switch

Device Type       : DES-3810-28 Fast Ethernet Switch
MAC Address       : 00-22-B0-32-EB-00
IP Address        : 10.90.90.90 (Manual)
VLAN Name         : default
Subnet Mask       : 255.0.0.0
Default Gateway   : 0.0.0.0
Boot PROM Version : Build 2.00.003
Firmware Version  : Build 2.10.018
Hardware Version  : A1
Firmware Type     : EI
Serial Number     : PVMB1A9000016
System Name       :
System Location   :
System Uptime     : 0 days, 0 hours, 6 minutes, 43 seconds
System Contact    :
Spanning Tree     : Disabled
GVRP              : Disabled
IGMP Snooping    : Disabled
MLD Snooping     : Disabled
RIP               : Disabled
DVMRP            : Disabled
PIM               : Disabled
CTRL+C  ESC  q Quit  SPACE  n Next Page  ENTER Next Entry  a All
```

Figure 4–4 Show switch command

The Switch's MAC address can also be found from the Web management program on the **System Information window** in the Configuration folder.

The IP address for the Switch must be set before it can be managed with the Web-based manager. The Switch IP address can be automatically set using BOOTP or DHCP protocols, in which case the actual address assigned to the Switch must be known.

The IP address may be set using the Command Line Interface (CLI) over the console serial port as follows:

Starting at the command line prompt, enter the commands

```
config ipif System ipaddress xxx.xxx.xxx.xxx/yyy.yyy.yyy.yyy
```

Where the x's represent the IP address to be assigned to the IP interface named System and the y's represent the corresponding subnet mask.

Alternatively, you can enter **config ipif System ipaddress xxx.xxx.xxx.xxx/z**. Where the x's represent the IP address to be assigned to the IP interface named System and the z represents the corresponding number of subnets in CIDR notation.

The IP interface named System on the Switch can be assigned an IP address and subnet mask, and then be used to connect a management station to the Switch's Telnet or Web-based management agent.

```
DES-3810-28:admin#config ipif System ipaddress 10.90.90.91/8
Command: config ipif System ipaddress 10.90.90.91/8

Success.

DES-3810-28:admin#
```

Figure 4–5 Assigning the Switch an IP Address

In the above example, the Switch was assigned an IP address of 10.90.90.91 with a subnet mask of 255.0.0.0. (the CIDR form was used to set the address (10.90.90.91/8). The system message Success indicates that the command was executed successfully. The Switch can now be configured and managed via Telnet and the CLI or via the Web-based management.

SNMP Settings

Simple Network Management Protocol (SNMP) is an OSI Layer 7 (Application Layer) designed specifically for managing and monitoring network devices. SNMP enables network management stations 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 SNMP versions 1, 2c, and 3. The administrator may specify which version of SNMP to use to monitor and control the Switch. The three versions of SNMP vary in the level of security provided between the management station and the network device.

In SNMP v.1 and v.2, 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 SNMP v.1 and v.2 management access are:

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

SNMP v.3 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 SNMP v.1 while assigning a higher level of security to another group, granting read/write privileges using SNMP v.3.

Using SNMP v.3 individual users or groups of SNMP managers can be allowed to perform or be restricted from performing specific SNMP management functions. The functions allowed or restricted are defined using the Object Identifier (OID) associated with a specific MIB. An additional layer of security is available for SNMP v.3 in that SNMP messages may be encrypted. To read more about how to configure SNMP v.3 settings for the Switch read the section entitled Management.

Traps

Traps are messages that 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 the trap recipient (or network manager). Typical traps include trap messages for Authentication Failure, Topology Change and Broadcast\Multicast Storm.

Management Information Base (MIB)

The Switch in the 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.

Chapter 5 Web-based Switch Configuration

Introduction

Logging onto the Web Manager

Web-based User Interface

Web Pages

Introduction

All software functions of the Switch can be managed, configured, and monitored via the embedded Web-based (HTML) interface. Manage the Switch from remote stations anywhere on the network through a standard browser, such as Internet Explorer (version 5.5 and later), Netscape (version 8.0 and later), Mozilla Firefox (version 2.0 and later), or Safari (version 4.0 and later). The browser acts as a universal access tool and can communicate directly with the Switch using the HTTP protocol.

The Web-based management module and the Console program (and Telnet) are different ways to access the same internal switching software and configure it. Thus, all settings encountered in web-based management are the same as those found in the console program.

Logging onto the Web Manager

To begin managing the Switch, simply run the browser installed on your computer and point it to the IP address you have defined for the device. The URL in the address bar should read something like: `http://123.123.123.123`, where the numbers 123 represent the IP address of the Switch.



NOTE: The factory default IP address is 10.90.90.90.

This opens the management module's user authentication window, as seen below.

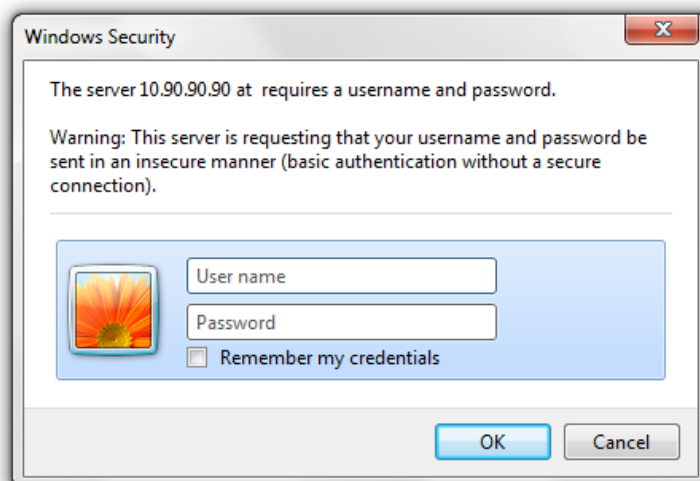


Figure 5–1 Enter Network Password Window

Enter “admin” in both the User Name field and the Password field and click **OK**. This will open the Web-based user interface. The Switch management features available in the web-based manager are explained below.

Web-based User Interface

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

Areas of the User Interface

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

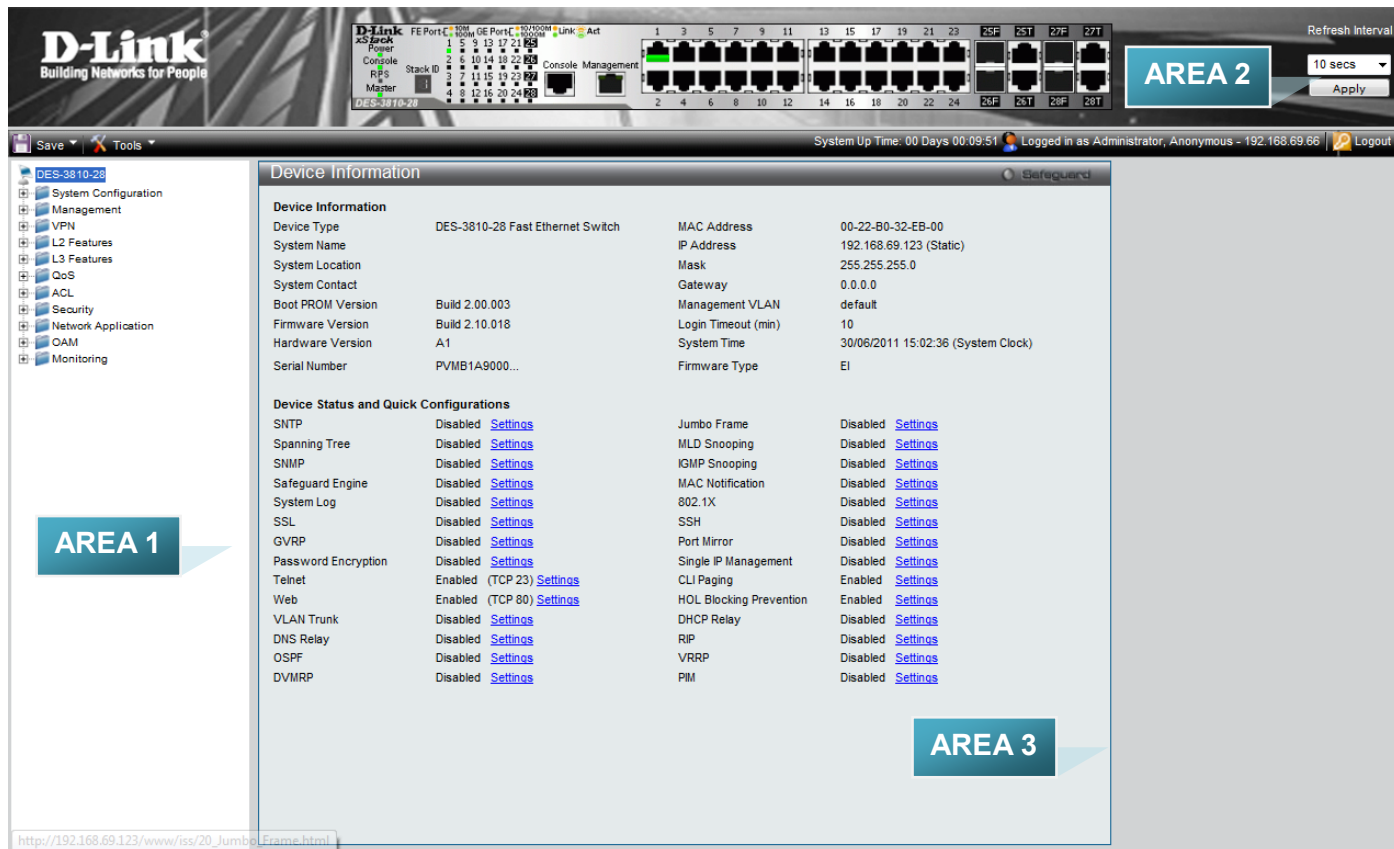


Figure 5–2 Main Web-manager Window

Area	Function
AREA 1	Select the folder or window to display. Open folders and click the hyper-linked window buttons and subfolders contained within them to display windows.
AREA 2	Presents a graphical near real-time image of the front panel of the Switch. This area displays the Switch's ports and expansion modules and shows port activity, depending on the specified mode. Some management functions, including port monitoring are accessible here. Click the D-Link logo to go to the D-Link Website.
AREA 3	Presents Switch status based on user selection and the entry of configuration data. In addition, hyperlinks are offered for many Switch features to enable quick configuration.

Web Pages

When connecting to the management mode of the Switch with a Web browser, a login screen is displayed. Enter a user name and password to access the Switch's management mode.

Below is a list of the main folders available in the Web interface:

Title	Description
System Configuration	In this section the user will be able to configure features regarding the Switch's configuration.
Management	In this section the user will be able to configure features regarding the Switch's management.
VPN (EI Mode Only)	In the section, the user will be able to configure features regarding MPLS, LDP and VPWS.
L2 Features	In this section the user will be able to configure features regarding the Layer 2 functionality of the Switch.
L3 Features	In this section the user will be able to configure features regarding the Layer 3 functionality of the Switch.
QoS	In this section the user will be able to configure features regarding the Quality of Service functionality of the Switch.
ACL	In this section the user will be able to configure features regarding the Access Control List functionality of the Switch.
Security	In this section the user will be able to configure features regarding the Switch's security.
Network Application	In this section the user will be able to configure features regarding network applications handled by the Switch.
OAM	In this section the user will be able to configure features regarding the Switch's operations, administration and maintenance (OAM).
Monitoring	In this section the user will be able to monitor the Switch's configuration and statistics.



Note: Be sure to configure the user name and password in the **User Accounts** window before connecting the Switch to the greater network.

Appendix A – Technical Specifications

General

Feature	Detailed Description								
Standards	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3z 1000BASE-T (SFP “Mini GBIC”) IEEE 802.1D/2004/Spanning Tree (802.1s, 802.1w) IEEE 802.1Q-2005 VLAN IEEE 802.1p Priority Queues IEEE 802.1X Network Access Control IEEE 802.3 Nway Auto-negotiation IEEE 802.3ad Link Aggregation Control IEEE 802.3x Full-duplex Flow Control IEEE 802.1u Fast Ethernet								
Protocols	CSMA/CD								
Data Transfer Rates: Ethernet Fast Ethernet Gigabit Ethernet	<table border="0"> <tr> <td>Half-duplex</td> <td>Full-duplex</td> </tr> <tr> <td>10 Mbps</td> <td>20Mbps</td> </tr> <tr> <td>100Mbps</td> <td>200Mbps</td> </tr> <tr> <td>-----</td> <td>2000Mbps</td> </tr> </table>	Half-duplex	Full-duplex	10 Mbps	20Mbps	100Mbps	200Mbps	-----	2000Mbps
Half-duplex	Full-duplex								
10 Mbps	20Mbps								
100Mbps	200Mbps								
-----	2000Mbps								
Topology	Duplex Ring, Duplex Chain								
Network Cables	Cat.5 Enhanced for 1000BASE-T UTP Cat.5, Cat. 5 Enhanced for 100BASE-TX UTP Cat.3, 4, 5 for 10BASE-T EIA/TIA-568 100-ohm screened twisted-pair (STP)(100m)								

Physical and Environmental

Feature	Detailed Description
Internal Power Supply	DES-3810-28: 100-240VAC, 50-60Hz, 40 Watt DES-3810-52: 100-240VAC, 50-60Hz, 60 Watt
Optional Redundant Power Supply	One connector in rear panel to install an optional external RPS. When internal power fails, the optional external RPS will automatically take over all the power supply immediately. The DES-3810 Series Switches must be used together with the DPS-200 Redundant Power Supply or an equivalent RPS.
Fans	DES-3810-28: Fanless. DES-3810-52: One Fan.
Power Consumption	DES-3810-28: 23.40 Watts (Max.) DES-3810-52: 38.78 Watts (Max.)
Operating Temperature	DES-3810-28: -5~50°C DES-3810-52: 0~50°C
Storage Temperature	-40~70°C
Humidity	Storage: 5-90% non-condensing Operation: 10-90% non-condensing

Dimensions	DES-3810-28: 441mm (W) x 260mm (D) x 44mm (H) DES-3810-52: 441mm (W) x 309mm (D) x 44mm (H)
Weight	DES-3810-28: 3.1kg DES-3810-52: 4.2kg
EMI	CE Class A, FCC Class A, VCCI Class A, C-Tick Report
Safety	UL, CB Report

Performance

Feature	Detailed Description
Transmission Method	Store-and-forward
Packet Buffer	12Mbit per device
Wire speed	Wire speed operation on all FE/GE ports
Switching Capacity	DES-3810-28: 12.8Gbps DES-3810-52: 17.6Gbps
Maximum Forwarding Rate	DES-3810-28: 9.5 million packets per second. DES-3810-52: 13.1 million packets per second.
Priority Queues	8 Priority Queues per port
MAC Address Table	Supports 16K MAC address
Virtual Stacking / Clustering	Support D-Link Single IP Management v1.6 Manage up to 32 devices in a virtual stack with a single IP address.

LED Indicators

Location	LED Indicative	Color	Status	Description
Per Device	Power	Green	Solid Light	Power On
			Light off	Power Off
	Console	Green	Solid Light	Console on
			Blinking	POST is in progress
			Light off	Console off
	RPS	Green	Solid Light	RPS in using
			Light off	RPS off
	Master(MS)	Green	Solid Light	when the device is the stacking master
			Light off	Not the Stacking Master
	Stacking ID	Green	Capable 1-8	The Box ID is assigned either by the user (static mode) or by the system (automatic mode). When the box becomes a primary master, the 7 segment works bi-functional that is box ID and "H" indicate as the primary Master and the display will be shown by turn. That is BoxID-> H -> BoxID -> H ... off
	Management Port (LED Build on its P/J)	Green/Green	Solid Light	When there is a secure connection or link at Management port. (100Mbps)
			Blinking	When there is reception or transmission of

				data occurring at Management port.
			Light off	No link
LED Per 10/100 Mbps Port	Link/Act/Speed	Green/Amber	Solid Green	When there is a secure 100Mbps Fast Ethernet connection (or link) at any of the ports.
			Blinking Green	When there is reception or transmission (i.e. Activity - Act) of data occurring at a Fast Ethernet connected port.
			Solid Amber	When there is a secure 10Mbps Ethernet connection (or link) at any of the ports.
			Blinking Amber	When there is reception or transmission (i.e. Activity - Act) of data occurring at an Ethernet connected port.
			Light off	No link
LED Per 10/100/1000 Mbps Port	Link/Act/Speed	Green/Amber	Solid Green	When there is a secure 1000Mbps connection (or link) at any of the ports.
			Blinking Green	When there is reception or transmission (i.e. Activity - Act) of data occurring at a 1000Mbps connected port.
			Solid Amber	When there is a secure 100Mbps Fast Ethernet connection (or link) at any of the ports.
			Blinking Amber	When there is reception or transmission (i.e. Activity - Act) of data occurring at a Fast Ethernet connected port.
			Light off	No link
LED Per SFP Port	Link/Act/Speed	Green/Amber	Solid Green	When there is a secure 1000Mbps connection (or link) at any of the ports.
			Blinking Green	When there is reception or transmission (i.e. Activity - Act) of data occurring at a 1000Mbps connected port.
			Solid Amber	When there is connection or link with 100BASE-FX at SFP ports.
			Blinking Amber	When there is reception or transmission (i.e. Activity - Act) of data occurring at a Fast Ethernet connected SFPport.
			Light off	No link

Port Functions

Feature	Detailed Description
Console Port	RJ-45 interface for out-of-band CLI configuration
10/100Mbps Copper Port	Compliant to the following standards: <ul style="list-style-type: none"> • IEEE 802.3 compliance • IEEE 802.3u compliance • Support Half/Full-Duplex operations • All ports support Auto MDI-X/MDI-II cross over • IEEE 802.3x Flow Control support for Full-Duplex mode, Back Pressure when Half-Duplex mode, and Head-of-line blocking prevention.

<p>1G Port</p>	<p>Compliant to the following standards:</p> <ul style="list-style-type: none"> • IEEE 802.3 compliance • IEEE 802.3u compliance <p>Support Full-Duplex operations</p> <ul style="list-style-type: none"> • IEEE 802.3x Flow Control support for Full-Duplex mode • IEEE 802.3ab compliance <p>SFP ports compliant to following standards:</p> <ul style="list-style-type: none"> • IEEE 802.3z compliance <p>SFP Transceivers Supported:</p> <ul style="list-style-type: none"> • DEM-310GT (1000BASE-LX, Single-mode, 10km) • DEM-311GT (1000BASE-SX, Mutli-mode, 550m) • DEM-312GT2 (1000BASE-SX, Multi-mode, 2km) • DEM-314GT (1000BASE-LHX, Single-mode, 50km) • DEM-315GT (1000BASE-ZX, Single-mode, 80km) • DEM-330T/R (1000BASE-BX, WDM transceiver, Single-Mode 10km) • DEM-331T/R (1000BASE-BX, WDM transceiver, Single-Mode 40km) • DEM-210 (100BASE-FX, Single-mode, 15km) • DEM-211 (100BASE-FX, Multi-mode, 2km) • DEM-220T (100BASE-BX, Wavelength Tx:1550nm, Rx:1310nm, Single-mode, 20km) • DEM-220R (100BASE-BX, Wavelength Tx:1310nm, Rx:1550nm, Single-mode, 20km)
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Appendix B – Cables and Connectors

Ethernet Cable

When connecting the Switch to another switch, a bridge or hub, a normal cable is necessary. Please review these products for matching cable pin assignment. The following diagrams and tables show the standard RJ-45 receptacle/connector and their pin assignments.

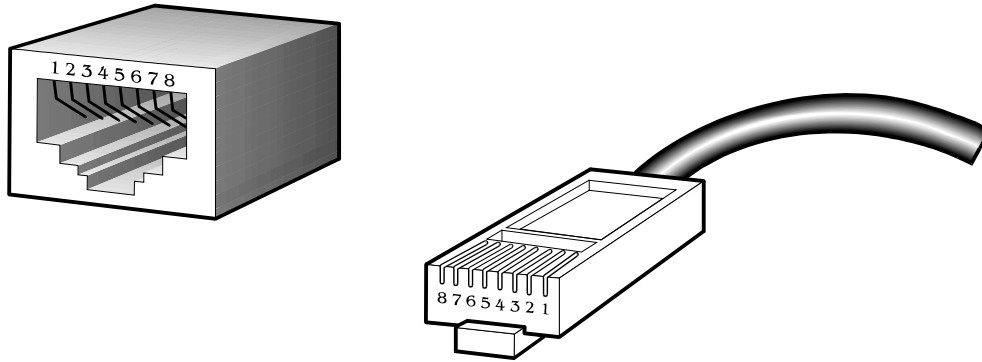


Figure 5-3 Standard RJ-45 port and connector

RJ-45 Pin Assignments		
Pin	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

When connecting the Switch a PC, a Console cable is necessary. The following diagrams and tables show the standard Console-to-DJ-45 receptacle/connector and their pin assignments.

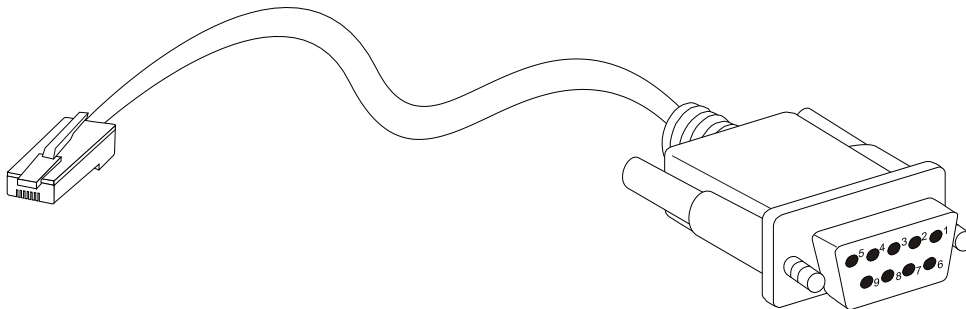


Figure 5–4 Console-to-RJ-45 Cable

Console-RJ-45 Pin Assignments		
Pin	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

Redundant Power Supply (RPS) Cable

When connecting the Switch to a Redundant Power Supply, an RPS cable is necessary. Please review these products for matching cable pin assignment. The following diagrams and tables show the standard RPS receptacle/connector and their pin assignments.

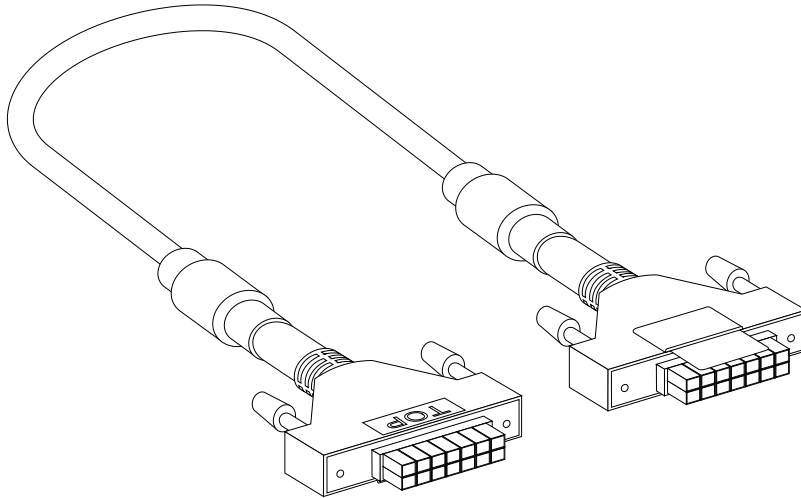


Figure 5–5 Redundant Power Supply (RPS) Cable

RPS Cable Pin Assignments		
Pin	Device	DPS-200
1	GND	GND
2	NC	NC
3	+12V	+12V
4	+12V	+12V
5	+12V	+12V
6	+12V	+12V
7	GND	GND
8	GND	GND
9	NC	Power Good
10	NC	Power Present
11	Power Good	NC
12	Power Present	NC
13	GND	GND
14	GND	GND

Appendix C – Module Specs and Cable Lengths

Use the following table to as a guide for the module specs and maximum cable lengths.

Standard	Media Type	Maximum Distance
Mini-GBIC	1000BASE-LX, Single-mode fiber module	10km
	1000BASE-SX, Multi-mode fiber module	550m / 2km
	1000BASE-LH, Single-mode fiber module	50km
	1000BASE-ZX, Single-mode fiber module	80km
1000BASE-T	Category 5e UTP Cable	100m
100BASE-TX	Category 5 UTP Cable (100 Mbps)	100m
10BASE-T	Category 3, 4 or 5 UTP Cable (10 Mbps)	100m
DEM-310GT	1000Base-LX, Single-mode	10km
DEM-311GT	1000ase-SX, Multi-mode	550m
DEM-312GT2	1000Base-SX, Multi-mode	2km
DEM-314GT	1000BASE-LHX, Single-mode	50km
DEM-315GT	1000BASE-ZX, Single-mode	80km
DEM-210	100BASE-FX, Single-mode	15km
DEM-211	100BASE-FX, Multi-mode	2km
DEM-220T	100BASE-BX, Single-mode	Up to 20km
DEM-220R	100BASE-BX, Single-mode	Up to 20km
DEM-330T	TX-1550/RX-1310nm, Single-mode	Up to 10km
DEM-330R	TX-1310/RX-1550 nm, Single-mode	Up to 10km
DEM-331T	TX-1550/RX-1310 nm, Single-Mode	Up to 40km
DEM-331R	TX-1310/RX-1550 nm, Single-Mode	Up to 40km

Network pluggable optical modules meet the following regulatory requirements:

- Class 1 Laser Product
- EN60825-1+A2:2001 or later, European laser standard
- FCC 21 CFR Chapter 1, Subchapter J in accordance with FDA & CDRH requirements

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this lifetime product warranty for hardware:

- Only for products purchased, delivered and used 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, and;
- Only with proof of purchase.

Product Warranty: D-Link warrants that the hardware portion of the D-Link product, including internal and external power supplies and fans ("Hardware"), will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product ("Warranty Period"), except as otherwise stated herein.

The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Warranty will be, at D-Link's option, to repair or replace the defective Hardware during the Warranty Period at no charge to the 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.

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 Warranty provided hereunder for D-Link's products will not be applied to and does not cover any products obtained through a special or unique pricing agreement, if such agreement provides for warranty terms different from those normally provided with the product or set forth herein, nor to 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 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).
- The customer must obtain a Case ID Number from D-Link Technical Support by going to <https://support.dlink.com>, 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. Include any manuals or accessories in the shipping package.
- 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 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 Warranty.

Disclaimer of Other Warranties: EXCEPT AS SPECIFICALLY SET FORTH ABOVE OR AS REQUIRED BY LAW, 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 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 WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING 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.

Lifetime Warranty: IF LOCAL LAW MANDATES THE USE OF A DEFINITION OF "LIFETIME WARRANTY" DIFFERENT FROM THAT PROVIDED HEREIN, THEN THE LOCAL LAW DEFINITION WILL SUPERSEDE AND TAKE PRECEDENCE, TO THE EXTENT NECESSARY TO COMPLY.

Governing Law: This 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 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

*Register your D-Link product online at <http://support.dlink.com/register/>
Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.*

Tech Support

Technical Support

You can find software updates and user documentation on the D-Link website.

D-Link provides free technical support for customers within the United States and within Canada for the duration of the service period, and warranty confirmation service, during the warranty period on this product. U.S. and Canadian customers can contact D-Link technical support through our website, or by phone.

Tech Support for customers within the United States:

D-Link Technical Support over the Telephone:

USA - 877-DLINK-55 (877-354-6555)

D-Link Technical Support over the Internet:

<http://support.dlink.com>

Tech Support for customers within Canada:

D-Link Technical Support over the Telephone:

877-354-6560

D-Link Technical Support over the Internet:

<http://support.dlink.com>

D-Link®
Building Networks for People

Technical Support

United Kingdom (Mon-Fri)

Home Wireless/Broadband 0871 873 3000 (9.00am–06.00pm, Sat 10.00am-02.00pm)
Managed, Smart, & Wireless Switches, or Firewalls 0871 873 0909 (09.00am – 05.30pm)
(BT 10ppm, other carriers may vary.)

Ireland (Mon-Fri)

All Products 1890 886 899 (09.00am-06.00pm, Sat 10.00am-02.00pm)
€ 0.05ppm peak, €0.045ppm off peak Times

Internet

<http://www.dlink.co.uk>

<ftp://ftp.dlink.co.uk>

Technische Unterstützung

Deutschland:	Web:	http://www.dlink.de
	Telefon:	+49(0)1805 2787 0,14 € pro Minute
	Zeiten:	Mo. –Fr. 08:30 – 17:30 Uhr
Österreich:	Web:	http://www.dlink.at
	Telefon:	+43(0)820 480084 0,116 € pro Minute
	Zeiten:	Mo. –Fr. 08:30 – 17:30 Uhr
Schweiz:	Web:	http://www.dlink.ch
	Telefon:	+41(0)848 331100 0,08 CHF pro Minute
	Zeiten:	Mo. –Fr. 08:30 – 17:30 Uhr

* Gebühren aus Mobilnetzen und von anderen Providern können abweichen.

Assistance technique

Assistance technique D-Link sur internet : <http://www.dlink.fr>

Assistance technique D-Link par téléphone : 0820 0803 03

0.12 € TTC/min depuis un poste fixe

Du lundi au vendredi de 9h à 19h (hors jours fériés)

Asistencia Técnica

Asistencia Técnica Telefónica de D-Link: +34 902 30 45 45

0,067 €/min

De Lunes a Viernes de 9:00 a 19:00

<http://www.dlink.es>

Supporto tecnico

Supporto Tecnico dal lunedì al venerdì dalle ore 9.00 alle ore 19.00 con orario continuato

Telefono: 199400057

<http://www.dlink.it/support>

TECHNISCHE ONDERSTEUNING

Technische ondersteuning voor klanten in Nederland:

www.dlink.nl / 0900 501 2007 / €0.15per minuut.

Tech Support for customers within Belgium:

www.dlink.be / 070 66 06 40 / €0.175per minuut(spitsuren), €0.0875per minuut(daluren)

Technische ondersteuning voor klanten in Luxemburg:

www.dlink.be / +32 70 66 06 40

Pomoc techniczna

Telefoniczna pomoc techniczna firmy D-Link: 0 801 022 021

Pomoc techniczna firmy D-Link świadczona przez Internet:

<http://www.dlink.eu/support/>

Technická podpora

Web: <http://www.dlink.cz/support/>

E-mail: support@dlink.cz

Telefon ČR: +420 211 151 640 nebo SK: +421 (0)692 147 110

Telefonická podpora je v provozu: PO - PÁ od 09:00 do 17:00

Volání je zpoplatněno dle příslušných tarifů Vašeho operátora.

Technikai Támogatás

Tel. : 06 1 461-3001

Fax : 06 1 461-3004

Land Line 14,99 HUG/min - Mobile 49.99,HUF/min

email : support@dlink.hu

URL : <http://www.dlink.hu>

Teknisk Support

D-Link Teknisk Support over Internett: <http://www.dlink.no>

D-Link Teknisk telefonsupport: 820 00 755

(Hverdager 08:00-20:00)

Teknisk Support

D-Link teknisk support over telefonen: Tlf.: 9013 8899

Normale åbningstider: Hverdage kl. 08:00 - 20:00

D-Link teknisk support på Internettet: <http://www.dlink.dk>

Teknistä tukea asiakkaille Suomessa:

Internetin kautta : <http://www.dlink.fi>

Arkisin klo. 9 - 21

Numerosta : 0600 155 57

Teknisk Support

D-Link Teknisk Support via Internet: <http://www.dlink.se>

D-Link Teknisk Support via telefon: 0900-100 77 00

Vardagar 08:00-20:00

Assistência Técnica

Assistência Técnica da D-Link na Internet:

<http://www.dlink.pt>

e-mail: soporte@dlink.es

Τεχνική Υποστήριξη

D-Link Hellas Support Center

Κεφαλληνίας 64, 11251 Αθήνα,

Τηλ: 210 86 11 114 (Δευτέρα- Παρασκευή 09:00-17:00)

Φαξ: 210 8611114

<http://www.dlink.gr/support>

Tehnička podrška

Hvala vam na odabiru D-Link proizvoda. Za dodatne informacije, podršku i upute za korištenje uređaja, molimo vas da posjetite D-Link internetsku stranicu na www.dlink.eu
www.dlink.biz/hr

Tehnična podpora

Zahvaljujemo se vam, ker ste izbrali D-Link proizvod. Za vse nadaljnje informacije, podporo ter navodila za uporabo prosimo obiščite D-Link - ovo spletno stran www.dlink.eu
www.dlink.biz/sl

Suport tehnic

Vă mulțumim pentru alegerea produselor D-Link. Pentru mai multe informații, suport și manuale ale produselor vă rugăm să vizitați site-ul D-Link www.dlink.eu
www.dlink.ro

Technical Support

You can find software updates and user documentation on the D-Link website.

Tech Support for customers in

Australia:

Tel: 1300-766-868
24/7 Technical Support
Web: <http://www.dlink.com.au>
E-mail: support@dlink.com.au

India:

Tel: +91-22-27626600
Toll Free 1800-22-8998
Web: www.dlink.co.in
E-Mail: helpdesk@dlink.co.in

Singapore, Thailand, Indonesia, Malaysia, Philippines, Vietnam:

Singapore - www.dlink.com.sg
Thailand - www.dlink.co.th
Indonesia - www.dlink.co.id
Malaysia - www.dlink.com.my
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08600 DLINK (for South Africa only)
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Saturday to Wednesday 9.30AM to 6.30PM
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Technical Support

You can find software updates and user documentation on the D-Link website.

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

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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 ?

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Banyan Vines DECnet Pathwork Windows NT Windows 98 Windows 2000/ME Windows XP
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6. What network medium/media does your organization use ?

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