D-Link

DGS-6604-SK

Starter kit: DGS-6604 + DGS-6600-CM + DGS-6600-PWR

Стартовый комплект: DGS-6604 + DGS-6600-CM + DGS-6600-PWR

DGS-6604
4-slot chassis for the 6600 series L3 switch, switching capacity 576 Gbps

DGS-6600-CM
Management module for the DGS-6604 chassis

DGS-6600-PWR
850 W redundant AC power supply for the DGS-6604/6608 chassis

DGS-6604
Шасси коммутатора L3 серии 6600, 4 слота расширения, производительность 576 Гбит/с

DGS-6600-CM
Управляющий модуль для шасси DGS-6604

DGS-6600-PWR
Резервный источник питания AC для шасси DGS-6604/6608 (850 Вт)

Quick Installation Guide

Краткое руководство по установке

ENGLISH

About This Guide

This guide contains step by step instructions for setting up the D-Link DGS-6600 series chassis-based switch. Please note that the model you have purchased may appear slightly different from those shown in the illustrations.

Please read this manual carefully before using the product, paying special attention to safety warnings so as to avoid injury or damage to equipment.

This manual is intended for users who have experience in installing and maintaining network hardware, and assumes that users are familiar with standard networking terms and concepts.

Product Overview

D-Link's DGS-6600 series chassis-based switch is an intelligent and high-performance multi-layer LAN device designed for enterprise campus and metropolitan area networks (MAN). It is ideal for deployment in environments where uninterrupted network applications and a high level of performance, security and control are required.

Featuring flexible modular architecture and industry standard compliance, the switch provides scalable expansion and a high level of investment protection for businesses and telecom carriers to deploy Gigabit and 10-Gigabit packet switching and routing for office networking and Ethernet-based Internet services to homes.

DGS-6604 provides totally four slots including one slot for CM module.

Warnings

Power Supply Safety Warning

Ground the device before powering on to guard against power surges.

Be sure that all cables are grounded correctly.

Static Electricity Protection Warning

Always wear an anti-static wrist strap when contacting the chassis to prevent static damage.

Laser Safety Warning

CLASS 1 LASER PRODUCT

Directly looking at the optical interface or optical fibers may cause eye damage.

Fan Safety Warning

The fan mechanism is dangerous. Avoid touching the area near the fan.

Transportation Safety Warming

The device and components may comprise more than 27 kg in total.

Use care when inserting or removing heaving components.

Maintenance Warning

Maintenance should only be carried out by qualified service technicians

Preparation for Installation

To ensure normal operation and prolonged life of the DGS-6600 series chassis switch, the appropriate temperature and humidity must be maintained in the equipment room.

If the equipment room's temperature and humidity do not meet the requirements. the equipment may sustain damage.

Operating Temperature	Operating Humidity
0ºC-50ºC	10%-90% RH non-condensed

Table 1. Temperature and Humidity Requirements

Notes:

1. The ambient temperature and humidity should be measured at the point that is 1.5m above the floor and 0.4m in front of the equipment when there is no protective plate in front or back of the equipment rack

2. The short-term working conditions apply where the continuous working period does not exceed 48 hours and the cumulative total period within a year does not exceed 15 days

Static Discharge Damage Prevention

To prevent damage from static electricity, please conform to the following guidelines:

1. Be sure to install an adequate ground for all electronic equipment.
2. Use appropriate dust prevention measures.
3. Maintain the required humidity in the operating environment
4. Always wear an anti-static wrist strap when working around any electronic circuitry.
5. Hold a circuit board by its edges. Do not touch any components on the PCB.
6. Do not allow clothing to touch a circuit board. An antistatic wrist strap can only prevent static electricity from the human body, but cannot mitigate static electricity from clothing.

Moving the Device

The DGS-6600 series chassis switch is quite heavy. When handling, please pay close attention to the following guidelines:

- Avoid moving the equipment frequently.
- If you find the chassis weight unbearable, do not attempt to lift the equipment alone.
- Lift and move the chassis using the handles on the top panel .
- Turn off all power supplies and unplug all power cables before moving the equipment.
- Completely loosen the thumb/Phillips screws and pull the card levers to remove each and all line cards, fan tray, and power modules from the chassis before moving it.

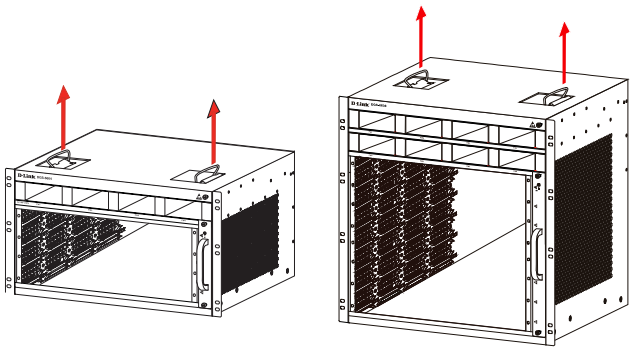


Figure 1. Correctly Moving the DGS-6600 series chassis switch

Do not move the equipment by grasping the panels, power supply handles, or ventilation holes, as they are not designed to bear weight.

System Grounding Requirements:

Proper grounding will help to ensure stable and reliable operation of the DGS-6600 series chassis switch. Be sure to verify that the grounding conditions at the installation meet the grounding requirements and ground all devices appropriately

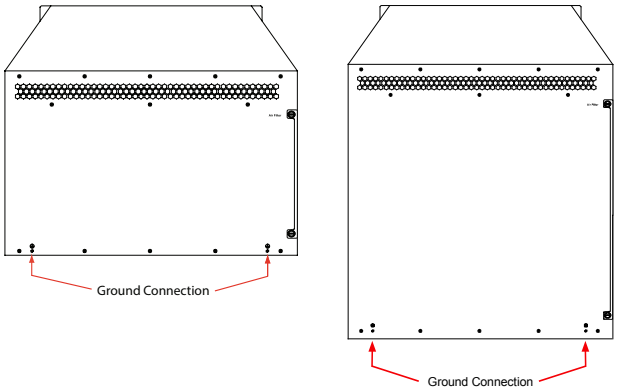


Figure 2. Grounding of the DGS-6600 series

Note:

All grounding conductors should be connected before the AC power is applied to the DGS-6600 series chassis switch installed AC power supplies.

The DGS-6600 series chassis switch with AC power supplies must be grounded with a minimum of 0.823 mm2 (or 18AWG) of conductive grounding cable. This cable is connected between the Equipment Room Ground and the DGS-6600 series Chassis Ground Terminal.

Power Requirements

The power consumption and heat dissipation figures of the various DGS-6600 series chassis switch components are listed in the table below:

DGS-6600 Series Module	Maximum Power Consumption (W)	Heat Dissipation (BTU/Hour)
DGS-6600-CM	53.86	183.8
DGS-600-CM-II	54.86	187.2
DGS-6600-48T	109.8	374.7
DGS-6600-48TS	114.2	389.7
DGS-6600-48P	873	2978.8
DGS-6600-16XS-D	179.84	631.64
DGS-6600-48S-C	133	453.8
DGS-6600-24SC2XS-C	136.67	469.8
DGS-6600-FAN Fan Tray	42.3	144
DGS-6600-FAN-II Fan Tray	84.6	288
DGS-6600-PWR AC Power Supply	853.5 (@110VAC or 220VAC)	2912.3 (@ 110VAC or 220VAC)
DGS-6600-PWRDC DC Power Supply	300 @48V	1023.6 @48V

Table 2. Card Power Requirements

Note:

The DGS-6604 provides up to 3+1 redundant AC power supplies.

The DGS-6604 provides up to 3+1 redundant DC power modules.

D-Link recommends to use multiple power supplies for the equipment to ensure continuous and stable operation. Redundant power supplies help to prevent unexpected power failures. Redundant power supplies must be identical.

Installation Tools Requirements

Type	Tools	Remarks
Common Tools	Claw hammer, pliers	Unpack wooden case and transportation case.
	Phillips-head screwdriver, straight screwdriver, spanner	Disassemble chassis, power supply, fan and modules
	Power supply cables, network cables, optical fibers and distribution cables	Connect the interfaces.
	Ruler, long tapeline, marker pen	Measure the installation position.
	Bolts, diagonal pliers, straps	Mount the chassis.
Special purpose tools	Anti-static tool	Prevent static electricity.
	Wire stripper, crimping pliers	Create network cables and grounding cables.
Meter	Multimeter	Test power supply and DC resistance.
	500V Megohm-meter	Test the insulation and grounding resistance

Table 3. Required Tools

Installation Site Requirements

The DGS-6600 series chassis switch must be used indoors. To ensure the normal operation and prolonged useful life of the equipment, the installation site must meet the following requirements.

Requirements for Rack Mounting

If you plan to mount the DGS-6604 in a frame, please observe the following guidelines:

- Install the switch in an open cabinet if possible. If you install the switch inside a closed cabinet please ensure that the cabinet has a good ventilation and heat dissipation system.
- Ensure that the cabinet is durable enough to bear the weight of the DGS-6604 and its installation accessories.
- Ensure that the dimensions of the cabinet provide enough space for the installation of the front, rear, left and right panels of the DGS-6604 for the purpose of heat dissipation.
- The frame should be properly grounded.

Ventilation Requirements

Following figure shows the ventilation requirements of the DGS-6604. You must reserve sufficient space near the vents to ensure proper ventilation. After the cables have been connected, they should be arranged into bundles or placed on the cabling rack to prevent the obstruction of air intakes and vents.

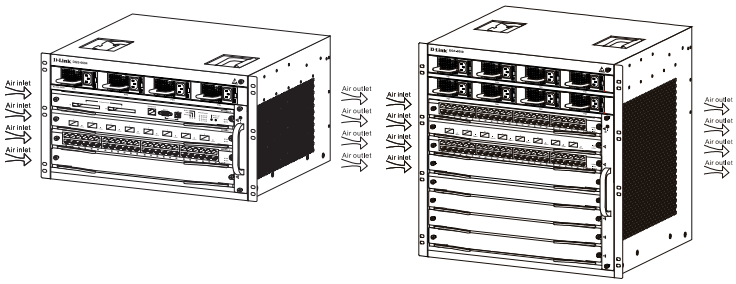


Figure 3. Ventilation of the DGS-6600 series chassis switch

Mounting the DGS-6600 series chassis switch into the Cabinet

1. Lift the chassis (seek assistance if the chassis is more then you can lift safely) while keeping it level Slowly move it to the front of the frame.
2. Keeping the DGS-6604 level, lift it to a position slightly higher than the tray of the slide rail of the cabinet. Set the chassis onto the tray or the slide rail, and push it into the cabinet. The use of a tray or slide rail to assist in installing the chassis to the rack is recommended.
3. Fasten the DGS-6604 to the cabinet with screws. Fastening notches are on both the left and right sides of the front panel on the equipment frame. Use screws to fasten them to the bracket of the cabinet/ Once fastened, the equipment should be stable and immobile.

Installing the Fan Tray

The DGS-6600-FAN fan tray is used as the DGS-6604 series's ventilation system. Carry out the following to install the fan tray:

1. Use the thumb-screws to remove the fan tray blank panel.
2. Insert the fan tray into the guide rail of the fan tray slot.
3. Secure the fan tray by tightening the fan tray's captive-screws.

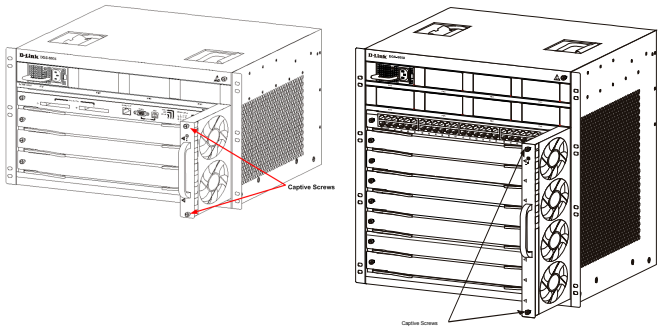


Figure 4. Installing the Fan Tray

Installing the Power Supply(s)

The DGS-6600 series switch is powered up using an either AC or DC power supply. The procedure for installing the AC power supply is shown in the diagram below:

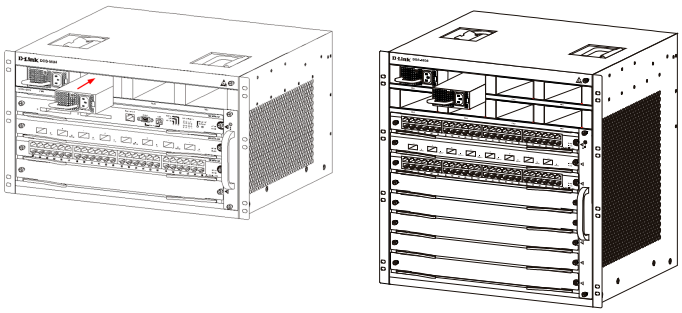
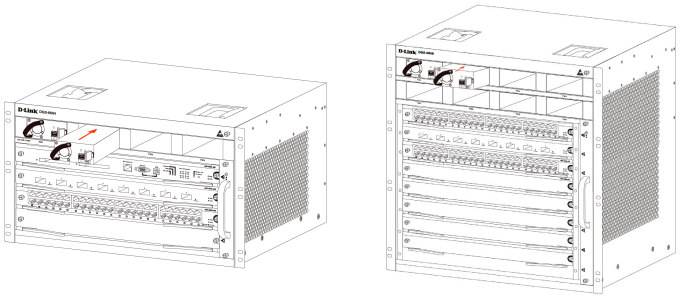


Figure 5. Installing the AC Power Supply



Figures 6. Installing the DC Power Supply

Connecting the System Ground

A working ground GND is installed on the back of DGS-6604. GND should be directly connected to the ground bar of the equipment room. If a digital grounding bar and an analog grounding bar exist in the equipment room, the GND should be connected to the digital bar.

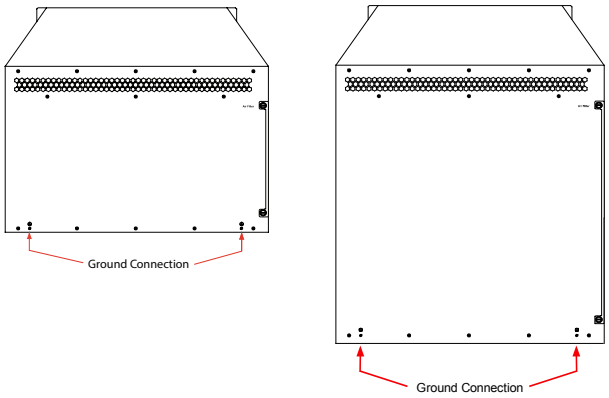


Figure 7. Ground Connections on the back of the DGS-6600 series chassis switch

Precautions.

The sectional area of the grounding cable (min. of 18AWG) should be selected to safely conduct the maximum possible current. Use insulated cables of good conductivity.

- Do not use bare wire.
- The grounding resistance for combined grounding should be less than 1 Ohm (Ω).

Simple Grounding Steps

- Unfasten the nut on the rear grounding post of the equipment.
- Affix the terminal of the grounding cable to the grounding pole.
- Fasten the nut back on the grounding post.
- Connect the other end of the grounding cable to a suitable grounding bar.

Installing the Air Filter of the DGS-6600 Series Chassis Switch

On the back of the chassis on the edge of the right-side is a vertical slot where the air filter can be fitted. Slide in a cleaned or new air filter into the slot as per the following diagram. Then screw the two thumb/Phillips screws (see the diagram arrows) to secure the air filter into the chassis. With the air filter installed screw-in two screws on the side of the chassis as indicted by the red arrows in the diagram.

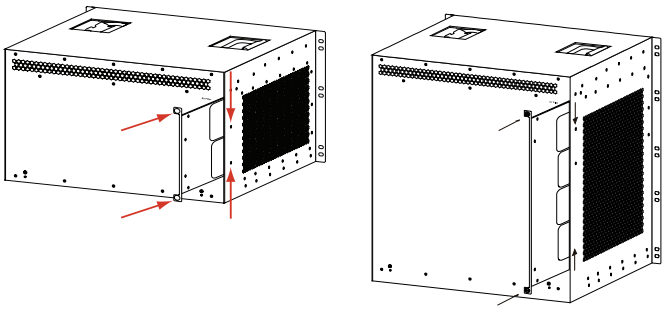


Figure 8. Installing the Air Filter

Air filter installation is recommended as the last step of the chassis installation.

Connecting the Power Supply to the Power Module

Use the related either AC or DC power cable to connect to the either AC or DC power module panel, as indicated in the following diagram:

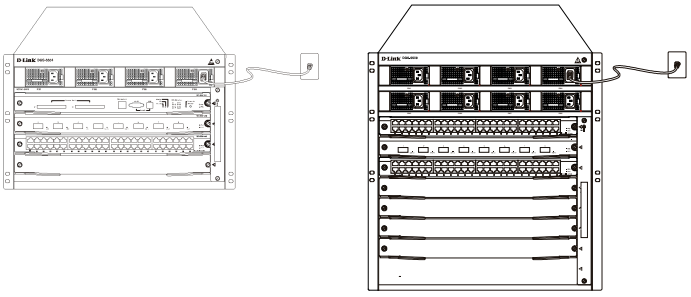


Figure 9. Connecting AC to the Power Module

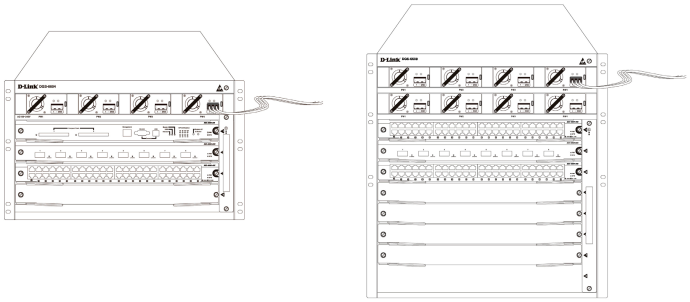


Figure 10. Connecting DC to the Power Module

Power Supply Connection Precaution

- Please note that AC/DC power modules cannot be mixed and DC power module does not support PoE modules.
- Verify that the provided external power supply matches the power module installed in the Switch before connecting the power supply.
- Use a power cable with a standard 3-pin connector to make the power connection.
- Ensure that the connected power cables have good contacts.
- Once the power cable is plugged-in at both power outlet and the power supply, the power supply will immediately start.

Simple AC Power Connection Steps

1. Insert the power cable's plug into the power module.
2. Secure the power cable to the cable clip on the right.
3. Connect the other end of the power cable into the corresponding socket or connector.

Connecting the Serial Cable of the Management Module

Simple CPU Module Cable Connection

1. Connect the RJ45 connector of an Ethernet cable to the Ethernet port of the Switch's management module (DGS-6600-CM or DGS-6600-CM-II) and connect the other end of the cable to any TCP/IP capable device that is able to execute Telnet or SSH.

- or -

2. Connect the standard DB9 end of the serial cable to the RS-232 serial port of the Switch's management module and the other end to the PC/Notebook or control terminal.

- or -

3. Connect a USB cable with a USB Standard B Connector to the Standard B receptacle on the Switch's management module. Connect the other end to a computer equipped with a USB port capable of supporting a serial interface using the PL-2303 USB Serial Driver SW from Prolific Technology Inc.

Removing Boards from the DGS-6600 Series Chassis Switch

Carry out the following steps to remove boards from the DGS-6600 Series Chassis Switch:

1. Unplug all copper/fiber cabling, i.e. RJ45 twisted-pair and fiber optic cables, from the board to be removed.
2. Loosen and unscrew the panel's two captive screws.
3. Use both hands to pull the levers, on the left and right hand sides of the board, to remove the board from the DGS-6600 Series Chassis Switch, as shown in the following diagram.

Caution

Before removing/adding a board, always wear an anti-static wrist strap.

Take care not to hold the edge of the PCB or collide the components of the PCB.

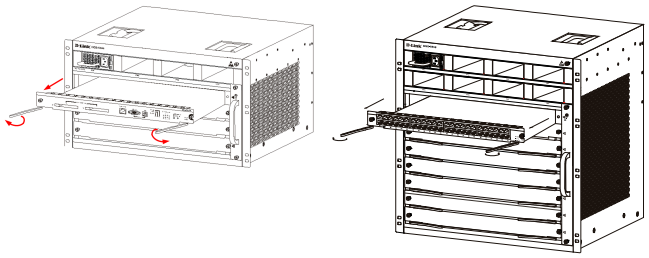


Figure 11. Removing a board from the chassis

Installing Boards on the DGS-6600 Series Chassis Switch

Carry out the following steps to install boards in the DGS-6600 Series Chassis Switch:

1. Remove the component card or blank panel as instructed in the section.
2. Insert the new board into the guide rail of the vacant slot.
3. Use the levers on the left and right hand side to push the board into position and tighten the two captive screws on the board using a straight screw driver.

Caution

1. Take care not to hold the edge of the PCB or collide the components of the PCB.
2. Always use the levers to plug/unplug a PCB module. Never use force to remove a PCB module.

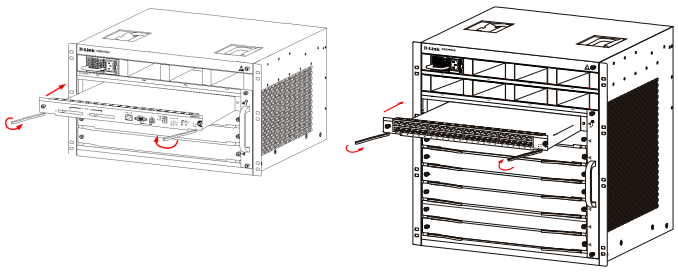


Figure 12. Installation Check

Installation Check

Verify that the external AC power supply provides the correct voltage and frequency.

Verify that the cabinet has been fastened completely, and does not move or tilt.

Verify that the Power Supplies, CM and Line Cards have been installed in the chassis.

Verify that the optical fiber and twisted pair cables match their respective interfaces.

Verify that the cables have been bound appropriately and are not subject to any excess stress.

Verify that the power cables are in good condition and comply with safety requirements.

Verify that the power module has been firmly installed into the backplane connector.

Turn on the power switch and verify that the power module is operating correctly.

Unpacking Inspection Requirements

Checklist

1. DGS-6604 Chassis Carton

   DGS-6604 Chassis (no cards installed)

2. Card Module Carton (s)

   - 1 CM Card (DGS-6600-CM or DGS-6600-CM-II)
   - Line Cards (specific per order)
   - Power Supplies Units (number specific per order)

3. DGS-6600 Series Switch Accessories Carton including:

   - AC Power Cord
   - RS-232 Console Cable (9 pin D-Sub)
   - USB Console Cable (Type A to Type B)
   - Fan Tray
   - Air Filter
   - CD software and manual
   - QIG

Management Options

The system may be managed out-of-band through the console port(s) and Ethernet port on the Control Module or in-band using Telnet/SSH. Each Switch must be assigned its own IP address, which is used for communication with an SNMP network manager or other TCP/IP application (for example BOOTP, TFTP). The Switch's default IP address is 10.90.90.90 (out-of-band IP address). The user can change the default IP address to meet the specifications of your networking address scheme.

Connecting the Console Port (USB or 9 Pin D-Sub)

The switch provides a USB or 9 Pin D-Sub Serial Connection to a computer or terminal for monitoring and configuration. To use the console port, you need the following equipment:

- A terminal or a computer with a 9 pin serial port /USB port and the ability to emulate a terminal.
- A null modem or cross-over RS-232 cable with a female DB-9 connector for the switch's console port.

- or -

- A USB cable (with a Type B USB connector for the switch's USB console port) and the Serial USB driver installed on the computer used to connect to the console.

Download the USB-Serial Driver here:

http://www.prolific.com.tw/eng/downloads.asp?ID=31

Confirm the driver for your Operating System is for the X chip series.

To connect a terminal to the console port

1. Connect the supplied RJ-45-to DB-9 adapter cable to the standard 9-pin serial port on the PC. Connect the other end of the cable to the console port on the switch. Set the terminal emulation software as follows:
    - Baud rate: 115200
    - Data bits: 8
    - Parity: None
    - Stop bits: 1
    - Flow control: None
2. Select VT100 for the terminal emulation mode.
3. After you have correctly set up the terminal, plug the power cable into the power supplies on the switch. The boot sequence will appear in the terminal.
4. Press the Enter key at the password prompts. There is no default password for the Switch.
5. Enter the commands to complete your desired tasks. Many commands require administrator-level access privileges. See the CLI Reference Guide on the documentation CD for a list of all commands and additional information using the CLI.

Telnet Management Users may also access the switch CLI by using PC's Command Prompt. To access it from your computer, users must first ensure that a valid connection is made through the Ethernet port of the Switch and your PC, and then click Start > Programs > Accessories > Command Prompt on your computer. Once the console window opens, enter the command telnet 10.90.90.90 (depending on configured IP address) and press Enter on your keyboard. You should be directed to the opening console screen for the CLI of the switch, press the Enter key at the password prompts. There is no default password for the Switch.

SNMP-Based Management

You can manage the Switch with D-Link D-View or any SNMP-compatible console program. The SNMP function is disabled by default for D-Link managed switches.

Additional Information

If you are encountering problems setting up your network, please refer to the User's Guide that comes with the switch. It contains many more rules, charts, explanations and examples to help you get your network up and running.

Правила и условия безопасной эксплуатации

Внимательно прочитайте данный раздел перед установкой и подключением устройства. Убедитесь, что устройство и кабели не имеют механических повреждений. Устройство должно быть использовано только по назначению, в соответствии с руководством по установке.
Устройство предназначено для эксплуатации в сухом, чистом, незапыленном и хорошо проветриваемом помещении с нормальной влажностью, в стороне от мощных источников тепла. Не используйте его на улице и в местах с повышенной влажностью. Не размещайте на устройстве посторонние предметы. Вентиляционные отверстия устройства должны быть открыты. Температура окружающей среды в непосредственной близости от устройства и внутри его корпуса должна быть в пределах от 0 до +50 °C.
Электропитание должно соответствовать параметрам электропитания, указанным в технических характеристиках устройства. Для подключения необходима установка легкодоступной розетки вблизи оборудования.
Не вскрывайте корпус устройства! Перед очисткой устройства от загрязнений и пыли отключите питание устройства. Удаляйте пыль с помощью влажной салфетки. Не используйте жидкие/аэрозольные очистители или магнитные/статические устройства для очистки. Избегайте попадания влаги в устройство.
Устройство должно быть заземлено, если это предусмотрено конструкцией корпуса или вилки на кабеле питания. Для подключения необходима установка легкодоступной розетки вблизи оборудования.

Срок службы устройства – 5 лет.

Гарантийный период исчисляется с момента приобретения устройства у официального дилера на территории России и стран СНГ и составляет один год.
Вне зависимости от даты продажи гарантийный срок не может превышать 2 года с даты производства изделия, которая определяется по 6 (год) и 7 (месяц) цифрам серийного номера, указанного на наклейке с техническими данными.
Год: 9 - 2009, A - 2010, B - 2011, C - 2012, D - 2013, E - 2014, F - 2015, G - 2016, H - 2017, I - 2018.
Месяц: 1 - январь, 2 - февраль, ..., 9 - сентябрь, A - октябрь, B - ноябрь, C - декабрь.

При обнаружении неисправности устройства обратитесь в сервисный центр или группу технической поддержки D-Link.

О данном руководстве

Данное руководство содержит пошаговые инструкции по установке коммутаторов на основе шасси DGS-6600. Приобретенная модель может незначительно отличаться от изображенной на иллюстрациях.

Данное руководство предназначено для пользователей, имеющих опыт установки и технического обслуживания сетевого оборудования.

Обзор устройства

Коммутаторы на основе шасси серии DGS-6600 представляют собой интеллектуальные, высокопроизводительные и многоуровневые устройства, предназначенные для локальных и региональных сетей. Данная серия коммутаторов является идеальным решением в ситуациях, когда необходима непрерывная работа сетевых приложений и высокий уровень производительности, безопасности и управления.

Благодаря гибкой модульной архитектуре и соответствию промышленным стандартам, эти коммутаторы позволяют легко осуществить масштабирование сети, являясь, таким образом, выгодной инвестицией для предприятий.

Шасси DGS-6604 оснащено 4 слотами расширения, включая 1 слот для установки управляющего модуля.

Предупреждения

Защита источника питания

Заземлите устройство перед включением питания. Убедитесь, что все кабели заземлены надлежащим образом.

Защита от статического электричества

Всегда надевайте антистатический браслет, когда контактируете с шасси.

Безопасность при работе с лазером

УСТРОЙСТВО С ЛАЗЕРОМ КЛАССА 1

Не смотрите напрямую в оптический разъем, так как лазерное излучение представляет опасность для органов зрения.

Безопасность при работе с вентилятором

Механизм вентилятора представляет опасность. На касайтесь области возле вентилятора.

Безопасность при транспортировке

Общий вес устройства и компонентов может составлять более 27 кг. Будьте осторожны при установке или извлечении компонентов.

Техническое обслуживание

Техническое обслуживание следует проводить только квалифицированному специалисту.

Подготовка к установке

Для обеспечения нормальной работы и увеличения срока службы шасси DGS-6604 в комнате с оборудованием должны поддерживаться соответствующие температура и влажность.

Если температура и влажность в комнате с оборудованием не соответствуют требованиям, оборудование может быть повреждено.

Рабочая температура	Влажность при эксплуатации
0ºC-50ºC	10%-90% без конденсата

Таблица 1. Требования к температуре и влажности

Примечания:

1. Температура и влажность окружающего воздуха должны измеряться в точке, расположенной в 1,5 м от пола и в 0,4 м напротив оборудования, когда спереди или сзади стойки с оборудованием отсутствует защитная панель.

2. Краткосрочные условия эксплуатации применяются там, где непрерывный период работы не превышает 48 часов и общий период в течение года не превышает 15 дней.

Защита от статического электричества

Для предотвращения повреждения оборудования статическим электричеством следуйте следующим инструкциям:

1. Обеспечьте надлежащее заземление для всего электронного оборудования.
2. Примите предохранительные меры против пыли.
3. Поддерживайте требуемую влажность в рабочей среде.
4. Всегда надевайте антистатический браслет при работе с электронными схемами.
5. Держите плату за ее края. Не касайтесь каких-либо компонентов на плате.
6. Не касайтесь платы одеждой. Антистатический браслет может предотвратить возникновение статического электричества на теле человека, но не может устранить статическое электричество с одежды.

Перемещение устройства

Шасси серии DGS-6600 обладает значительным весом. При работе с шасси следуйте следующим инструкциям:

- Не перемещайте оборудование часто.
- Если вес шасси кажется неподъемным, не пытайтесь поднять оборудование в одиночку.
- Поднимайте и перемещайте шасси, используя ручки, расположенные на верхней панели.
- Перед перемещением оборудования выключите все источники питания и отключите все кабели питания.
- Перед перемещением шасси полностью ослабьте винты и потяните рычаги, чтобы извлечь из шасси все платы, вентиляторный модуль и модули питания.

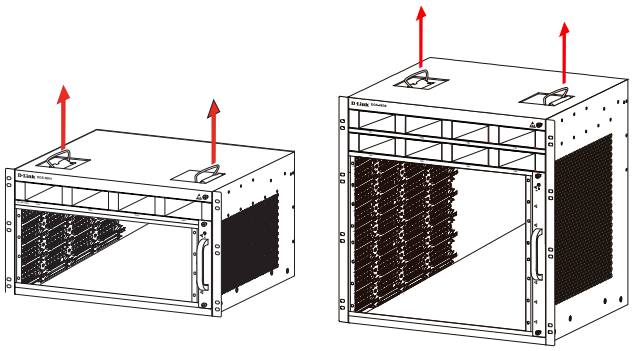


Рисунок 1. Правильное перемещение шасси серии DGS-6600.

Не перемещайте оборудование, ухватившись за панели, ручки источника питания или вентиляционные отверстия.