

xStack DGS-3610 Series

Hardware Installation Guide

Version 1.0

D-Link[®]

DGS-3610 Series Hardware Installation Guide

Revision No.:v1.0

Date: 2008/6/13

Copyright statement

All rights reserved.

D-Link Corporation reserves all copyrights of this document. Any reproduction, excerpt, backup, modification, transmission, translation or commercial use of this document or any portion of this document, in any form or by any means, without the prior written consent of D-Link Corporation is prohibited.

Exemption statement

This document is provided "as is". The contents of this document are subject to change without any notice. Please obtain the latest information through the D-Link Corporation website. D-Link Corporation endeavors to ensure content accuracy and will not shoulder any responsibility for losses and damages caused due to content omissions, inaccuracies or errors.

Preface

Thank you for using our switches. This manual provides you with detailed operation guide that allows you to easily install and use the switches.

Scope

This manual describes the functions and physical features of the switches, and provides the installation procedures, troubleshooting procedures, technical specifications, and specifications and use rules of cables and connectors. It is intended for the users that have some experience in installing and maintaining network hardware and want to learn the above information. At the same time, it is assumed that the users of this switch are already familiar with the related terms and concepts of Ethernet.

Document Structure

- Chapter 1 “**Product Overview**” describes the scope of application, main features, technical specifications, and related extension modules of the product.
- Chapter 2 “**Preparation Before Installation**” lists the safety, power supply, and site requirements that must be met before the switch can be installed.
- Chapter 3 “**Product Installation**” describes how to install the switch as a whole and its various modules, and to connect the power supply and the grounding cables and configuration port cables.
- Chapter 4 “**Troubleshooting**” describes how to troubleshoot the faults that may occur during your installation and use of the hardware.
- Appendix A “**Connectors and Connection Media**”.

Related Documents

Software Manual——covering CLI commands, software configuration guide, version release notes, and system messages.

Obtaining Documentation

You can obtain the documentation you need through the following channels:

Internet:

You can obtain the latest on-line documentation at:

<http://www.dlink.com.tw>

Documentation CD-ROM:

The documentation of D-Link switches is stored in the CD-ROM package, which is provided to you together with the product you purchase. The CD-ROM is updated frequently, and may be more current than the printed documents.

Obtaining Technical Assistance

D-Link Corporation provides excellent technical support services for all our products. You can obtain the technical assistance you need through any of the following channels:

- Technical Assistance

You can obtain the latest technical information, reasons of common faults, problem analysis, product application solution and software upgrading information on D-Link Website.

- Customer service center of D-Link Corporation, which can provide all customers with needed technical assistance for:

Products, technologies and solutions. The customer service center provides responsive technical support for your product installation problems, software configuration problems, and other network performance problems.

Documentation Conventions

The symbols used in this document are described as below:



Caution

This symbol brings your attention to some helpful suggestions and references



Warning

This symbol means that you must be extremely careful not to do some things that may damage the equipment or cause data loss.



Danger

This symbol means danger. You are in a situation that may cause personal injury, and you should take appropriate measures to prevent accidents before you use the equipment.

Contents

1	Product Overview.....	1-1
1.1	Product Overview.....	1-1
1.2	Technical Features of DGS-3610 Series	1-2
1.2.1	Product Features.....	1-2
1.2.2	Technical Specifications	1-4
1.3	Product Appearance	1-7
1.4	DGS-3610 10G Expansion Module	1-9
1.5	DGS-3610-26P POE Function	1-10
2	Installation	2-1
2.1	Prior Preparation.....	2-1
2.2	Desktop Mounting.....	2-1
2.3	Rack Mounting	2-2
2.4	System Connection.....	2-4
2.4.1	Connecting the RJ-45 Port.....	2-4
2.4.2	Connecting Optical Fibers.....	2-4
2.4.3	Laser Safety	2-4
2.5	Connecting Power Cables to the Switch.....	2-5
2.6	Optional Installation Procedure.....	2-5
3	Troubleshooting	3-1
3.1	Common Troubleshooting Procedures	3-1

1

Product Overview

1.1 Product Overview

The DGS-3610 series is a new generation of 10G multi-layer chassis switch developed by D-Link that features high performance, high-security, intelligence and ease of use. The DGS-3610 switch provides flexible media interfaces, which accommodate various media for connection in networking. In addition, this series can be flexibly expanded with various 10G modules to offer high expandability and meet the needs for large bandwidth. The hardware of this series supports multi-layer wire-speed switching and provides a full range of perfect routing protocols to meet the requirement for multi-routing and high performance of large-scale networks.

The DGS-3610 provides the intelligent service flow classification from layer 2 to layer 7, perfect QoS and multicast application management feature. While providing high performance and intelligence, this series features excellent internal safety protection and user management, which effectively prevent and control virus spreading and network attacks, prevent illegal users from accessing the network, and ensure that legal users can reasonably use network resources. This guarantees the safe and reasonable use and operation of the network. Additionally, this series allow diversified safe control policies to be implemented according to the actual network environments.

The DGS-3610 switches provide large network convergence and medium-sized network cores with multi-layer switching, perfect end-to-end QoS, flexible and rich security settings and policy-based NM, at a high performance-price-ratio, best meeting the requirements of enterprise networks for high speed, security, and intelligence.

Currently, DGS-3610 series covers three types so as to meet kinds of application of users:

- DGS-3610-26: 24 10/100/1000M adaptive RJ45 ports, multiplexing 12 1000M SFP ports. Two back expansion 10G ports.
- DGS-3610-26P: Expanded model on the basis of DGS-3610-26 to support PoE, complying with 802.3af
- DGS-3610-26G: 24 1000M SFP ports, multiplexing 12 10/100/1000M adaptive RJ45 ports. Two back expansion 10G ports.

Applications:

- Convergence layers of large networks or the backbones of medium-sized networks;

- Upgrade to the 10G uplink backbone network by simply adding 10G modules for protecting user investment;
- Scenarios where numerous 1000M ports are needed to provide high-performance data processing;
- High-performance multi-layer switching solutions;
- Rich security management mechanism to offer network security protection, high-security access control and effective network access control;
- Perfect use of management policies to help the management of bandwidth and ensure the application of key services such as voice, multicast audio/video service and VOD

1.2 Technical Features of DGS-3610 Series

1.2.1 Product Features

High-performance multilayer switching

- High backbone bandwidth provides non-blocking feature to all ports;
- Abundant and perfect routing capability as well as super-large routing table can satisfy dynamic routing of large-scale networks.
- The routing forwarding based on LPM hardware makes DGS-3610 Series not only fit for large-scale networks, but also prevent the attack of network virus. It can ensure the wire-speed forwarding of telegrams and the security of equipments.
- The DGS-3610 series can support multi-layer wire-speed switching in hardware; can identify the application data flow from layers 2 to 7. All ports have the ability to filter the packet independently, to distinguish different application flows, to manage and control according to different flows.

Flexible and perfect security control

- It has many internal mechanisms to efficiently protect and control the spread of virus and attacks of hackers, like the prevention of DoS attack, IP spanning, thus return a peace space to network;
- Flexible binding in hardware between the ports and the MAC address/IP address may strictly limit the user accesses on the ports.
- Isolating the information exchange between users by setting ports as protected ports, without needing to occupy the VLAN resources.
- Source-IP-address-control-based Telnet and Web equipment access control reinforces the security of the network management and stops the malicious attack and manipulation of equipment by hackers.
- Broadcast storm suppression based on port rate percentage and rate PPS to ensure network security;

- In order to ensure the security of devices, prevent hackers' attack and control devices, SSH (Secure Shell) and SNMPv3 can encrypt management information in the process of Telnet and SNMP;
- It can control the access of unauthorized users and protect the reasonable usage of legal users, like port security, port isolation, expert level ACL, time ACL, bandwidth limitation of speed based on data flow, the binding of six elements and so on, so satisfy the needs of strengthening access control in enterprise networks and campus networks.

Rich multicast features

- It supports dynamic unicast/multicast routing protocols, can adapt different scales of networks and the environment where need many multicast services, so realizing the extension of network and multi-service application;
- The support of IGMP and source IP checking function can effectively prevent illegal multicast source and improve the network security.
- Support IGMPv1/v2/v3 all versions, adapt to different multi-cast environment, and satisfy the necessity of multi-cast security application.

Perfect QoS Strategy

- With DiffServ standard as the core, QoS safeguard system supports perfect strategies such as 802.1P, IP TOS, stream filter from 2 to 7 layer, SP, WRR, etc., so realizing QoS logic based on the multi-service of whole network system;
- Providing multi-layer flow classification and flow control covering MAC flow, IP flow, and application flow, implementing multiple flow policies including bandwidth control, forwarding priority, traffic management, and traffic shaping, and providing traffic rate limiting, at the granularity of 64Kbps for 1000M ports and 1Mbps for 10G ports, according to various applications and their needed QoS

High Reliability

- It supports STP 802.1d, 802.1w, 802.1s, fully ensure fast convergence, enhance fault tolerance capability and guarantee the stable operation of network as well as reasonable use of network pipeline.
- It supports VRRP Virtual routing redundancy protocol, and effectively ensure network stability.
- The DGS-3610 series support optional redundancy power system (DPS-510), which provides the switches with excellent power redundancy for higher fault tolerance and normal running time.

Easy to use and manage

- The multiplexing multi-gigabit interface can flexibly meet the connection to many gigabit copper and many gigabit fiber links. This allows users to flexibly choose and achieve the network extension;

- Supporting smooth upgrade to the 10G backbone by simply adding various 10G modules to meet flexible expansion and high bandwidth transmission needs;
- SNTP can ensure the exact timing of switch and can keep the same with time server. It is convenient to manage the analysis and diagnosis of journal data and flow data;
- Syslog can realize the unified collection, maintenance, analysis, error position and backup of various log info. It is easy for network administrator to maintain and manage;
- Synchronous monitoring of multiple ports makes it possible to monitor the data flows (incoming frames, outgoing frames or both) on multiple ports just through one of them, greatly increasing the maintenance efficiency.
- CLI interface for use by advanced users to configure; providing multiple upload and upgrade methods such as Xmodem, FTP, and TFTP;
- Java-based Web Management allows users to make the visual interface management and configure switches quickly and efficiently.

1.2.2 Technical Specifications

Table 1-1 Technical Specifications of DGS-3610 Switches

Product model	DGS-3610-26 DGS-3610-26P
Fixed port	24 10/100/1000M RJ45 port and 12 multiplexing SFP interfaces, 2 10G extension slot
Available module	DEM-310GT (1000Base-LX, Single-mode, 10km) DEM-311GT (1000Base-SX, Multi-mode, 550m) DEM-312GT2 (1000Base-SX, Multi-mode, 2km) DEM-314GT (1000BASE-LX, Single-mode, 50km) DEM-315GT (1000BASE-LX, Single-mode, 80km) DEM-330T/R (WDM transceiver, Single-Mode 10km) DEM-331T/R (WDM transceiver, Single-Mode 40km) DEM-412X: 1-port XFP interface 10G conversion board DEM-412CX: Single port 10G stack module. DEM-421XT (10GBASE-SR, Multi-mode, 300m) DEM-422XT (10GBASE-LR, Single-mode, 10km) DEM-423XT (10GBASE-ER, Single-mode, 40km)
Packet forwarding rate	L2: wire speed (66Mpps) L3: wire speed (66Mpps)
802.3af POE standard	Only for DGS-3610-26P
802.1Q VLAN	4K

ACL	Standard IP ACL (IP address based hardware ACL) Extended IP ACL (IP address based and TCP/UDP port number based hardware ACL) MAC extended ACL (source MAC address based, destination MAC address based and optional Ethernet type based hardware ACL) Time-based ACL Expert level ACL (hardware ACL based on the flexible combinations of VLAN number, Ethernet type, MAC address, IP address, TCP/UDP port number, protocol type, and time)
L2 Protocol	IEEE802.3, IEEE802.3u, IEEE802.3z, IEEE802.3x, IEEE802.3ae, IEEE802.3ak, IEEE802.3ad, IEEE802.1p, IEEE802.1x, IEEE802.3ab, IEEE802.1Q (GVRP), IEEE802.1d, IEEE802.1w, IEEE802.1s, IGMP Snooping v1/v2/v3, LLDP
Defeat DoS Attack	Supported
Defeat IP Scan	Supported
L3 Protocol	OSPF, ECMP/WCMP, RIPv1/v2, PIM (DM/SM/SSM), DVMRP, VRRP, IGMPv1/v2/v
Management protocols	SNMPv1/v2c/v3, Web (JAVA), CLI (Telnet/Console), RMON (1,2,3,9), Cluster, SSH, SNTP, Syslog
Other protocols	DHCP Relay, DNS Client
Jumbo Frame	Supported
Dimensions (L x W x H)	440 X 435X44mm
Weight	About 8.5kg for DGS-3610-26 About 9kg for DGS-3610-26P
Power supply	DGS-3610-26: AC voltage: 176-264VAC, at 48Hz-60Hz, with maximum current <0.4A DC voltage (RPS power): 10.6-13.2VDC, with maximum current <6.6A DGS-3610-26P: AC voltage: 100-240VAC at 48Hz-60Hz Without POE: maximum current <0.7A; With POE: maximum current <4.8A
Power consumption	Without expansion module: <54W; with expansion module: <70W; When all ports are connected with PD for the DGS-3610-26P: <460W
Temperature	Operating temperature: 0°C - 45°C Storage temperature -40°C - 70°C
Humidity	Operating humidity: 10% ~ 90% RH Storage humidity: 5% - 90% RH

Table 1-2 Technical Specifications of DGS-3610 Switches

Product model	DGS-3610-26G
Fixed port	24 1000M SFP ports and 12 multiplexing 10/100/1000M RJ-45 ports, 2 10G extension slots

Available module	<p>DEM-310GT (1000Base-LX, Single-mode, 10km) DEM-311GT (1000Base-SX, Mutli-mode, 550m) DEM-312GT2 (1000Base-SX, Multi-mode, 2km) DEM-314GT (1000BASE-LX, Single-mode, 50km) DEM-315GT (1000BASE-LX, Single-mode, 80km) DEM-330T/R (WDM transceiver, Single-Mode 10km) DEM-331T/R (WDM transceiver, Single-Mode 40km) DEM-412X: 1-port XFP interface 10G conversion board DEM-412CX: Single port 10G stack module. DEM-421XT (10GBASE-SR, Multi-mode, 300m) DEM-422XT (10GBASE-LR, Single-mode, 10km) DEM-423XT (10GBASE-ER, Single-mode, 40km)</p>
Packet forwarding rate	<p>L2: wire speed (66Mpps) L3: wire speed (66Mpps)</p>
802.1Q VLAN	4K
ACL	<p>Standard IP ACL (IP address based hardware ACL) Extended IP ACL (IP address based and TCP/UDP port number based hardware ACL) MAC extended ACL (source MAC address based, destination MAC address based and optional Ethernet type based hardware ACL) Time-based ACL Expert level ACL (hardware ACL based on the flexible combinations of VLAN number, Ethernet type, MAC address, IP address, TCP/UDP port number, protocol type, and time)</p>
L2 Protocol	<p>IEEE802.3, IEEE802.3u, IEEE802.3z , IEEE802.3x, IEEE802.3ae, IEEE802.3ak, IEEE802.3ad, IEEE802.1p, IEEE802.1x, IEEE802.3ab, IEEE802.1Q (GVRP), IEEE802.1d, IEEE802.1w, IEEE802.1s, IGMP Snooping v1/v2/v3, LLDP</p>
Defeat DoS Attack	Supported
Defeat IP Scan	Supported
L3 Protocol	<p>OSPF, ECMP/WCMP, RIPv1/v2, PIM (DM/SM/SSM), DVMRP, VRRP, IGMPv1/v2/v3</p>
Management protocols	<p>SNMPv1/v2c/v3, Web (JAVA), CLI (Telnet/Console), RMON (1,2,3,9), Cluster, SSH, SNTP, Syslog</p>
Other protocols	DHCP Relay, DNS Client
Jumbo Frame	Supported
Dimensions (L x W x H)	440 X 435X44mm
Weight	About 8.5 kg
Power supply	<p>AC voltage: 176-264VAC, at 48Hz-60Hz, with maximum current <0.4A DC voltage (RPS power): 10.6-13.2VDC, with maximum current <6.6A</p>
Power consumption	Without expansion module: <54W; with expansion module: <70W;
Temperature	<p>Operating temperature: 0°C - 45°C Storage temperature -40°C - 70°C</p>
Humidity	Operating humidity: 10% ~ 90% RH

	Storage humidity: 5% - 90% RH
--	-------------------------------

1.3 Product Appearance

Figure 1-1 Appearance of the DGS-3610-26/26P



Figure 1-2 Appearance of the DGS-3610-26G



Table 1-3 LEDs on the Front Panel

Identification	Applicable Model	Description	Detailed Information
Status	<ul style="list-style-type: none"> ● DGS-3610-26 ● DGS-3610-26P ● DGS-3610-26G 	System status LED	OFF: The switch is not powered on. Flashing Green: The switch is initializing. If it keeps flashing, there is a fault. Solid Green: The switch is working normally. Solid Red: The switch is faulty.
RPS	<ul style="list-style-type: none"> ● DGS-3610-26 ● DGS-3610-26G 	Redundancy power LED	OFF: The redundancy power supply is not connected or not turned on. Orange: The redundancy power supply is working. Green: The redundancy power supply is connected and is ready to supply

Identification	Applicable Model	Description	Detailed Information
			power. Red: The redundancy power supply is connected and cannot supply power.
MOD	● DGS-3610-26P	Button for switching the port LED indication mode	This button controls the port LED to show the switching status or the POE power status.
MOD-LED	● DGS-3610-26P	Port mode LED	This LED is controlled by the MOD switching button. When the MOD switching button is pressed and this LED is green, the port LED indicates the switching status. When the MOD switching button is pressed and this indicator shows orange, the port LED indicates the POE status.
Xe port LED	● DGS-3610-26 ● DGS-3610-26P ● DGS-3610-26G	10G port LED	There are two LEDs for each group of Xe1 and Xe2 ports. Yellow: The appropriate Xe port is detecting the optical module. Green/flashing: The appropriate Xe port is in the LINK/ACT status.
Console	● DGS-3610-26 ● DGS-3610-26P ● DGS-3610-26G	Management port	The management port is connected to the computer via the serial cable for configuring this switch.
RJ45 port	● DGS-3610-26 ● DGS-3610-26P ● DGS-3610-26G	10/100/1000M adaptive RJ45 port LED	For the colors of the LED and their meanings, see Table 1-4 Descriptions of Port LED.
SFP port	● DGS-3610-26 ● DGS-3610-26P ● DGS-3610-26G	1000M SFP optical module port LED indicator	For the colors of the LED and their meanings, see Table 1-4 Descriptions of Port LED.

Table 1-4 Descriptions of Port LED

Item	Status	Description
Port LED indicating switching status	Solid green	1000M LINK
	Green flashing	1000M ACT
	Solid orange	10/100M LINK
	Orange flashing	10/100M ACT
Port LED indicating POE status—Note	Solid green	The port is supplying power normally.
	Green flashing	The power needed by the mounted device exceeds the maximum capacity of the port; The total supply power of the switch has reached the maximum capacity of the switch. Therefore, this port cannot supply power.
	Solid orange	POE power failure

Item	Status	Description
	OFF	The port is not connected. The port is not supplying power.

Note: The port LED indicating the POE status is a feature specific to the DGS-3610-26P. The port LEDs of other products do not feature POE indication.

Table 1-5 Identifications on the Backplane

Identification	Description	Detailed Information
Xe1	10G expansion port 1	10G expansion port of the switch, to be used with our DEM-412X and DEM-412CX extension modules for providing the switch with 10G port or stack port.
Xe2	10G expansion port 2	10G expansion port of the switch, same as Xe1
220VAC	220V AC power port	Providing a 220V supply port on the left of the rear panel of the chassis
RPS-12V	Redundancy power port (not supported by the DGS-3610-26P)	The port for the redundancy power supply of the switch, through which the external DC redundancy power supply can be used to power the switch when the built-in power supply fails



Warning

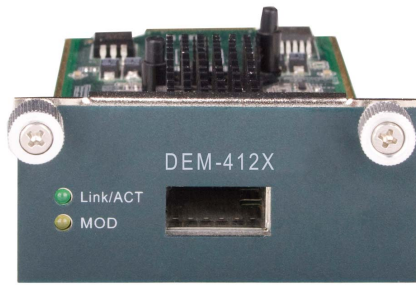
Currently the redundancy power port can be used with RPS. Other power products not specified cannot be used as its input source. Failing to do so may cause faults of or damage to this product. DGS-3610-26P currently does not provide the redundancy power port.

1.4 DGS-3610 10G Expansion Module

The DGS-3610 series 10G expansion port currently supports two types of conversion boards:

- DEM-412X: 1-port XFP 10G module. Each module provides one expansion 10G XFP port on the DGS-3610, which supports up to 2 modules. DEM-412X does not support hot plugging/unplugging, please install or remove it after the switch is powered off.
- DEM-412CX: 1-port 10G stack module, used with DEM-CB100CX or DEM-CB300CX cable, to provide the stack function for the DGS-3610 series switch.

The following diagrams show the appearances of these modules. Please note that the module you buy does not include the optical transceiver module shown in the diagram, which should be ordered separately.

Figure 1-3 DEM-412X 10G XFP Module**Figure 1-4** DEM-412CX 10G Stack Module

1.5 DGS-3610-26P POE Function

POE, the abbreviation for Power over Ethernet, is the latest specification (802.3af) that transmits both data and electric power on the existing standard Ethernet cable and supports compatibility with the existing Ethernet systems and users.

One complete POE system consists of the Power Sourcing Equipment (PSE) and Power Device (PD). The PSE is the equipment that powers the Ethernet client and also manages the entire POE process. The PD is the PSE load that receives the power, that is, the client device of the POE system, for example, IP phone, network safety camera, AP and PDA or mobile phone charger.

Our DGS-3610-26P switch supports the 802.3af POE standard, full-power POE at 15.4W for the 24 RJ45 ports on the front panel. Also it provides the advanced management and POE status indication. The DGS-3610-26P 1000M electric port can automatically recognize the PD device plugged and powers the PD device by default. To allow users to easily observe the POE status of the switch, the 24 electrical ports of the DGS-3610-26P all have the POE indication function. When you press the MOD switching button and the MOD-LED is orange, the port LED of the switch shows the POE status. For the meanings of each port LED in this case, see [錯誤! 找不到參照來源。](#). When you press the MOD button so that the MOD-LED turns green, the port LED of the switch returns to indicate the switching status.

2

Installation

2.1 Prior Preparation

This switch is already prepared for installation at delivery. Before connecting the power supply and the network, please check all the accessories against the packing list in the packaging carton.



Read the installation instructions carefully before you power on the system.



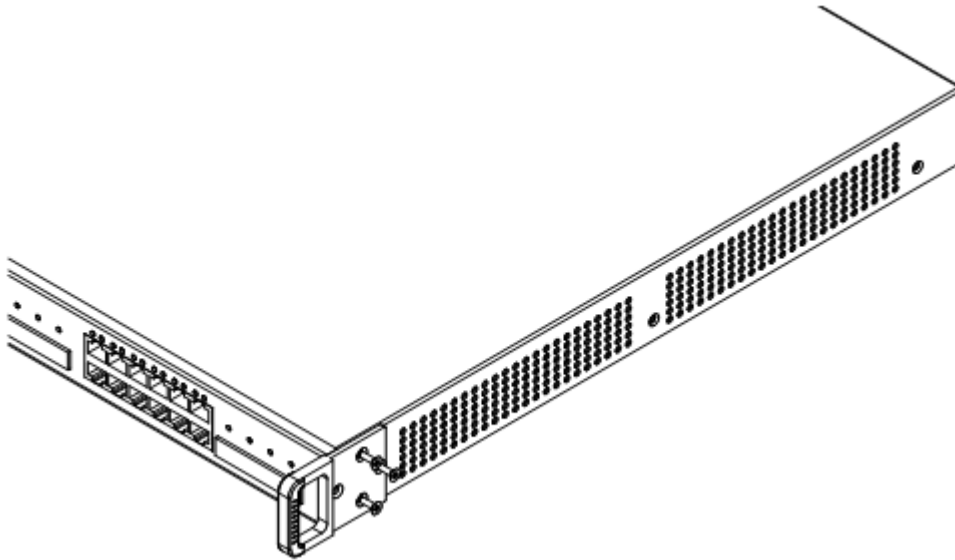
Do not place the switch close to water or in a damp place. Prevent moisture from entering the switch.

Keep the switch away from the places with much dust or strong electromagnetic interference.

2.2 Desktop Mounting

Step 1	Attach the four adhesive rubber pads provided in the carton onto the indentations on the four corners at the bottom of the switch.
Step 2	Place the switch on the desktop flatly to ensure that the air around the switch can flow freely.

You can install the handles onto the switch as shown below:

Figure 2-1 Schematic Diagram for Installing the Handle

The above figure shows the schematic diagram for installing the handle on the left of the switch. There are three screw holes on the handle. Align the handle with the screw holes on the side wall of the switch and tighten the sunk screws. Install the right handle in the same way as you install the left one.

**Warning**

To prevent overheating of the switch, place the switch in a location where the ambient temperature is no more than 40°C. Also the spacing of at least 10cm should be reserved around the chassis for good ventilation.

**Caution**

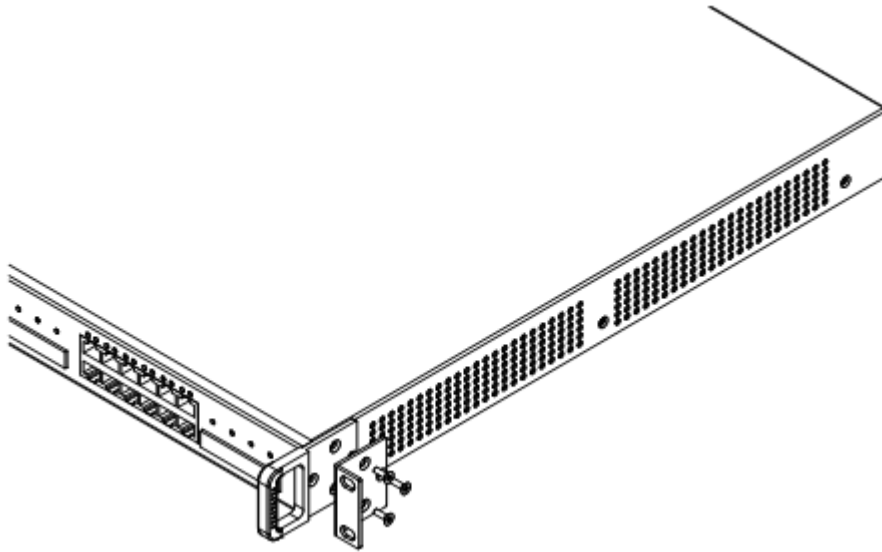
Do not place any heavy objects on the switch.

2.3 Rack Mounting

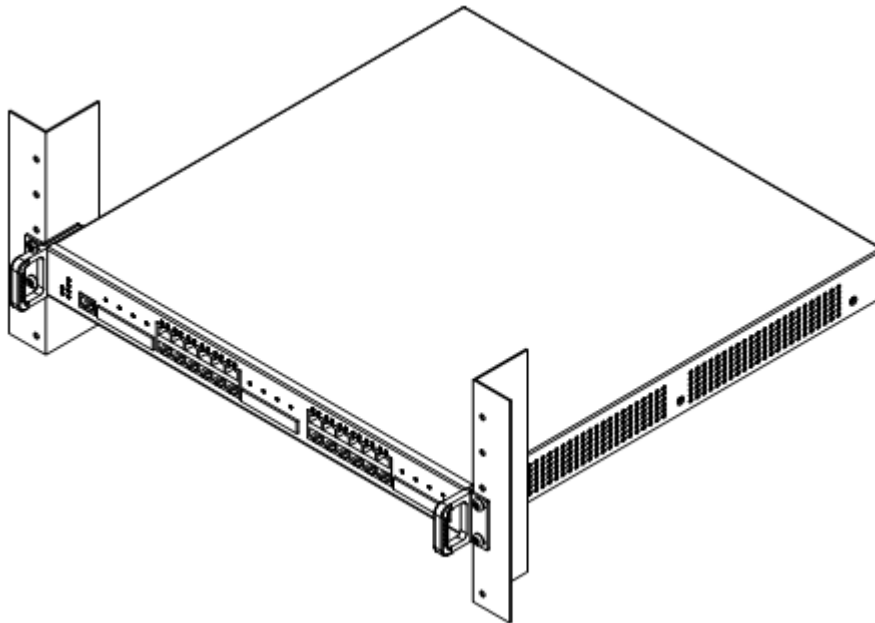
You can also mount the switch in the wiring section of a standard 19-inch rack. First fasten the accessories for rack mounting from the carton onto both sides of the switch and then mount the switch into the 19-inch rack with screws. When you are doing this, you can use the attached two L-shaped handle fastening brackets and 6 M3*10FMO sunk screws.

Step 1

Keep the fastening brackets with handles closely onto both sides of the switch, align with the screw holes and fasten them with M3*10FMO sunk screws, as shown in the following diagram:

Figure 2-2 Schematic Diagram for Installing the L-Shaped Fastening Bracket**Step 2**

Fasten the switch onto the rack, as shown in the following diagram. You should prepare the screws needed for rack mounting by yourself.

Figure 2-3 Schematic Diagram for Fastening the Switch**Caution**

Please ensure that the ventilation holes and fans on both sides and at the back of the chassis are not blocked.

2.4 System Connection

2.4.1 Connecting the RJ-45 Port

Use shielded or unshielded twisted pair cables with RJ-45 connectors on both ends. Use cables of Category 3, 4, and 5 to connect the 10Mbps Ethernet, and use cables of Category 5 to connect the 100/1000Mbps Ethernet ports. Connect one end of a cable to the network card or the RJ-45 port of another switch/HUB, and the other end to the RJ-45 port of the switch. When you plug the RJ-45 connector, you should hear a “click”, which means that the connector is plugged tightly.



Warning

Do not insert a phone connector into the RJ-45 port, as this may damage the switch.



Caution

Ensure that each twisted pair cable does not exceed 100 m in length.

2.4.2 Connecting Optical Fibers

Connect the optical module on the switch by using an optical fiber whose connector matches that of the optical module. When you are doing this, connect the RX end of one party to the TX end of the other party to ensure correct Rx/Tx channel connection.



Warning

Do not stare into the *1000BASE-SX/LX* ports as invisible laser radiation from them may hurt your eyes.

2.4.3 Laser Safety

Most optical transceiver modules supported by the DGS-3610 series are Class I laser products. Therefore, pay attention to the following during your use of this product:

- Do not stare into the optical module Tx ends or the connected fiber jumpers, as invisible laser radiation from them may hurt your eyes.
 - Unused optical modules should have their jumper ports covered with dust plugs, as dust may pollute or damage the laser connectors.
-



Danger

Never stare into the optical module Tx ends and the connected fiber jumpers to avoid injuries to your eyes.

2.5 Connecting Power Cables to the Switch

Please carefully read the following warning statements before you connect the power supply to the switch.



The first time you connect the power supply, please ensure that the power supply matches the power requirements of the switch to avoid damaging the switch.



You must use the 3-pin power socket with a ground end, and the distance between the power socket and the switch should be no more than 1.8 m. For more reliable grounding, ground the grounding terminal at the rear panel of the switch.

To do this, perform the following steps:

Step 1	Connect the grounding hole at the back of the switch to the grounding system of the equipment room.
Step 2	Connect the power supply of the switch.
Step 3	Check the "Status" LED on the front panel. If it is flashing, the power supply is normal and the switch starts initialization.

2.6 Optional Installation Procedure

This section describes the procedure that may be useful to you, depending on your on-site needs and how you configure your switch. If you want to configure the switch via the CLI, you must first connect the Console port of the switch to the computer. The cables needed for such connection are provided with the switch. The computer must be installed with a particular type of terminal simulation software (for example, WINDOWS HyperTerminal). Set the following parameters for the software: 9600 for baud rate, 8 data bits, no parity check, 1 stop bit, and no flow control. For details of how to configure the switch via CLI, see the CLI section in the configuration guide.

3

Troubleshooting

3.1 Common Troubleshooting Procedures

Symptom	Possible Cause	Solution
Forgetting the management interface login password		Please contact the D-Link Customer Service Department for technical support.
The status LED does not turn on after power-on	The power supply does not work; The power cable is in loose contact.	Verify that the power socket in the equipment room is normal and that the power cable of the switch is in good contact.
The serial port console has no output or outputs illegible characters	The serial port connected to the switch does not match that opened by the configuration software; The serial port is not configured correctly.	Change the serial port opened by the configuration software to be the one connected to the switch; Verify that the parameter configuration of the serial port matches that specified in the instructions.
The RJ45 port is not in connectivity or it is erroneous in receiving/transmitting frames	The connected twisted pair cable is faulty; The length of the cable exceeds 100 m; The port has special configuration that has no common working mode with the connected switch;	Replace the twisted pair cable; Verify that the port configuration has the common working mode with the connected switch.
The fiber port cannot be connected	The Rx and Tx ends are connected reversely; The interconnected optical module type does not match; The fiber type is not right; The length of the optical fiber exceeds that rated of the optical module.	Exchange the Rx and Tx ends of the optical fiber; Replace the optical module with one of the matched type; Replace the optical fiber with one of the appropriate type; Replace the optical fiber with one of the appropriate length;
The RPS power LED does not turn on	The RPS power supply used is not the specified model; The RPS power supply fails; The RPS power cable is in loose contact.	Use the RPS power supply specified by D-Link; Replace the RPS power supply; Check if the RPS power cable is in loose contact.

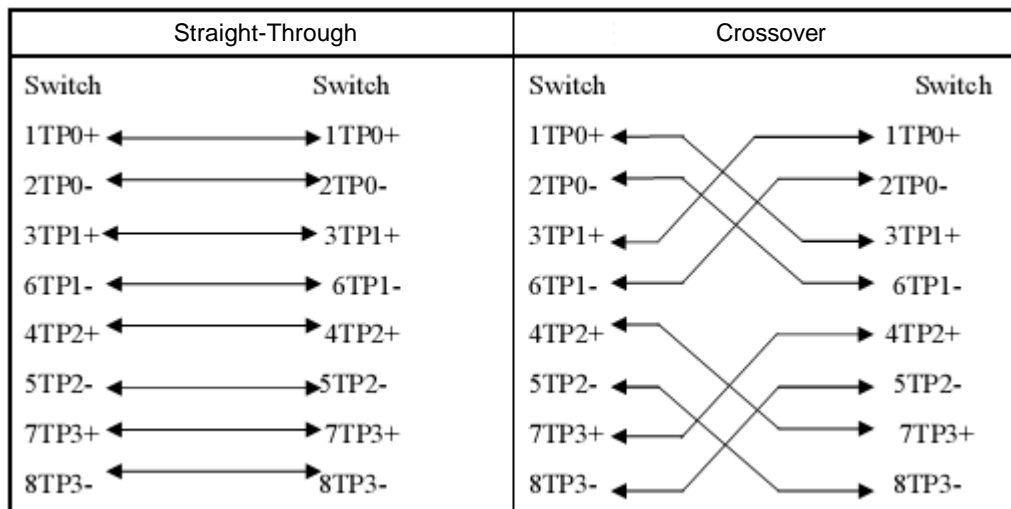
If the fault remains after the above procedures are performed or the symptom is beyond the scope in the above table, please contact the local agent or our technical support engineers. Non-professionals should not dismantle this unit for maintenance or servicing.

A Connectors and Connection Media

A.1 1000BASE-T/100BASE-TX/10BASE-T SE-T Port

The 1000BASE-T/100BASE-TX/10BASE-T is a port that supports adaptation of three rates, and automatic MDI/MDIX Crossover at these three rates. The 1000BASE-T complies with IEEE 802.3ab, and uses the cable of 100-ohm Category-5 or Supper Category-5 UTP or STP, which can be up to 100 m. The 1000BASE-T port uses four pairs of wires for transmission, all of which must be connected. Figure A-1 shows the connections of the twisted pairs used by the 1000BASE-T port:

Figure A-1 Schematic Diagram for the Four Twisted Pairs of the 1000BASE-T



In addition to the above cables, the 100BASE-TX/10BASE-T can also use 100-ohm Category-3, 4, 5 cables for 10Mbps, and 100-ohm Category-5 cables for 100Mbps, which can be up to 100 m. Figure A-2 shows the pinouts of the 100BASE-TX/10BASE-T:

Figure A-2 Pinouts of the 100BASE-TX/10BASE-T

Pin	Socket	Plug
1	Input Receive Data+	Output Transmit Data+
2	Input Receive Data-	Output Transmit Data-
3	Output Transmit Data+	Input Receive Data+
6	Output Transmit Data-	Input Receive Data-
4,5,7,8	Not Used	Not Used

Figure A-3 shows the connections of the straight-through and crossover twisted pairs of the 100BASE-TX/10BASE-T.

Figure A-3 Connections of the Twisted Pairs of the 100BASE-TX/10BASE-T

Straight-Through		Crossover	
(Switch)	(Adapter)	(Switch)	(Hub/Switch)
1 IRD+	1 OTD+	1 IRD+	1 IRD+
2 IRD-	2 OTD-	2 IRD-	2 IRD-
3 OTD+	3 IRD+	3 OTD+	3 OTD+
6 OTD-	6 IRD-	6 OTD-	6 OTD-

A.2 Optical Fiber Connection

For the optical fiber ports, select single-mode or multiple-mode optical fibers for connection according to the fiber module connected. The connection schematic diagram is shown in Figure A-4:

Figure A-4 Schematic Diagram for Optical Fiber Connection

