



**XSTACK**<sup>®</sup>

## Hardware Installation Guide

Product Model: **xStack**<sup>®</sup> DES-3810 Series  
Layer 3 Managed Ethernet Switch  
Release 2.00



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Novemeber 2010 P/N 651ES3810025G

## **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 Funkstoerungen verursachen. In diesem Fall kann vom Benutzer verlangt werden, angemessene Massnahmen zu ergreifen.

## **Precaución!**

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

## **Attention!**

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

## **Attenzione!**

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

## **VCCI Warning**

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

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## Intended Readers

*Typographical Conventions*  
*Notes, Notices, and Cautions*  
*Safety Instructions*

The *DES-3810-28 User Guide* contains information for setup and management of the Switch. This manual is intended for network managers familiar with network management concepts and terminology.

## 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.
<b>Bold font</b>	Indicates a button, a toolbar icon, menu, or menu item. For example: Open the <b>File</b> menu and choose <b>Cancel</b> . Used for emphasis. May also indicate system messages or prompts appearing on screen. For example: <b>You have mail</b> . <b>Bold</b> font is also used to represent filenames, program names and commands. For example: <b>use the copy command</b> .
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.
<b>Menu Name &gt; Menu Option</b>	<b>Menu Name &gt; Menu Option</b> Indicates the menu structure. <b>Device &gt; Port &gt; Port Properties</b> 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*

### *LED Indicators*

### *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 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. These SFP ports support full-duplex transmissions and can be used with the following transceivers:

- DEM-310GT (1000Base-LX, Single-mode, 10km)
- DEM-311GT (1000Base-SX, Mutli-mode, 500m)
- DEM-312GT2 (1000Base-SX, Multi-mode, 2km)
- DEM-314GT (1000BASE-LH, Single-mode, 50km)
- DEM-315GT (1000BASE-ZX, Single-mode, 80km)
- DEM-210 (100BASE-FX, Single-mode, 15km)
- DEM-211 (100BASE-FX, Multi-mode, 2km)

WDM transceivers supported include:

- DEM-330T (1000Base-BX-D, Single-Mode, 10km, TX-1550/RX-1310nm)
- DEM-330R (1000Base-BX-U, Single-Mode, 10km, TX-1310/RX-1550nm)
- DEM-331T (1000Base-BX-D, Single-Mode, 40km, TX-1550/RX-1310nm)
- DEM-331R (1000Base-BX-U, Single-Mode, 40km, TX-1310/RX-1550nm)
- DEM-220T (100BASE-BX-D, Single-Mode, 20km, TX-1550/RX-1310nm)
- DEM-220R (100BASE-BX-U, Single-Mode, 20km TX-1310/RX-1550nm)

## Features

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

- IEEE 802.3 compliant
- IEEE 802.3z compliant
- IEEE 802.3x Flow Control in full-duplex compliant
- IEEE 802.3u compliant
- IEEE 802.3ab compliant
- IEEE 802.1p Priority Queues
- IEEE 802.3ad Link Aggregation Control Protocol for up to 14 groups
- IEEE 802.1X Port-based and Host-based Access Control
- IEEE 802.1Q VLAN
- IEEE 802.1D Spanning Tree, IEEE 802.1w Rapid Spanning Tree and IEEE 802.1s Multiple Spanning Tree support
- Support jumbo frame to 10K Bytes
- Access Control List (ACL) support
- ISM VLAN support
- DHCP local relay support
- Single IP Management support
- Access Authentication Control utilizing TACACS, XTACACS, TACACS+, and RADIUS protocols
- Supports Multiple Authentication
- Power saving mode support
- Broadcast Ping support
- Simple Network Time Protocol support
- System Log support
- Maximum packet forwarding rate 9.5 million 64-byte packets per second
- High performance switching engine performs forwarding and filtering at full wire speed up to 12.8 Gbps
- Full- and half-duplex for all ports. Full duplex allows the switch port to simultaneously transmit and receive data. It only works with connections to full-duplex-capable end stations and switches. Connections to a hub must take place at half-duplex.
- Support broadcast storm control
- Loopback Detection (LBD) v4.1 Trap support
- Non-blocking store and forward switching scheme capability to support rate adaptation and protocol conversion
- Supports Egress/Ingress bandwidth control
- Efficient self-learning and address recognition mechanism enables forwarding rate at wire speed
- Address table: Supports up to 16 K
- Supports a packet buffer of up to 12 Mbit
- Port Trunking with flexible load distribution
- Authentication Server failover
- Private VLAN
- IGMP Snooping support
- MLD Snooping support (MLD v1 and v2)
- IP-MAC-Port Binding (IMPB) v3.5 support
- SNMP support
- Secure Sockets Layer (SSL) and Secure Shell (SSH) support
- System Severity control
- Port Mirroring support
- MIB support for:
  - RFC 1213 MIB II

- RFC 1493 Bridge
  - RFC 1907 SNMPv2
  - RFC 2819 RMON
  - RFC 2665 Ether-like MIB
  - RFC 2863 IF MIB
  - RFC 2618 RADIUS Authentication Client MIB
  - RFC 2620 RADIUS Accounting Client MIB
  - Private MIB
  - RFC 4363
  - IEEE 802.1X MIB
- Provides parallel LED display for port status such as link/act, speed, etc.
  - Web-based GUI compatible with Internet Explorer 5.5 or later, Netscape 8.0 or later, and Firefox 2.0 or later

## Ports

- Twenty-four 10BASE-T/100BASE-TX ports
- Four 1000Mbps Copper and SFP Combo Ports (10BASE-T/100BASE-TX/1000BASE-T/100FX/1000BASE-X)
- One Console port (requires RS-232 DCE/RJ-45 adapter to connect to RS-232 port)
- One out-of-band Management (100BASE-TX) port used for out-of-band, remote IP access to the Switch



**Note:** For customers interested in D-View, D-Link Corporation's proprietary SNMP management software, go to <http://dview.dlink.com.tw/> and download the software and manual.

## Front-Panel Components

The front panel of the Switch consists of LED indicators for Power, Console, RPS, and for Link/Act for each port on the Switch including SFP port LEDs. A separate table below describes LED indicators in more detail.

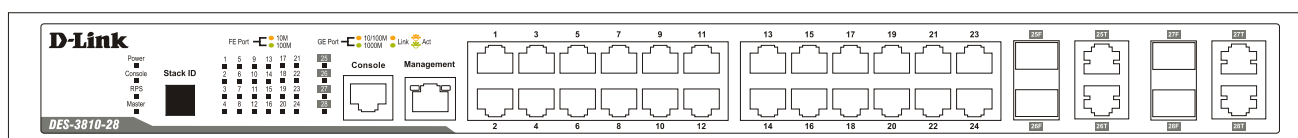


Figure 1–1 Front panel view of a DES-3810-Series Switch

## LED Indicators

The DES-3810 Series front panel presents LED indicators for Power, Console, RPS, Master (stack control), Stack ID and Link/Act indicators for all ports including the Gigabit Ethernet ports.

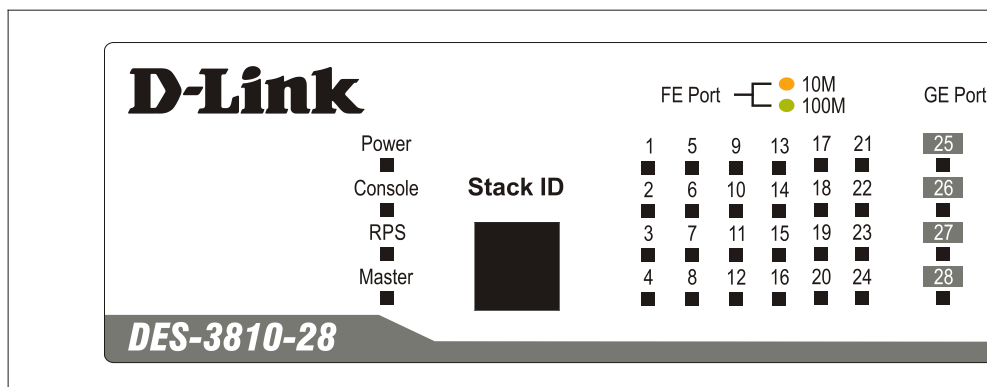


Figure 1–2 LED indicators for a DES-3810 Series Switch

LED	Description
<b>Power</b>	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).
<b>Console</b>	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.
<b>RPS</b>	This LED will light green if the Redundant Powers Supply is in use. If the indicator is off, the RPS is not in use.
<b>Master</b>	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)
<b>FE Port</b>	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.
<b>GE Port</b>	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.
<b>Stack ID</b>	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 Release 1.0)
<b>Management Port Link/Act LEDs</b>	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 remain dark when there is no link or activity.

## Rear Panel Description

The rear panel contains an AC power connector.

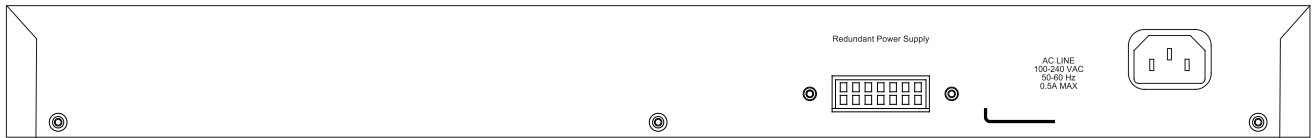


Figure 1-3 Rear panel view of a DES-3810 Series Switch

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.

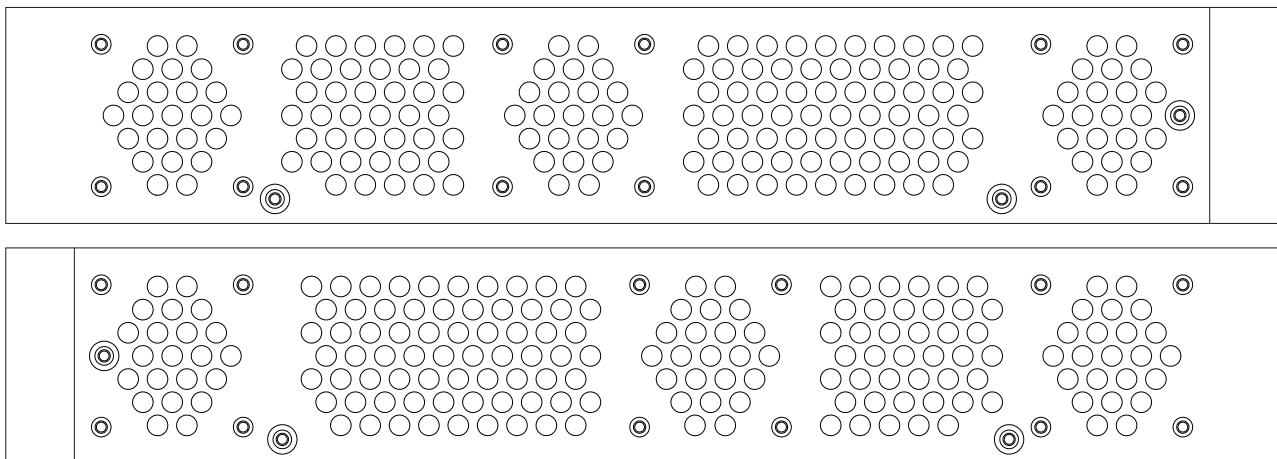


Figure 1-4 Identical side panels of a DES-3810 Series Switch

## 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 at least 6.6 lb. (3 kg) of weight. 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.

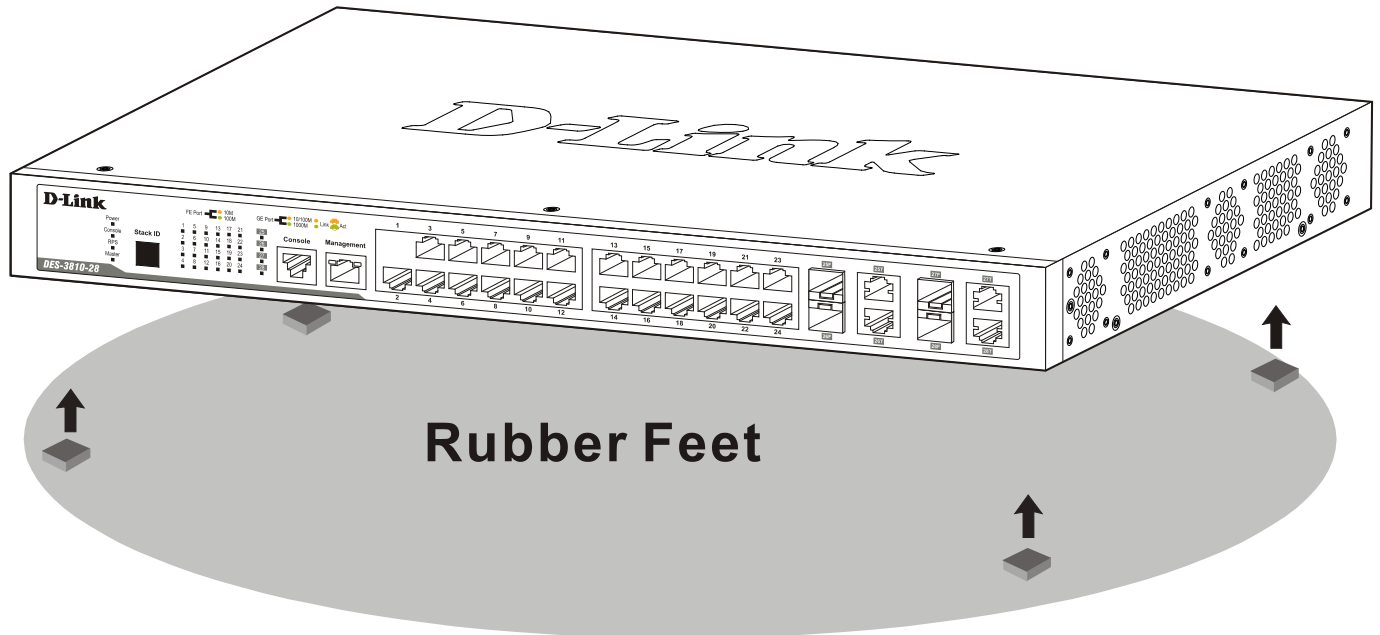


Figure 2–1 Prepare a DES-3810 Series Switch for installation on a desktop or shelf

## 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.

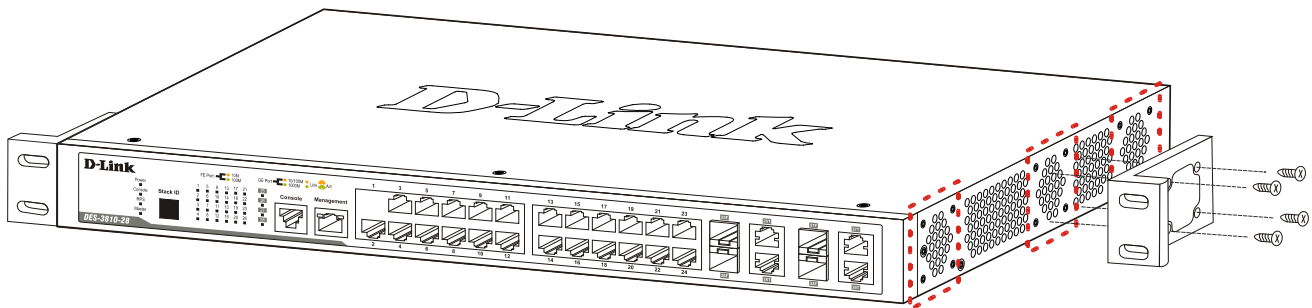


Figure 2–2 Fasten mounting brackets on a DES-3810 Series Switch

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

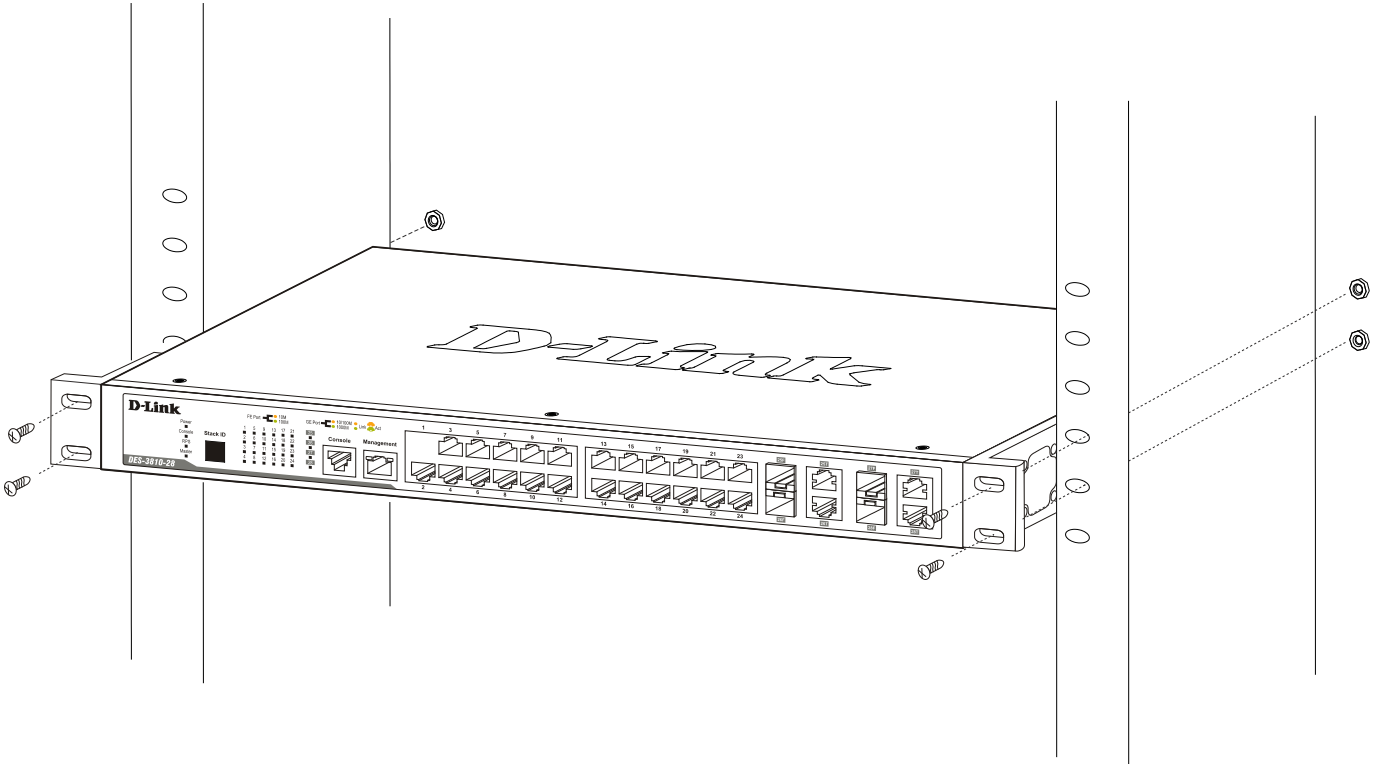


Figure 2-3 Installing a DES-3810 Series Switch in a rack

## 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.



## 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. These SFP ports support full-duplex transmissions, have auto-negotiation and can be used with DEM-310GT (1000BASE-LX), DEM-311GT (1000BASE-SX), DEM-312GT2 (1000BASE-SX), DEM-314GT (1000BASE-LH) and DEM-315GT (1000BASE-ZX) transceivers. See the figure below for installing the SFP ports in the Switch. In addition, DEM-210 (Single Mode, 100BASE-FX) and DEM-211 (Multi Mode, 100BASE-FX) SFP transceivers are supported. WDM transceivers supported include DEM-330T (TX-1550/RX-1310 nm), DEM-330R (TX-1310/RX-1550 nm), DEM-331T (TX-1550/RX-1310 nm), DEM-331R (TX-1310/RX-1550 nm), DEM-220T (100BASE-BX-D, TX-1550/RX-1310 nm), and DEM-220R (100BASE-BX-U, TX-1310/RX-1550 nm).

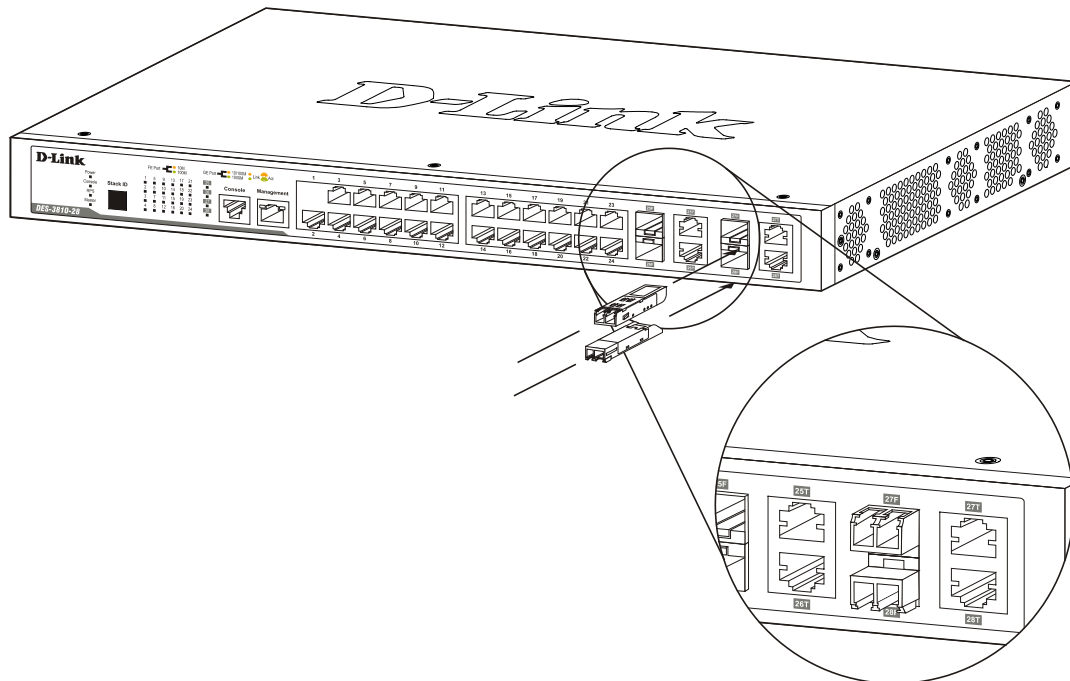


Figure 2-4 Inserting fiber-optic transceivers into a DES-3810 Series Switch

## Connect to RPS

The DPS-200 is connected to the Master Switch using a 14-pin DC power cable. A standard, three-pronged AC power cable connects the redundant power supply to the main power source.

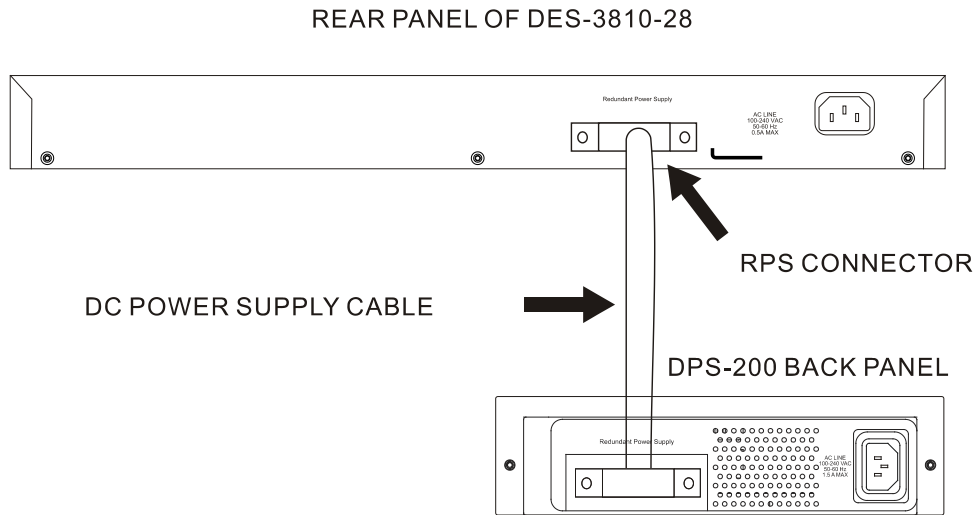


Figure 2–5 Connecting a DES-3810 Series Switch to the DPS-200

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.



**CAUTION:** DO NOT use the DES-3810 Series Switch with any redundant power system other than the DPS-200.

## 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.

### 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.

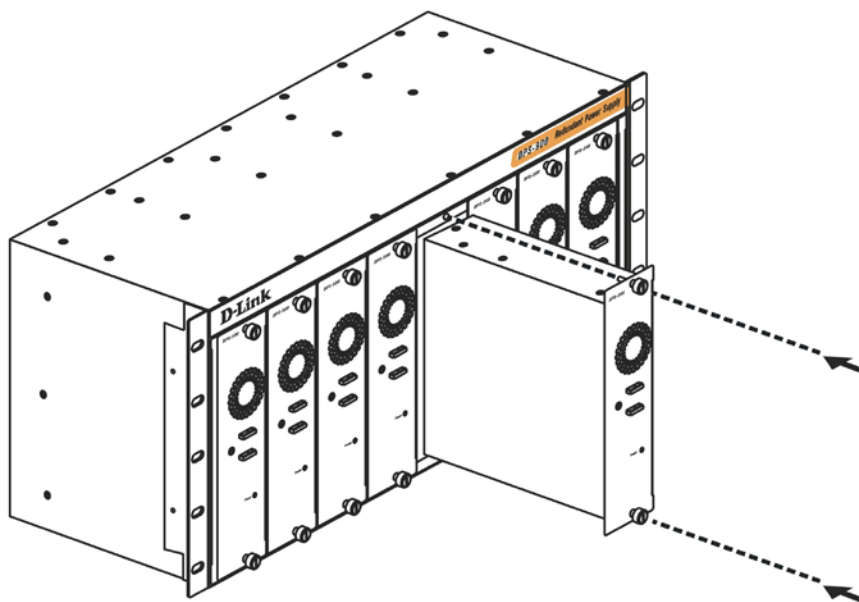


Figure 2-6 Inserting the DPS-200 into the DPS-900

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

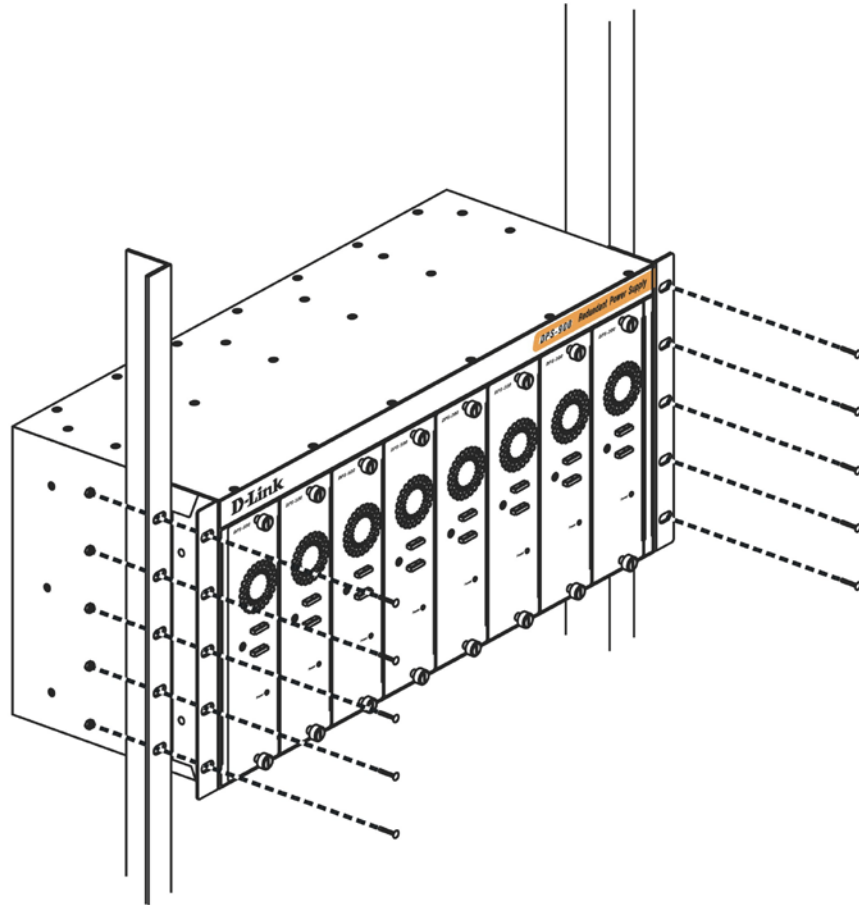


Figure 2-7 Installing the DPS-900 into the equipment rack



**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.

## 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.

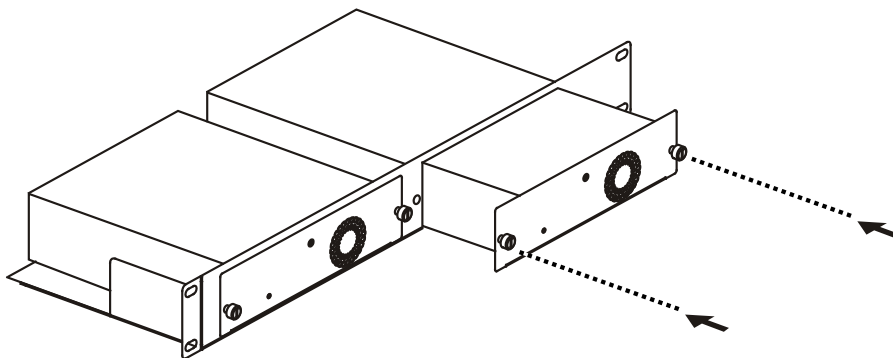
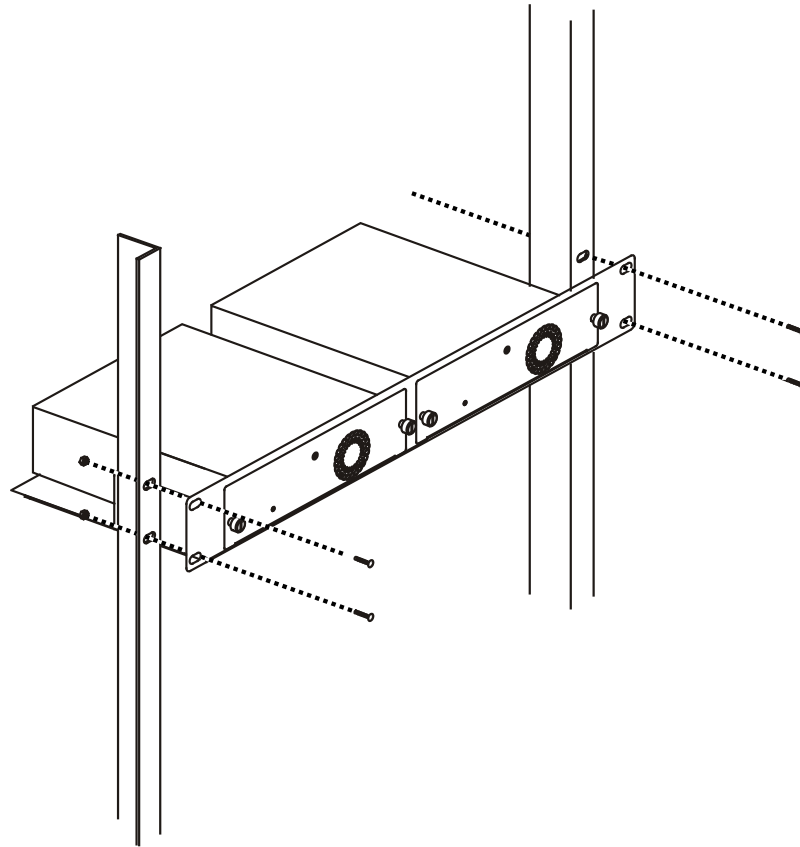


Figure 2-8 Installing the DPS-200 in the DPS-800

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



**Figure 2-9 Installing the DPS-800 in an Equipment Rack**

## 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 or 1000 Mbps 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 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.

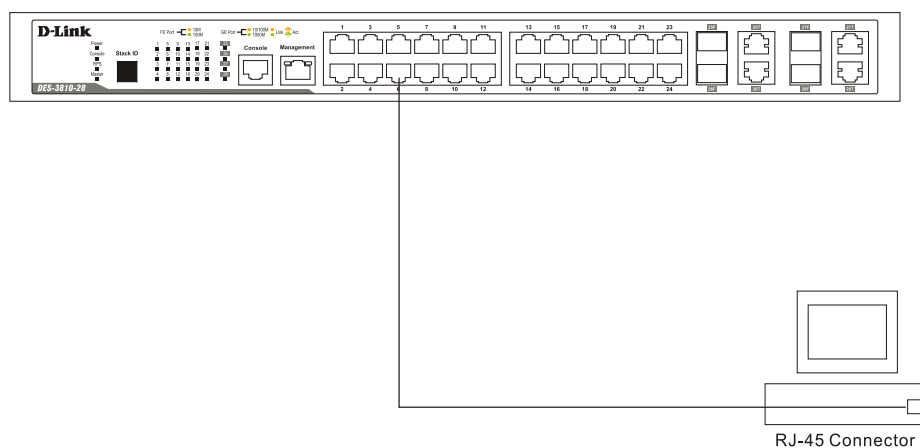


Figure 3–1 Connecting a DES-3810 Series Switch to an end node

### 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.

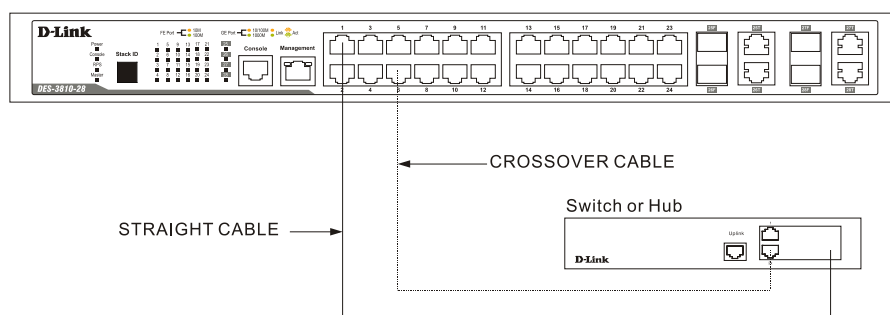


Figure 3–2 Connecting a DES-3810 Series Switch to another switch

## Connecting To Network Backbone or Server

The combo SFP ports and the 1000BASE-T ports are ideal for uplinking to a network backbone, server or server farm. The copper ports operate at a speed of 1000, 100 or 10Mbps 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.

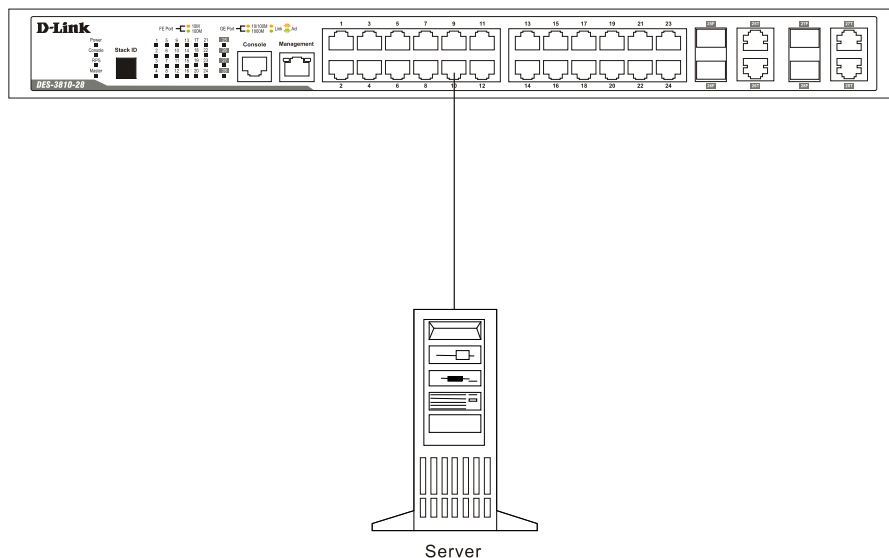


Figure 3–3 Connecting a DES-3810 Series Switch to a server

## Chapter 4 Introduction to Switch Management

### *Management Options*

#### *Connecting the Console Port (RS-232 DCE/RJ-45)*

#### *First Time Connecting to the Switch*

#### *Password Protection*

#### *SNMP Settings*

#### *IP Address Assignment*

## 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 Series Switch provides 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](http://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 problems occur in making this connection on a PC, make sure the emulation is set to VT-100. The emulation settings can be configured by clicking on the File menu in the HyperTerminal window by clicking on Properties in the drop-down menu, and then clicking 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                                     V1.00.013
-----
Power On Self Test ..... 100%

MAC Address   : 00-03-38-10-28-01
H/W Version  : A1

Please Wait, Loading V2.00.009 Runtime Image ..... 100 %
UART init ..... 100 %
Device Discovery ..... 100 %
Configuration init ..... 100 %
    
```

**Figure 4–1 Boot up display in console screen**

## First Time Connecting to the Switch

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 login screen appears (see example below).

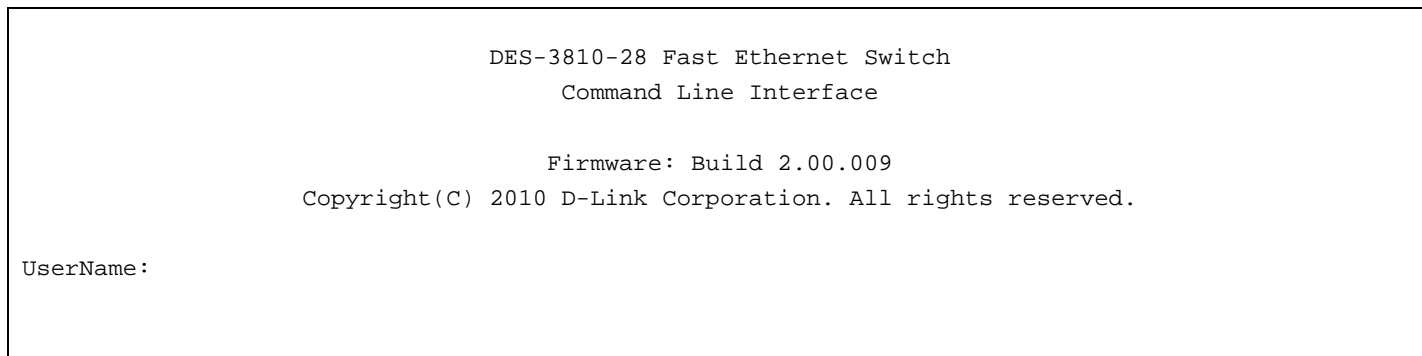


Figure 4–2 Initial screen, first time connecting to the Switch

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.

## IP Address Assignment

An IP Address must be assigned to each switch, 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. The user may 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.

The Switch's MAC address also appears in the **Device Information** and **System Information** windows of the Web-based management interface. The IP address for the Switch must be set before using 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.

## 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

## 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 5.5 or later, Netscape 8.0 or later, or Firefox 2.0 or 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.

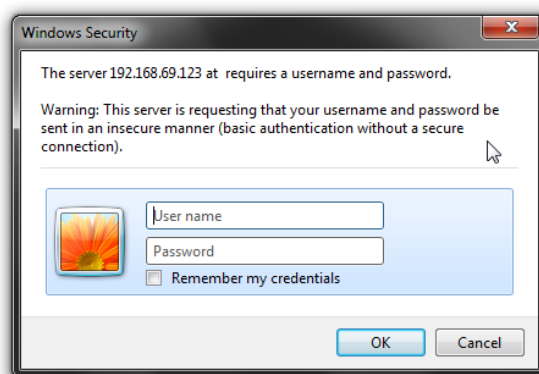


Figure 5–1 Enter Network Password Window

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.

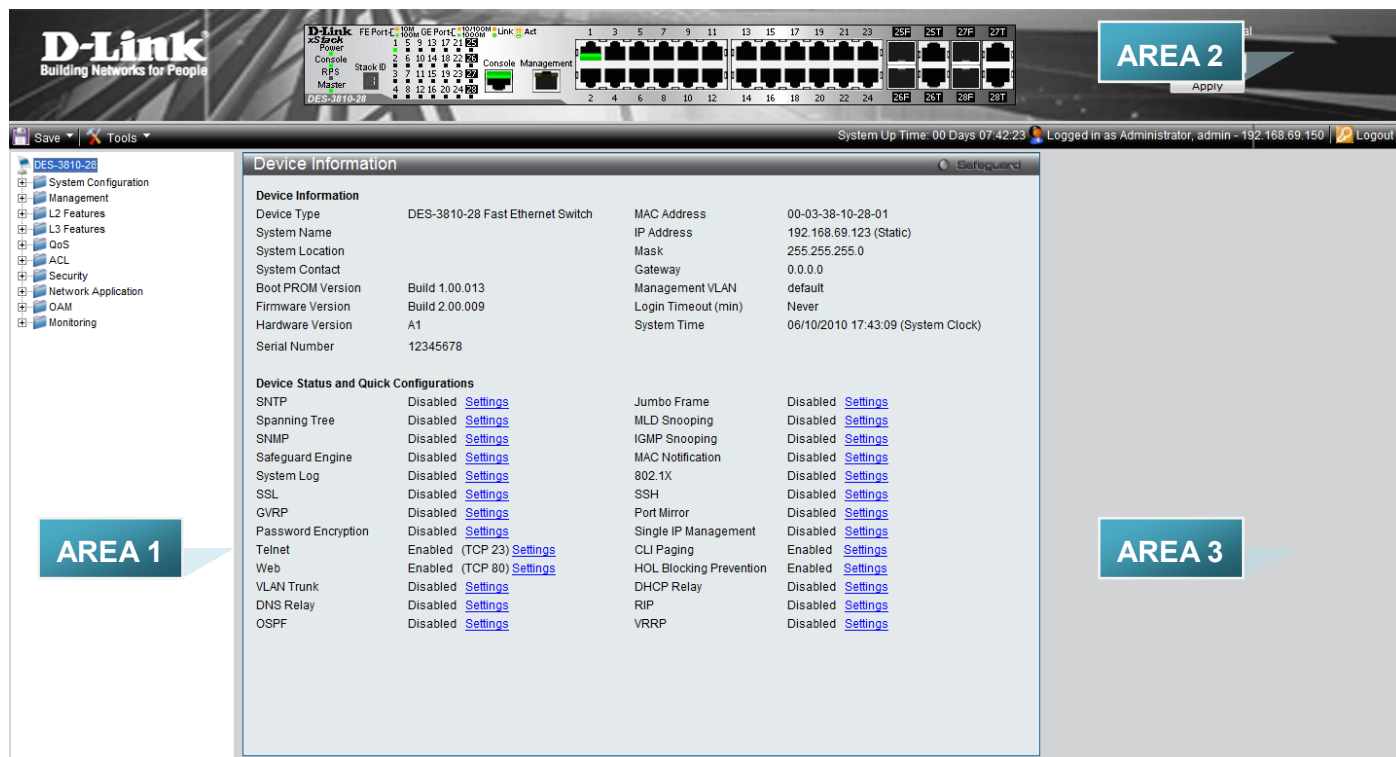


Figure 5–2 Main Web-manager Window

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.



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

## Appendix Section

### Appendix A – Technical Specifications

#### General

Feature	Detailed Description								
<b>Standards</b>	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								
<b>Protocols</b>	CSMA/CD								
<b>Data Transfer Rates:</b> <b>Ethernet</b> <b>Fast Ethernet</b> <b>Gigabit Ethernet</b>	<table> <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								
<b>Topology</b>	Duplex Ring, Duplex Chain								
<b>Network Cables</b>	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
<b>Internal Power Supply</b>	AC Input: 100 – 240 VAC, 50-60 Hz, Watt: 30W. Output: 25W AC Input: 100 – 240 VAC, 50-60 Hz, with RPS 200
<b>Optional Redundant Power Supply</b>	One connector in back to install optional external RPS. When internal power fails, the optional external RPS will take over all the power supply immediately and automatically. Supported RPS model: DPS-200
<b>Fans</b>	Fanless
<b>Power Consumption</b>	23.4 Watts (Max)
<b>Operating Temperature</b>	-5~50°C
<b>Storage Temperature</b>	-40~70°C
<b>Humidity</b>	Storage: 5-90% non-condensing Operation: 10-90% non-condensing
<b>Dimensions</b>	440mm (W) x 260mm (D) x 43.6mm (H)
<b>Weight</b>	3.1 kg

<b>EMI</b>	CE Class A, FCC Class A, VCCI Class A, C-Tick Report
<b>Safety</b>	UL, CB Report

## Performance

Feature	Detailed Description
<b>Transmission Method</b>	Store-and-forward
<b>Packet Buffer</b>	12 Mbit per device
<b>Packet Filtering / Forwarding Rate</b>	Full-wire speed for all connections 1,488,095 pps per port (for 1000Mbps) 148,810 pps per port (100Mbps)
<b>Wire speed</b>	Wire speed operation on all FE/GE ports
<b>Switching Capacity</b>	12.8Gbps
<b>64 Byte System Packet Forwarding Rate</b>	9.5 Million Packets Per Second
<b>Priority Queues</b>	8 Priority Queues per port
<b>MAC Address Table</b>	Supports 16K MAC address

## LED Indicators

Location	LED Indicative	Color	Status	Description
<b>Per Device</b>	<b>Power</b>	Green	Solid Light	Power On
			Light off	Power Off
	<b>Console</b>	Green	Solid Light	Console on
			Blinking	POST is in progress
			Light off	Console off
	<b>RPS</b>	Green	Solid Light	RPS in using
			Light off	RPS off
	<b>Master(MS)</b>	Green	Solid Light	when the device is the stacking master
			Light off	Not the Stacking Master
	<b>Stacking ID</b>	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
	<b>Management Port (LED Build on its P/J)</b>	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
	<b>LED Per 10/100 Mbps Port</b>	Link/Act/Speed	Green/Amber	Solid Green
Blinking				When there is reception or transmission (i.e.



			Green	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
<b>LED Per 10/100/1000 Mbps Port</b>	<b>Link/Act/Speed</b>	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
<b>LED Per SFP Port</b>	<b>Link/Act/Speed</b>	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-TX at SFP ports.
			Blinking Amber	When there is reception or transmission (i.e. Activity - Act) of data occurring at a Fast Ethernet connected SFP port.
			Light off	No link

## Port Functions

Feature	Detailed Description
<b>Console Port</b>	RJ-45 interface for out-of-band CLI configuration
<b>DES-3810-28</b> (24 x 10/100BaseT ports)	Compliant to following standards: <ol style="list-style-type: none"> <li>1. IEEE 802.3 compliance</li> <li>2. IEEE 802.3u compliance</li> <li>3. Support Half/Full-Duplex operations</li> <li>4. All ports support Auto MDI-X/MDI-II cross over</li> <li>5. IEEE 802.3x Flow Control support for Full-Duplex mode, Back Pressure when Half-Duplex mode, and Head-of-line blocking prevention.</li> </ol>
<b>4 Combo ports in the front panel</b>	4 combo 1000BASE-T/SFP ports  1000BASE-T ports compliant to following standards: IEEE 802.3 compliance IEEE 802.3u compliance IEEE 802.3ab compliance Support Full-Duplex operations

	<p>IEEE 802.3x Flow Control support for Full-Duplex mode, back pressure when Half-Duplex mode, and Head-of-line blocking prevention</p> <p><b>SFP Transceivers Supported:</b></p> <ul style="list-style-type: none"><li>• DEM-310GT (1000BASE-LX, Single-mode, 10km)</li><li>• DEM-311GT (1000BASE-SX, Mutli-mode, 500m)</li><li>• DEM-314GT (1000BASE-LH, Single-mode, 50km)</li><li>• DEM-315GT (1000BASE-ZX, Single-mode, 80km)</li><li>• DEM-312GT2 (1000BASE-SX, Multi-mode, 2km)</li><li>• DEM-210 (100BASE-FX, Single-mode, 15km)</li><li>• DEM-211 (100BASE-FX, Multi-mode, 2km)</li></ul> <p><b>WDM Transceiver Supported:</b></p> <ul style="list-style-type: none"><li>• DEM-330T (1000BASE-BX-D, Single-Mode, 10km, TX-1550/RX-1310nm)</li><li>• DEM-330R (1000BASE-BX-U, Single-Mode, 10km, TX-1310/RX-1550nm)</li><li>• DEM-331T (1000BASE-BX-D, Single-Mode, 40km, TX-1550/RX-1310nm)</li><li>• DEM-331R (1000BASE-BX-U, Single-Mode, 40km, TX-1310/RX-1550nm)</li><li>• DEM-220T (100BASE-BX-D, Single-Mode,20km, TX-1550/RX-1310nm)</li><li>• DEM-220R (100BASE-BX-U, Single-Mode, 20km TX-1310/RX-1550nm)</li></ul> <p><b>Compliant to following standards:</b></p> <ol style="list-style-type: none"><li>1. IEEE 802.3z compliance</li><li>2. IEEE 802.3u compliance</li></ol>
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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.

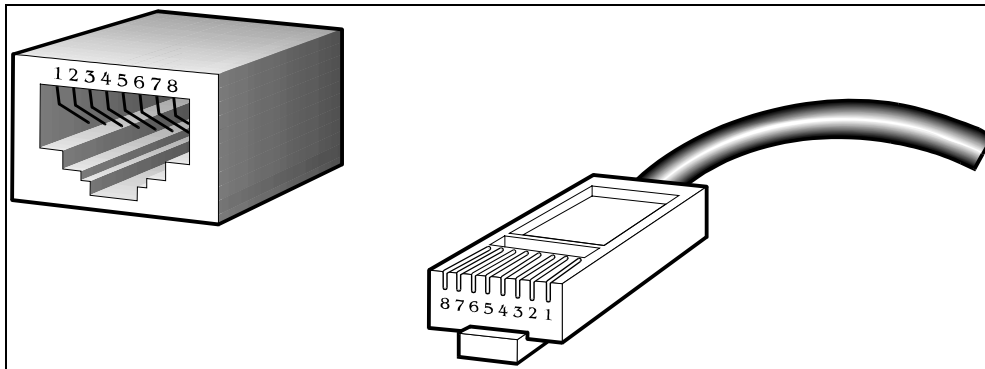


Figure 5–3 Standard RJ-45 port and connector

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.

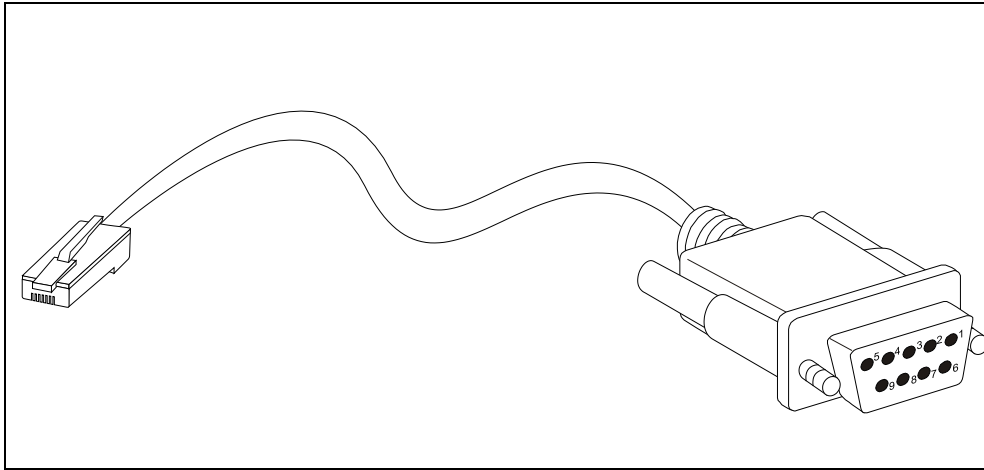


Figure 5–4 Console-to-RJ-45 Cable

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.

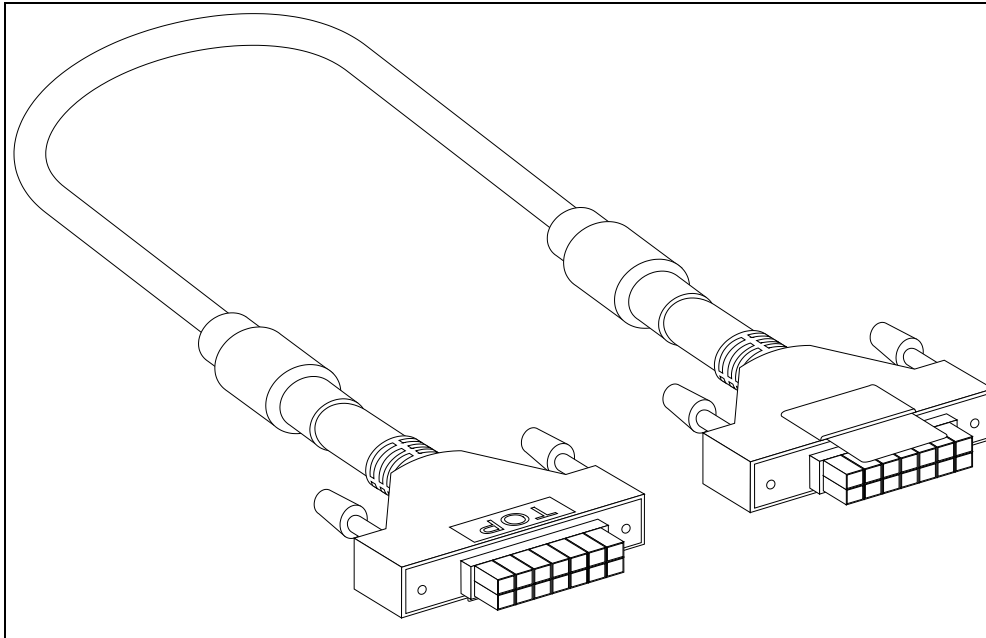


Figure 5-5 Redundant Power Supply (RPS) Cable

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

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.

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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:***

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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:	<a href="http://www.dlink.de">http://www.dlink.de</a>
	Telefon:	+49(0)1805 2787 0,14 € pro Minute
	Zeiten:	Mo. –Fr. 08:30 – 17:30 Uhr
Österreich:	Web:	<a href="http://www.dlink.at">http://www.dlink.at</a>
	Telefon:	+43(0)820 480084 0,116 € pro Minute
	Zeiten:	Mo. –Fr. 08:30 – 17:30 Uhr
Schweiz:	Web:	<a href="http://www.dlink.ch">http://www.dlink.ch</a>
	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.

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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)

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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](http://www.dlink.nl) / 0900 501 2007 / €0.15per minuut.

Tech Support for customers within Belgium:

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

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[www.dlink.be](http://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](mailto: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](mailto: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](mailto: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](http://www.dlink.eu)  
[www.dlink.biz/hr](http://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](http://www.dlink.eu)  
[www.dlink.biz/sl](http://www.dlink.biz/sl)

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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](http://www.dlink.eu)  
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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](mailto:support@dlink.com.au)

#### India:

Tel: 1800-233-0000 (MTNL & BSNL Toll Free)

+91-832-2885700 (GSM, CDMA & Others)

Web: [www.dlink.co.in](http://www.dlink.co.in)

E-Mail: [helpdesk@dlink.co.in](mailto:helpdesk@dlink.co.in)

### Indonesia, Malaysia, Singapore and Thailand:

Tel: +62-21-5731610 (Indonesia)

Tel: 1800-882-880 (Malaysia)

Tel: +65 6501 4200 (Singapore)

Tel: +66-2-719-8978/9 (Thailand)

24/7, for English Support only

Web: <http://www.dlink.com.sg/support/>

E-mail: [support@dlink.com.sg](mailto:support@dlink.com.sg)

#### Korea:

Tel: +82-2-2028-1815

Monday to Friday 9:00am to 6:00pm

Web: <http://www.d-link.co.kr>

E-mail: [arthur@d-link.co.kr](mailto:arthur@d-link.co.kr)

#### New Zealand:

Tel: 0800-900-900

24/7 Technical Support

Web: <http://www.dlink.co.nz>

E-mail: [support@dlink.co.nz](mailto:support@dlink.co.nz)

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### Egypt:

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Sunday to Thursday 9:00am to 5:00pm  
Web: <http://support.dlink-me.com>  
E-mail: [support.eg@dlink-me.com](mailto:support.eg@dlink-me.com)

### Iran:

Tel: +98-21-88880918,19  
Saturday to Thursday 9:00am to 5:00pm  
Web: <http://support.dlink-me.com>  
E-mail: [support.ir@dlink-me.com](mailto:support.ir@dlink-me.com)  
[support@dlink.ir](mailto:support@dlink.ir)

### Israel:

Magshimim 20, Petach Tikva 49348  
Main Tel: 972-3-9215173  
Customer Support Tel: 972-3-9212886  
Web: [www.dlink.co.il](http://www.dlink.co.il)

### Pakistan:

Tel: +92-21-4548158  
+92-21-4548310  
Monday to Friday 10:00am to 6:00pm  
Web: <http://support.dlink-me.com>  
E-mail: [zkashif@dlink-me.com](mailto:zkashif@dlink-me.com)

### South Africa and Sub Sahara Region:

Tel: +27-12-665-2165  
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](mailto:support@d-link.co.za)

### Turkey:

Tel: +90-212-2895659  
Monday to Friday 9:00am to 6:00pm  
Web: <http://www.dlink.com.tr>  
E-mail: [turkiye@dlink-me.com](mailto:turkiye@dlink-me.com)

### U.A.E and North Africa:

Tel: +971-4-4278127 (U.A.E)  
Sunday to Thursday 9.00AM to 6.00PM GMT+4  
Web: <http://www.dlink-me.com>  
E-mail: [support.me@dlink-me.com](mailto:support.me@dlink-me.com)

### Saudi Arabia (KSA):

Tel: +966 01 217 0008  
Fax: +966 01 217 0009  
Saturday to Wednesday 9.30AM to 6.30PM  
Thursdays 9.30AM to 2.00 PM  
E-mail: [Support.sa@dlink-me.com](mailto:Support.sa@dlink-me.com)

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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 D-Link:**  
+7(495) 744-00-99

**Техническая поддержка через Интернет**  
<http://www.dlink.ru>  
e-mail: [support@dlink.ru](mailto:support@dlink.ru)

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## SOPORTE TÉCNICO

Usted puede encontrar actualizaciones de softwares o firmwares y documentación para usuarios a través de nuestro sitio [www.dlinkla.com](http://www.dlinkla.com)

### SOPORTE TÉCNICO PARA USUARIOS EN LATINO AMERICA

Soporte técnico a través de los siguientes teléfonos de D-Link

PAIS	NUMERO
Argentina	0800 - 12235465
Chile	800 - 835465 ó (02) 5941520
Colombia	01800 - 9525465
Costa Rica	0800 - 0521478
Ecuador	1800 - 035465
El Salvador	800 - 6335
Guatemala	1800 - 8350255
México	01800 - 1233201
Panamá	011 008000525465
Perú	0800 - 00968
Venezuela	0800 - 1005767

### Soporte Técnico de D-Link a través de Internet

Horario de atención Soporte Técnico en [www.dlinkla.com](http://www.dlinkla.com)

e-mail: [soporte@dlinkla.com](mailto:soporte@dlinkla.com) & [consultas@dlinkla.com](mailto:consultas@dlinkla.com)

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## Suporte Técnico

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

### Chat Online

[www.dlink.com.br/suporte](http://www.dlink.com.br/suporte)

### E-mail

[suporte@dlink.com.br](mailto:suporte@dlink.com.br)

### Back Office

[backoffice@dlink.com.br](mailto:backoffice@dlink.com.br) \*

\*Acionar Garantia para 4 ou mais equipamentos

### Telefones

São Paulo: (11) 2755-6950

\*GO: 4052-1850 (Ligação local)

\*Nordeste: 0800-7024104

\*Demais Estados: 4062-1850 (Ligação local)

\*Apenas Modems ADSL

Garantia diferenciada vendida pela internet. Agilidade e tranquilidade para suas atividades!

Conheça: <http://garantiapremium.dlink.com.br>

**Atendimento disponível das 9h as 21h de segunda a sexta  
feira e aos sábados das 9h as 15h**

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## 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

服務時間：週一至週五，早上9:00到晚上9:00

(不含周六、日及國定假日)

網 站：<http://www.dlink.com.tw>

電子郵件：[dssqa\\_service@dlink.com.tw](mailto: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。

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## **Dukungan Teknis**

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

### **Dukungan Teknis untuk pelanggan:**

#### **Dukungan Teknis D-Link melalui telepon:**

Tel: +62-21-5731610

#### **Dukungan Teknis D-Link melalui Internet:**

Email : [support@dlink.co.id](mailto:support@dlink.co.id)

Website : <http://support.dlink.co.id>

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## Technical Support

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。  
ございます。

下記弊社 Web サイトからユーザ登録及び新製品登録を  
行っていただくと、ダウンロードサービスにて  
サポート情報、ファームウェア、ユーザマニュアルを  
ダウンロードすることができます。

ディーリンクジャパン Web サイト

URL:<http://www.dlink-jp.com>

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## 技术支持

办公地址：北京市东城区北三环东路 36 号 环球贸易中心 B 座  
26F 02-05 室 邮编: 100013

技术支持中心电话：8008296688/ (028)66052968

技术支持中心传真：(028)85176948

各地维修中心地址请登陆官方网站查询

网址：<http://www.dlink.com.cn>

办公时间：周一到周五，早09:00到晚18:00

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# 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?**

\_\_\_\_\_

\_\_\_\_\_



PLEASE  
PLACE STAMP  
HERE

**TO:**

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**D-Link®**