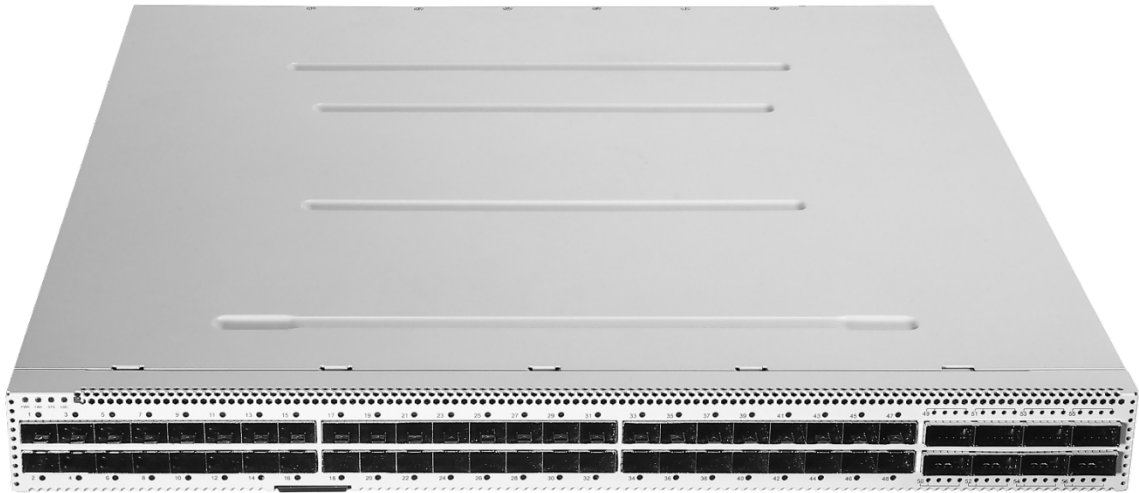




Hardware Installation Guide

Micro Data Center Switch

DQS-5000-56ZS

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Safety Compliance

Networks pluggable optical modules should meet the following regulatory requirements:

Les modules optiques enfichables des réseaux doivent répondre aux exigences réglementaires suivantes:

Product shall be used with Class 1 laser device modules certified by CDRH.

Le produit peut être utilisé avec des modules de dispositifs laser de classe 1 certifiés par le CDRH.

- EN: When using a fiber optic media expansion module, never look at the transmit laser while it is powered on. Also, never look directly at the fiber TX port and fiber cable ends when they are powered on.
- FR: Ne regardez jamais le laser tant qu'il est sous tension. Ne regardez jamais directement le port TX (Transmission) à fibres optiques et les embouts de câbles à fibres optiques tant qu'ils sont sous tension.

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

Warning: Class 1 Laser Product:

- Class 1.
- IEC/EN60825-1:2014 +A11:2021 2nd Edition or later, European Standard
- FCC 21 CFR Chapter 1, Subchapter J in accordance with FDA and CDRH requirements.
- Application of CE Mark in accordance with 2014/30/EU EMC Directive and the 2014/35/EC Low Voltage Directives.
- UL and/or CSA registered component for North America.
- 47 CFR Part 15, Class A when installed into products.

Conformité réglementaire SFP (Mini-GBIC), XENPAK et XFP

Avertissement : Produit laser de classe 1 :

- Classe 1.
- Norme européenne IEC/EN60825-1:2014 +A11:2021 2e édition ou ultérieure
- FCC 21 CFR Chapitre 1, Sous-chapitre J, conformément aux exigences de la FDA et du CDRH.
- Application du marquage CE conformément à la directive CEM 2014/30/UE et aux directives Basse tension 2014/35/CE.
- Composant homologué UL et/ou CSA pour l'Amérique du Nord.
- 47 CFR Partie 15, Classe A pour une installation dans des produits.

Warning

Class I Equipment. This equipment must be earthed. The power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts.

Avertissement

Équipement de classe I. Ce matériel doit être relié à la terre. La fiche d'alimentation doit être raccordée à une prise de terre correctement câblée. Une prise de courant mal câblée pourrait induire des tensions dangereuses sur des parties métalliques accessibles.

The machine can only be used in a restricted access location and has installation instructions by a skilled person.

Les matériels sont destinés à être installés dans des EMPLACEMENTS À ACCÈS RESTREINT.

Products shall be used with Class 1 laser device modules certified by CDRH.

Le produit peut être utilisé avec des modules de dispositifs laser de classe 1 certifiés par le CDRH.

62368-1 Clause equipment for installation:

"Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75."

Équipement conforme à la clause 62368-1 pour l'installation:

« Convient pour une installation dans les salles informatiques conformément à l'article 645 du National Electrical Code et à la norme NFPA 75 ».

The device can only be used in a fixed location such as a lab or a machine room. When you install the device, ensure that the protective earthing connection of the socket-outlet is verified by a skilled person.

L'appareil ne peut être utilisé que dans un lieu fixe, tel qu'un laboratoire ou une salle des machines. Lors de l'installation, assurez-vous que la mise à la terre de la prise de courant est vérifiée par une personne qualifiée.

Lithium battery Caution:

There is a danger of explosion if the battery is incorrectly replaced.

Replace only with same or equivalent type of battery.

Dispose of the batteries according to the instructions of the manufacturer.

To reduce potential safety issues, only the AC adapter purchased as an accessory from "D-Link", or "agency" should be used with the product for further information.

Pour réduire les problèmes de sécurité potentiels, seul l'adaptateur secteur acheté comme accessoire chez « D-Link », ou « agency », doit être utilisé avec le produit pour plus d'informations.

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Intended Readers

The **DQS-5000-56ZS 48 ports 25G SFP28 with 8 ports 100G QSFP28 Hardware Installation Guide** contains detailed information about the hardware specifications. It also contains brief information on how to configure and manage a switch. This manual is intended for advanced level users that are familiar with network management concepts and terminology. For all practical reasons, the **DQS-5000-56ZS** will simply be referred to as the **switch** throughout this manual.

Typographical Conventions

Convention	Description
[]	This convention is generally used in CLI commands. Square brackets indicate an optional entry. For example: [copy paste] means that optionally you can type copy or you can type paste. Do not type the brackets.
Bold Font	This font is generally used to put emphasis on a key subject in a sentence throughout this manual. This font is also used to represent the physical CLI command used when explaining a topic.
Courier New Font	This font is used to indicate CLI command examples used in this document.
Initial capital letter	The use of initial capital letters indicates that a referral to a specific name was made. This will be seen a lot when referring to protocols, standards, and keyboard keys. For example: Press Enter.
Menu Name > Menu Option	This convention indicates the referral to a menu structure found in the Web User Interface of this Switch. For example: Device > Port > Port Properties means the Port Properties menu option under the Port menu option that is located under the Device menu.

Notes, Notices, and Cautions



NOTE: A note indicates important information that helps you make better use of your device.



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



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

Safety Instructions

Please pay careful attention to the following safety guidelines to ensure your own personal safety and to help protect your system from potential damage.

Consignes de sécurité

Veuillez prêter une attention particulière aux consignes de sécurité suivantes pour assurer votre sécurité personnelle et protéger votre système contre d'éventuels dommages.

Safety Precautions

To greatly reduce the risk of physical injury, electrical shock, fire, and damage to equipment, observe the following precautions.

Précautions de sécurité

Pour réduire considérablement les risques de blessures corporelles, de choc électrique, d'incendie et de dommages matériels, respectez les précautions suivantes.

Observe and follow service markings:

- Do not attempt to service any product, except when it is explained in the system's documentation.
- Opening or removing covers that are marked with a high voltage sign or with this () symbol may expose the user to electrical shock.
- Only a trained service technician should service components inside these compartments.

Respectez et suivez les consignes de maintenance :

- N'essayez pas de réparer un produit, sauf si cela est expliqué dans la documentation du système.
- L'ouverture ou le retrait des capots marqués d'un symbole haute tension ou de ce symbole () peut exposer l'utilisateur à un choc électrique..
- Seul un technicien qualifié est autorisé à entretenir les composants situés à l'intérieur de ces compartiments.

Si l'une des conditions suivantes se produit, contactez votre fournisseur de services qualifié ou débranchez le produit de la prise électrique et remplacez la pièce:

- Câble d'alimentation, rallonge ou prise endommagés.
- Un objet est tombé dans le produit.
- Le produit a été exposé à l'eau.
- Le produit est tombé ou a été endommagé.
- Le produit ne fonctionne pas correctement même si les instructions d'utilisation sont correctement suivies.

If any of the following conditions occur, contact your trained service provider or unplug the product from the electrical outlet and replace the part:

- 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.

Si l'une des conditions suivantes se produit, contactez votre prestataire de services qualifié ou débranchez le produit de la prise électrique et remplacez la pièce:

- Câble d'alimentation, rallonge ou prise endommagés.
- Un objet est tombé dans le produit.
- Le produit a été exposé à l'eau.
- Le produit est tombé ou a été endommagé.
- Le produit ne fonctionne pas correctement même si les instructions d'utilisation sont correctement suivies.

General safety cautions:

- Keep the system away from radiators and other heat sources. Also, do not block cooling vents.
- Do not spill food or liquids on system components and never operate the product in a wet environment. If the system gets wet, contact your trained service provider.
- Do not push any objects into the openings of the system. Doing so can cause fire or electric shock by shorting out interior components.
- Only use this product with approved equipment.
- Allow the product to cool before removing the cover or touching its internal components.
- Operate the product only with 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.
- Make 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.
- Be aware of the extension cable and power strip ratings. Make sure that the total ampere rating of all products plugged into the extension cable or power strip does not exceed 80 percent of the ampere ratings limit for the extension cable or power strip.
- To help protect the system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).
- Position system cables and power cables carefully so that they cannot be stepped on or tripped over. Be sure that nothing rests on any cables.
- Do not modify power cables or plugs. Consult a licensed electrician or your power company for site modifications. Always follow your local or national wiring rules.

Consignes de sécurité générales:

- Éloignez le système des radiateurs et autres sources de chaleur. N'obstruez pas les grilles d'aération.
- Ne renversez pas d'aliments ni de liquides sur les composants du système et n'utilisez jamais le produit dans un environnement humide. Si le système est mouillé, contactez votre prestataire de services qualifié.
- N'introduisez aucun objet dans les ouvertures du système. Cela pourrait provoquer un incendie ou une électrocution en court-circuitant les composants internes.
- Utilisez ce produit uniquement avec un équipement approuvé.
- Laissez le produit refroidir avant de retirer le couvercle ou de toucher ses composants internes.
- Utilisez le produit uniquement avec le type de source d'alimentation externe indiqué sur l'étiquette des caractéristiques électriques. En cas de doute sur le type de source d'alimentation requise, consultez votre fournisseur de services ou votre compagnie d'électricité locale.
- Assurez-vous que les appareils connectés sont adaptés à la puissance disponible dans votre région.
- Utilisez uniquement des câbles d'alimentation approuvés. Si vous n'avez pas reçu de câble d'alimentation pour votre système ou pour toute option d'alimentation secteur prévue pour votre système, achetez un câble d'alimentation homologué pour votre pays. Le câble d'alimentation doit être adapté au produit et à la tension et au courant indiqués sur l'étiquette des caractéristiques électriques du produit. La tension et le courant nominaux du câble doivent être supérieurs à ceux indiqués sur le produit.
- Pour éviter tout risque d'électrocution, branchez les câbles d'alimentation du système et des périphériques sur des prises électriques correctement mises à la terre. Ces câbles sont équipés de fiches à trois broches pour garantir une mise à la terre correcte. N'utilisez pas d'adaptateur et ne retirez pas la broche de terre d'un câble. Si l'utilisation d'une rallonge est nécessaire, utilisez un câble à trois fils avec des fiches correctement mises à la terre.
- Tenez compte des caractéristiques nominales des rallonges et des multiprises. Assurez-vous que l'ampérage total de tous les appareils branchés sur la rallonge ou la multiprise ne dépasse pas 80 % de la limite d'ampérage nominale de la rallonge ou de la multiprise.
- Pour protéger le système contre les variations soudaines et transitoires de tension, utilisez un parasurtenseur, un stabilisateur de tension ou un onduleur (UPS).
- Positionnez soigneusement les câbles système et les câbles d'alimentation afin d'éviter tout risque de piétinement. Assurez-vous que rien ne repose sur les câbles.
- Ne modifiez pas les câbles d'alimentation ni les prises. Consultez un électricien agréé ou votre compagnie d'électricité pour toute modification du site. Respectez toujours les réglementations locales ou nationales en matière de câblage.

When connecting or disconnecting power to and from hot-pluggable power supplies, observe the following guidelines:

- Install the power supply before connecting the power cable to the power supply.
- Unplug the power cable before removing the power supply.
- If the system has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supplies.
- Move products with care and ensure that all casters and stabilizers are firmly connected to the system. Avoid sudden stops and uneven surfaces.

Lors de la connexion ou de la déconnexion de l'alimentation vers et depuis des blocs d'alimentation enfichables à chaud, respectez les consignes suivantes:

- Installez le bloc d'alimentation avant de connecter le câble d'alimentation.
- Débranchez le câble d'alimentation avant de retirer le bloc d'alimentation.
- Si le système dispose de plusieurs sources d'alimentation, débranchez tous les câbles d'alimentation des blocs d'alimentation.
- Déplacez les produits avec précaution et assurez-vous que toutes les roulettes et tous les stabilisateurs sont solidement fixés au système. Évitez les arrêts brusques et les surfaces irrégulières.

To help avoid damage to the system, be sure that the voltage selection switch on the power supply is set to match the power available at the switch's location:

- 115 V / 60 Hz is used mostly in North and South America as well as Far Eastern countries like as South Korea and Taiwan
- 100 V / 50 Hz is used mostly in Eastern Japan and 100 V / 60 Hz in Western Japan
- 230 V / 50 Hz is used mostly in Europe, the Middle East, Africa and the Far East

Pour éviter d'endommager le système, assurez-vous que le sélecteur de tension du bloc d'alimentation est réglé sur la tension disponible à l'emplacement du commutateur:

- 115 V / 60 Hz est principalement utilisé en Amérique du Nord et du Sud, ainsi que dans les pays d'Extrême-Orient comme la Corée du Sud et Taïwan
- 100 V / 50 Hz est principalement utilisé dans l'est du Japon et 100 V / 60 Hz dans l'ouest du Japon
- 230 V / 50 Hz est principalement utilisé en Europe, au Moyen-Orient, en Afrique et en Extrême-Orient



CAUTION: Using an incorrect or unsupported battery type with the switch may cause battery explosion. Only use batteries compatible with the switch.

ATTENTION: Risque d'explosion si la batterie est remplacée par un type incorrect. Jetez les piles usagées selon les instructions.

注意: 如果更換不正確之電池型式會有爆炸的風險。請依製造商說明書處理用過之電池。



CAUTION: Class 1 Laser Product

This product contains a Class 1 laser device and complies with IEC 60825-1 and FDA 21 CFR 1040.10 requirements.

Use of controls, adjustments, or procedures other than those specified herein may result in hazardous radiation exposure.

This product is intended to be used with a UL Listed Optical Transceiver product, rated DC 3.3V, Laser Class I.

Avoid direct eye exposure to the laser beam. Do not view the laser output with optical instruments such as magnifiers, microscopes, or fiber inspection scopes without proper eye protection.



ATTENTION: Ce produit contient un dispositif laser de classe 1 et est conforme aux exigences de la norme CEI 60825-1 et de la FDA 21 CFR 1040.10.

L'utilisation de commandes, de réglages ou de procédures autres que ceux spécifiés dans le présent document peut entraîner une exposition dangereuse aux rayonnements.

Ce produit est destiné à être utilisé avec un produit émetteur-récepteur optique répertorié UL, évalué à 3,3 V DC, classe laser I.

Évitez toute exposition directe des yeux au faisceau laser. Ne regardez pas la sortie laser avec des instruments optiques tels que des loupes, des microscopes ou des outils d'inspection de fibre sans protection oculaire appropriée.

General Precautions for Rack-Mountable Products

Please pay careful attention to the following precautions concerning rack stability and safety. Systems are considered to be components in a rack. Thus, a component refers to any system, as well as to various peripherals or supporting hardware:

Précautions générales pour les produits montable en rack

Veuillez prêter une attention particulière aux précautions suivantes concernant la stabilité et la sécurité du rack. Les systèmes sont considérés comme des composants d'un rack. Ainsi, un composant désigne tout système, ainsi que divers périphériques ou matériels de support:



CAUTION: Always install the stabilizers before installing components in the rack. 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. After installing systems in a rack, never pull more than one system 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.



CAUTION: Installez toujours les stabilisateurs avant d'installer les composants dans le rack. L'installation de systèmes dans un rack sans les stabilisateurs avant et latéraux pourrait provoquer le basculement du rack, ce qui pourrait entraîner des blessures corporelles dans certaines circonstances. Après l'installation de systèmes dans un rack, ne retirez jamais plus d'un système à la fois par ses glissières. Le poids de plusieurs composants déployés pourrait faire basculer le rack et entraîner des blessures graves.

- 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.
- Avant d'intervenir sur le rack, assurez-vous que les stabilisateurs sont bien fixés au rack, déployés jusqu'au sol et que tout le poids du rack repose sur le sol. Installez les stabilisateurs avant et latéraux sur un seul rack, ou les stabilisateurs avant pour plusieurs racks assemblés, avant toute intervention.
- Chargez toujours le rack de bas en haut, en commençant par l'élément le plus lourd.
- Assurez-vous que le rack est de niveau et stable avant d'en sortir un composant.
- Soyez prudent lorsque vous appuyez sur les loquets de déverrouillage des rails de composants et que vous faites glisser un composant dans ou hors du rack ; les rails coulissants peuvent vous pincer les doigts.
- Une fois un composant inséré dans le rack, déployez délicatement le rail en position de verrouillage, puis glissez le composant dans le rack.
- Ne surchargez pas le circuit d'alimentation CA qui alimente le rack. La charge totale du rack ne doit pas dépasser 80 % de la puissance nominale du circuit de dérivation.
- Assurez-vous que les composants du rack sont correctement aérés. Ne marchez pas et ne vous tenez pas debout sur un composant lors de l'entretien d'autres composants dans un rack.



CAUTION: Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if uncertain that suitable grounding is available.

ATTENTION : Ne jamais déconnecter le conducteur de terre et ne jamais utiliser l'équipement sans un conducteur de terre correctement installé. En cas de doute sur la disponibilité d'une mise à la terre adéquate, contacter l'autorité compétente en matière d'inspection électrique ou un électricien.



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.

ATTENTION : Le châssis du système doit être relié à la masse positive du bâti de l'armoire. Ne tentez pas de connecter l'alimentation au système tant que les câbles de mise à la terre ne sont pas connectés. Le câblage d'alimentation et de mise à la terre de sécurité doit être inspecté par un inspecteur électricien qualifié. L'omission ou la déconnexion du câble de mise à la terre de sécurité présente un risque énergétique.

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.

Protection contre les décharges électrostatiques

L'électricité statique peut endommager les composants fragiles du système. Pour éviter tout dommage dû à l'électricité statique, déchargez-la avant de toucher les composants électroniques, comme le microprocesseur. Pour ce faire, touchez régulièrement une surface métallique non peinte du châssis.

The following steps can also be taken to prevent damage from electrostatic discharge (ESD):

- When unpacking a static-sensitive component from its shipping carton, do not remove the component from the antistatic packing material until ready to install the component in the system. Just before unwrapping the antistatic packaging, be sure to discharge static electricity from your body.
- When transporting a sensitive component, first place it in an antistatic container or packaging.
- Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads, workbench pads and an antistatic grounding strap.

Les mesures suivantes peuvent également être prises pour éviter les dommages causés par les décharges électrostatiques (ESD) :

- Lorsque vous déballez un composant sensible à l'électricité statique de son carton d'expédition, ne le retirez de son emballage antistatique qu'au moment de l'installer dans le système. Juste avant de déballer l'emballage antistatique, veillez à décharger votre corps de l'électricité statique.
- Lors du transport d'un composant sensible, placez-le d'abord dans un conteneur ou un emballage antistatique.
- Manipulez tous les composants sensibles dans une zone protégée contre l'électricité statique. Si possible, utilisez des patins antistatiques pour sol, des patins d'établi et une sangle de mise à la terre antistatique..

Introduction

Switch Description

Package Contents

Front Panel

Rear Panel

Side Panel

Switch Description

The DQS-5000-56ZS Micro Data Center Switches are a high-performance switches that feature high port density, routing, and ultra-low latency, designed to be deployed as Top-of-Rack (ToR), End-of-Row (EoR), or Leaf-Spine switches in data center applications. Combined with ONIE support and increased cost-efficiency, the DQS-5000-56ZS is a flexible long-term solution for managing and expanding data center infrastructures in modern high-performance networking environment.

DQS-5000-56ZS is a fixed form factor top of rack switch product for fiber connections to 25G servers and 100G uplinks to 100G switching fabric in the core. DQS-5000-56ZS is a multi-rate (10/25/40/50/100GE) switching product with 10/25G links for server connections and 40/50/100G links and uplinks to aggregation and core switches. This product will be to support forty-eight 25GbE SFP28 ports and eight 100GbE QSFP28 ports. All SFP28 ports shall support 10GbE/25GbE and all QSFP28 ports shall support 40GbE/100GbE under no-breakout mode and 10GbE/25GbE under breakout mode.

DQS-5000-56ZS shall have a x86 CPU complex board that can support default one memory channels with 8GB DDR4 SO-DIMM module and optional two memory channels with two 8GB DDR4 SO-DIMM modules, default one 16GB eMMC flash as storage and one M.2 SSD module for optional. A 2KB EEPROM on the main board is provided to store system information, such as Serial Number, Part Number, and MAC address. DQS-5000-56ZS also consists of one RJ45 Serial connection port as system console port, one 10/100/1000 Base-T Ethernet port used as management port and one USB type A port for the external mass storage. Due to the spacing limitation on the front panel, the management/console/USB ports shall be located on the rear panel.

The DQS-5000-56ZS hardware contains a CPU complex board and a main switching fabric board with forty-eight 25GbE SFP28 ports and eight 100GbE QSFP28 ports on the front panel. On the rear panel there is one USB type-A management IO, two RJ45 management I/Os (One for OOBM and the other one for the conssole port), two hot-swappable power supplies, five hot-swappable fan trays.

Package Contents

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

- One DQS-5000-56ZS Series switch
- Two preinstalled AC or DC power supply modules
- Two AC power cords (if purchased with AC power supplies)
- Five preinstalled fan modules
- One RS-232 to RJ-45 console cable
- One rack-mounting kit (two brackets and screws)

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

Front Panel

The front panel of the switch consists of 8 x QSFP28, 48 x SFP28 ports, LED indicators for each ports, and an Asset Tracking Label.

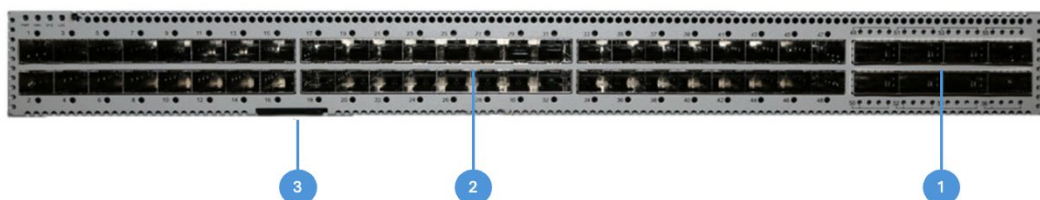


Figure 1-1 Front panel view of the DQS-5000-56ZS

#	Port	Description
1	100G QSFP28 Ports (40/100 Gbps)	This switch is equipped with 8 SFP28 optic access ports that can operate at 40 and 100 Gbps.
2	25G SFP28 Ports (10/25 Gbps)	This switch is equipped with 48 SFP28 optic access ports that can operate at 10 and 25 Gbps.
3	Asset Tracking Label	Asset Tracking Label stick.

LED Indicators

Located on the front panel of DQS-5000-56ZS switch are the following LED indicators: PWR, FAN, SYS, LOC and BMC (The BMC function is reserved; this universal model does not support it).

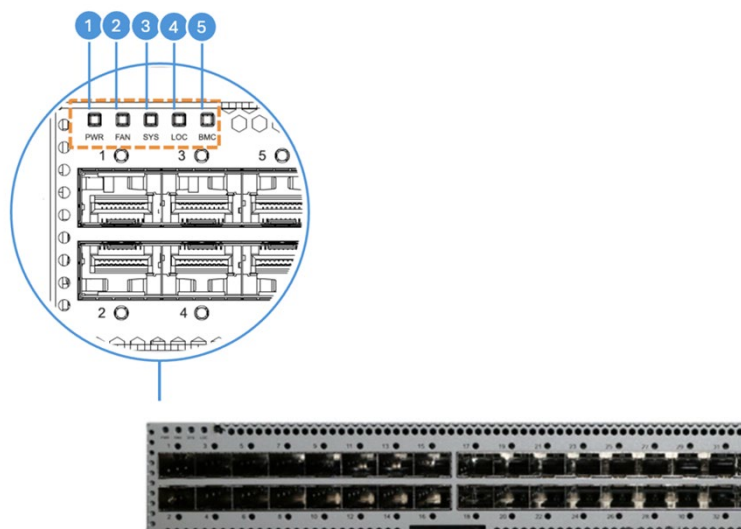


Figure 1-2 LED indicators for the DQS-5000-56ZS switch

#	LED	Description
1	PWR	Solid Green All PSU are working on normal.
		Solid Amber Any PSU over voltage, over current, over temperature.
		Off Power Off and no power attached.
2	FAN	Solid Green All fans are working on normal.
		Solid Amber Any fan tray fault.
		Off No power.
3	SYS	Solid Green System is on & ready.
		Blinking Green Booting.
		Solid Amber When detect HW failed.
		Off No power.
4	LOC	Blinking Blue Use the locate switch command to blink "Locator" LED for 20 seconds on the switch unit.
		Off No power or locator function is disabled.
5	BMC (optional)	Solid green The BMC function is reserved; this universal model does not support it.

- The DUT SYS LED will display amber when system-health summary display routecheck fail.
- The BMC (Baseboard Management Controller) is not included in the shipping units. As a result, the BMC LED is non- functional.

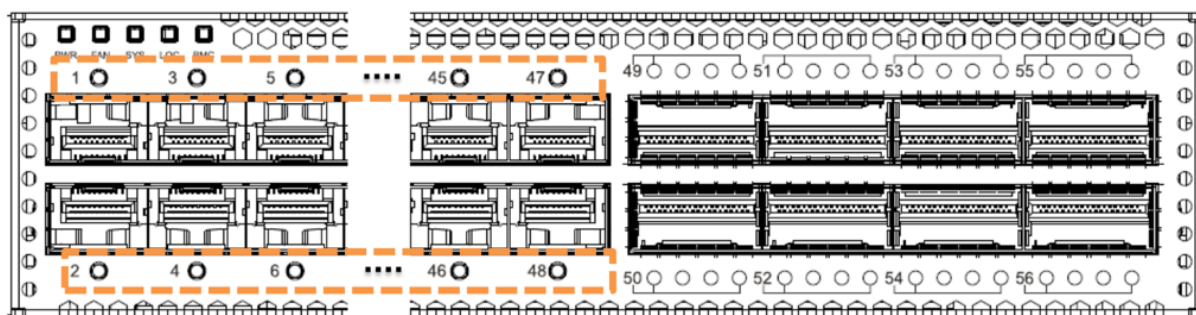


Figure 1-3 SFP28 LED indicators for the DQS-5000-56ZS switch

Connect DAC cables to the SFP28 ports; or first install SFP28 transceivers in the ports then connect fiber optic cables to the transceivers. After connections are made, check the SFP28 port status LEDs to be sure the links are valid.

#	LED	LED Status	Description
1	25G SFP28 Link/Act/Speed	Solid Green	When there is a secure 25Gbps connection at the port.
		Blink Green	When there is reception or transmission occurring at the port.
		Solid Amber	When there is a secure 10Gbps connection at the port.
		Blink Amber	When there is reception or transmission occurring at the port.
		Light Off	No link.

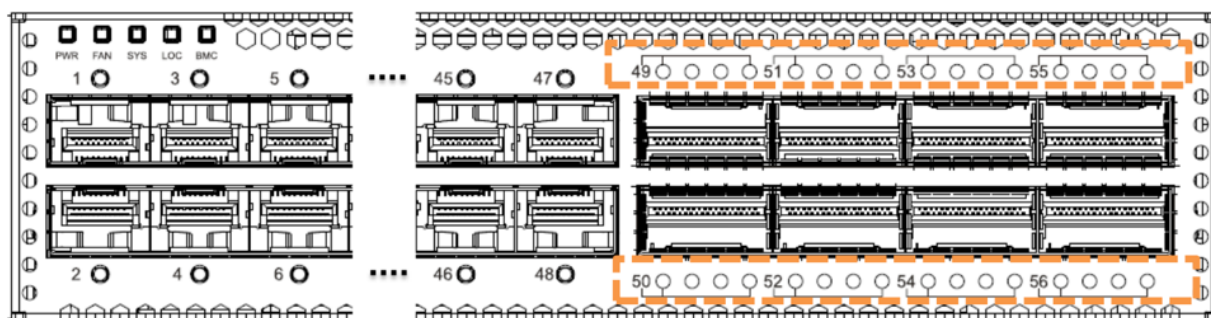
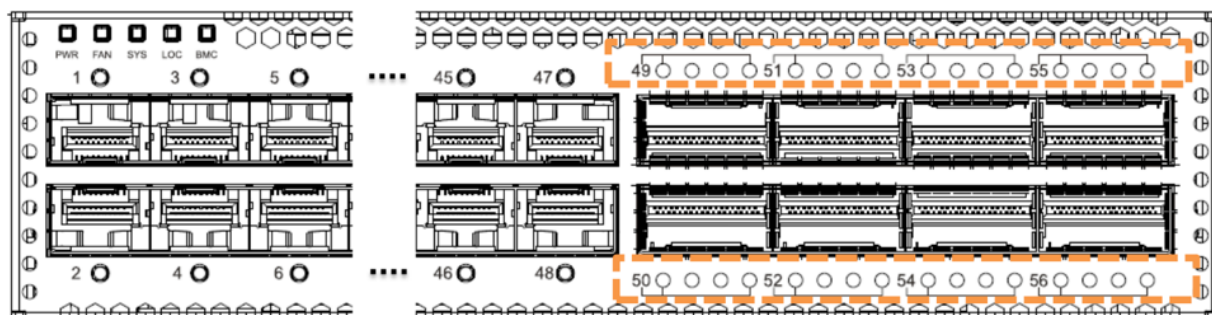


Figure 1-4 QSFP28 LED indicators for the DQS-5000-56ZS switch

After connections are made, check the QSFP28 port status LEDs to be sure the links are valid. Each QSFP28 has four LEDs to indicate valid links in one of the following modes:



- | | |
|---------------------|-----------------------------|
| 1st LED Green | — 100 Gbps mode |
| 1st & 3rd LED Green | — 50 Gbps mode (two lanes) |
| 1st LED Orange | — 40 Gbps mode |
| 1st -4th LED Green | — 25 Gbps mode (four lanes) |
| 1st -4th LED Orange | — 10 Gbps mode (four lanes) |

#	LED	LED Status	Description
1	25G SFP28 Link/Act/Speed	Solid Green on the P1	When there is a secure 100Gbps connection at the port.
		Blink Green on the P1	When there is reception or transmission occurring on the port at a 100Gbps link state.
		Solid Green light on the P1 & P3 LEDs	When there is a secure 50Gbps connection at the port.
		Blinking Green on the P1 & P3 LEDs	When there is reception or transmission occurring on the port at a 50Gbps link state.
		Light Off	No link.
		Solid Amber light on the P1 LED	When there is a secure 10Gbps or 40Gbps connection at the port.
		Blinking Amber on the P1 LED	When there is reception or transmission occurring on the port at a 10Gbps or 40Gbps link state.
		Solid Green light on the P1-P4 LEDs	When there is a secure 25Gbps connection at the port. (four lanes)
		Blinking Green on the P1 LED	When there is reception or transmission occurring on the port at a 25Gbps link state (four lanes).
		Light Off	No link.

Rear Panel

Located on the rear panel of the DQS-5000-56ZS switch are **two power supply** module slots and **five fan module slots**. Two power supply modules and five fan modules are included in the package for this switch. This switch also supports the use of a DC power supply module.

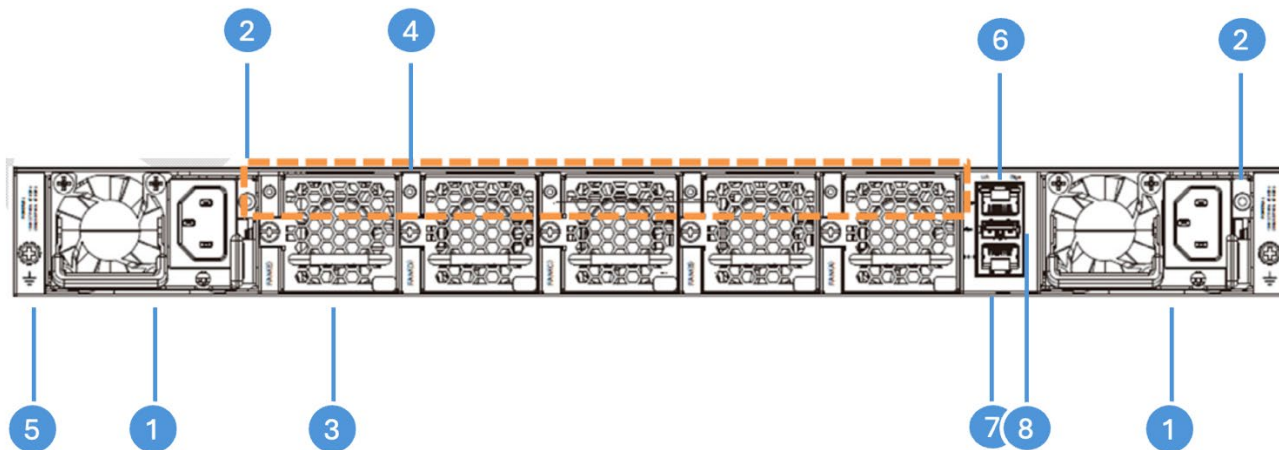


Figure 1-3 Rear panel view of the DQS-5000-56ZS switch

#	Item	Description	
1	Power Supply Slot 1/2	The base model comes equipped with two AC power supply units (PSUs) by default. To configure a 1 AC + 1 DC PSU combination, a DC PSU must be purchased separately. The power supply slots support flexible configurations, including 2 AC modules, 2 DC modules, or a mix of 1 AC and 1 DC, enabling load sharing and redundancy. Note: The DC PSU module is not currently available but can be added to the supported list based on demand.	
2	PSU Status LED	Solid Green	All PSUs are working normally.
		Solid Amber	Any PSU is in over voltage, over current, over temperature, or any other failure condition.
		Light Off	Power off and no power attached.
3	Fan Module Slots (x 5)	These slots are equipped with a Smart fan module.	
4	Fan Status LED (x5)	Solid Green	A specific fan unit is operating and operating properly.
		Solid Amber	A specific fan unit is missing or abnormal.
		Light Off	No power.
5	Grounding Node	Node for grounding the switch to a grounding source.	
6	OOB Management 1G port	Link / Act (Left LED) Solid Green: the link is detected Blink Green: when there is reception or transmission occurring at the port. Light Off: No link is detected Speed (Right LED) Solid Green: when there is a secure 1Gbps connection at the port.	
7	Console Port	RJ-45 console port for accessing the command line interface (CLI) of this switch for configuration, management, and monitoring.	
8	USB 2.0 Type A Port	USB 2.0 port for connecting a USB storage device.	

Power Supply Modules

The DQS-5000-56ZS switch ship with two AC power supply units preinstalled. When the primary power connection fails, the secondary power connection will take over all the power immediately and automatically. The primary and secondary power supply allows for dual redundancy.

The power supply modules are hot-swappable, they can be inserted and removed while the switch is powered on. This feature offers load-sharing and enhances the reliability and capacity of this switch. However, in the event that a power failure might occur, and no UPS is used, as a precaution, unplug the power cord from the switch. After the power has returned, you can plug the power cord back into the switch's power connector.

Fan Modules

The fan modules on this switch can provide front-to-back or back-to-front airflow depending on the type of fan module installed. Another unique smart fan feature is that fans are capable of automatically adjusting their speed depending on the IC sensor reading of the temperature required.

Side Panel

Located on the side panels of the switch are screw openings for attaching mounting brackets to the switch. Allowing the switches to be installed in a standard 19" (1U) rack.

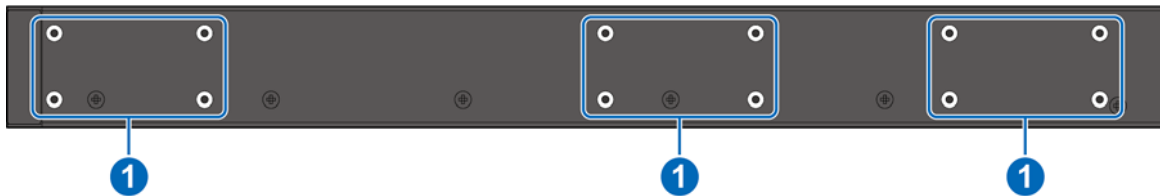


Figure 1-4 Side panels of the DQS-5000-56ZS switch

#	Item	Description
1	Mounting Holes	Mounting holes for attaching rack mounting brackets.

Installation

Installation Guidelines

Installing the Switch into a Rack

Installing Transceivers into the Transceiver Ports

Installing Power Modules into the Power Module Slots

Installing Fan Modules into the Fan Module Slots

Installation Guidelines

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

- Visually inspect the power cord and see that it is fully secured to both the power connector, the switch, and the electrical outlet that will be supplying the power.
- Install the switch in a cool and dry place within 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.

Installing the Switch into a Rack

The switch can be mounted in a standard 19" (1U) rack using the provided mounting brackets. Use the following diagrams as a guide.



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

1. Fasten the mounting brackets to the sides of the switch using the screws provided.

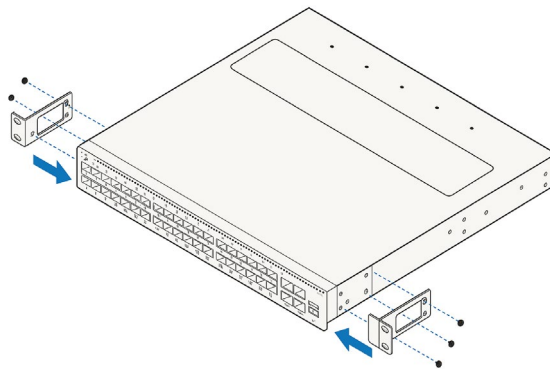


Figure 2-1 Fasten mounting brackets on the switch

2. Slide the switch into the rack.
3. Fasten mounting bracket to the rack using the screws provided.

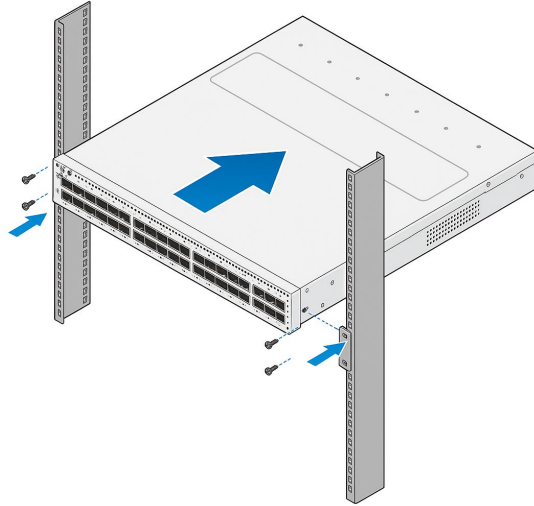


Figure 2-2 Installing the switch in a rack

Installing Transceivers into the Transceiver Ports

The DQS-5000-56ZS supports a combination of Small Form-Factor pluggable (SFP+) and Quad-Small Form-Factor pluggable (QSFP) ports, including SFP+, SFP28, QSFP+, and QSFP28 transceivers. For a complete list of transceivers compatible with this switch, refer to Appendix A: Technical Specifications

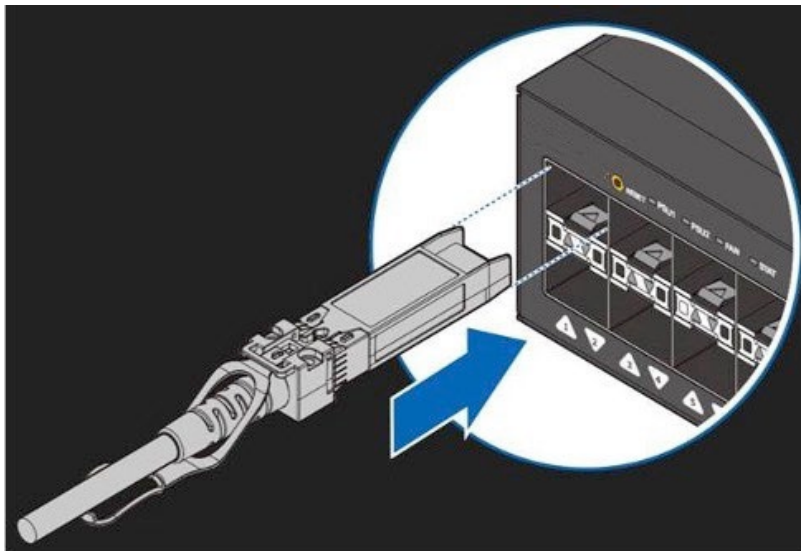


Figure 2-3 Installing SFP transceivers

Installing Power Modules into the Power Module Slots

The power supply modules are hot-swappable and can be replaced during operation as long as the remaining module is installed and operating. Depending on whether you plan on positioning the ports in a hot or cold aisle, you can order a power supply module with port-side intake or port-side exhaust airflow.



Caution: If the switch is installed for port-side exhaust airflow, you must install PSU modules to drive the air flow from the front of the switch into the hot aisle. Failure to install the switch with the correct airflow configuration can cause the switch to overheat and shut down.

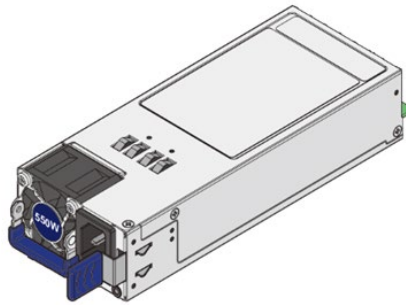


Figure 2-4 Power supply module

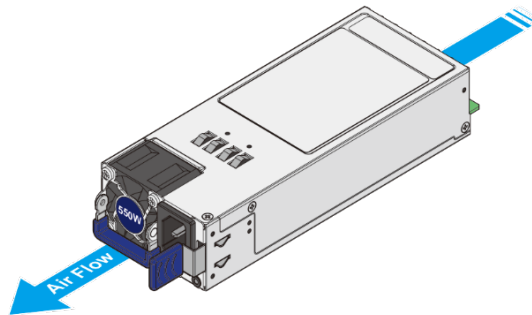


Figure 2-5 Port-side intake power supply module

Removing a Power Supply

1. Hold the PSU handle and press the release latch to unlock the PSU from the switch.
2. Pull the PSU module out of the switch.

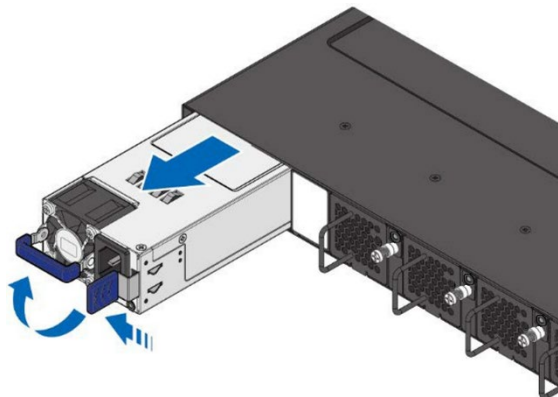


Figure 2-6 Unlocking and removing a power supply

Installing a Power Supply

1. Align the PSU with the switch bay.
2. Slide the PSU into the switch and push until it is firmly slotted into the bay.

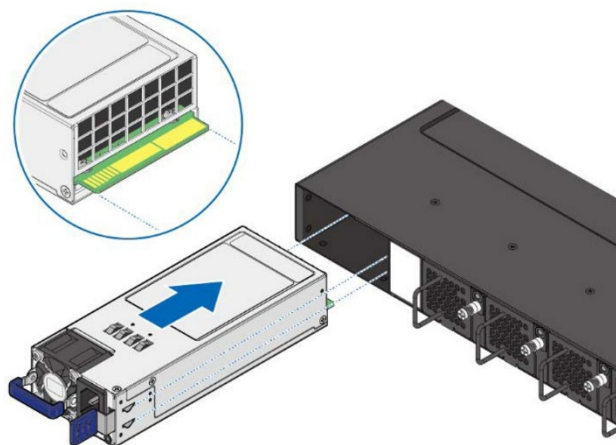


Figure 2-7 Inserting the power supply

Installing Fan Modules into the Fan Module Slots

The fan modules are hot swappable and can be replaced during operation as long as the remaining modules are installed and operating.

Depending on whether you plan on positioning the ports in a hot or cold aisle, you can order a fan module with port-side intake (E) or port-side exhaust (I) airflow.



Note: The power modules support a specific airflow direction. **By default**, the airflow direction of the power module and fan module installed is **front-to-back**.



Caution: The switch is installed for port-side intake airflow, the fan modules air flow from the rear of the switch and out into hot aisle. Failure to install the switch with the correct airflow configuration can cause the switch to overheat and shut down.

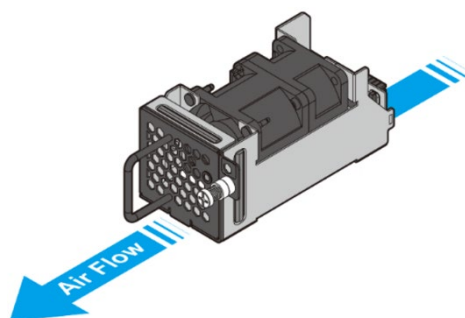


Figure 2-8 Fan module with port-side intake

Removing a Fan Module

1. Loosen the captive screw securing the fan module.
2. Pull out the fan module.

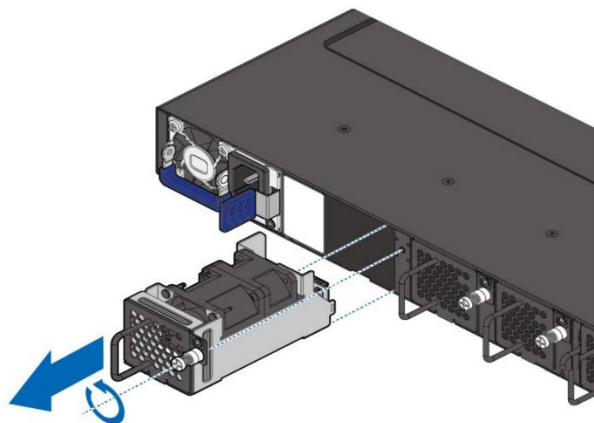


Figure 2-10 Removing a fan module

Installing a Fan Module

1. Align the fan module with the switch bay.
2. Slide the fan module into the switch and push until it is firmly slotted into the bay.
3. Secure the captive screw.

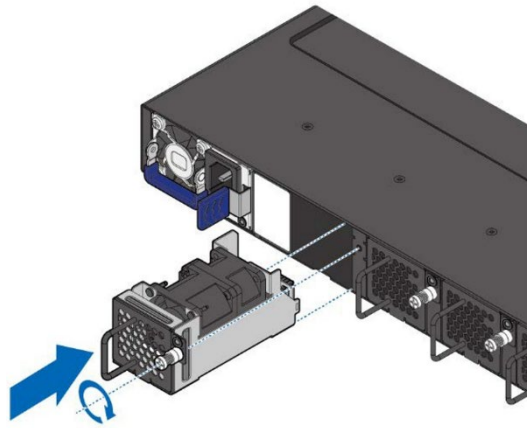


Figure 2-11 Inserting a fan module

Grounding the Switch

It is recommended that a compliant system is installed as part of the chassis to reduce or prevent the risk of shock hazards, greatly reduce the risk of equipment damage, or reduce the potential of data corruption.



Warning: This equipment must be grounded. Do not defeat the ground conductor or operate the equipment without a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.



Warning: Ensure the rack is properly grounded and in compliance with local regulatory guidelines. Ensure that a good electrical connection to the grounding point exists. Remove any paint or material that may prevent good contact.

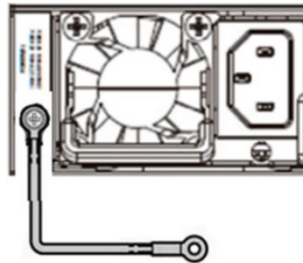


Figure 2-12 Grounding the switch

1. Remove the grounding screw from the switch.
2. Connect the screw to an 18 AWG minimum grounding wire (not provided), and connect it to the grounding point on the switch.
3. Connect the other end of the wire to the rack ground.

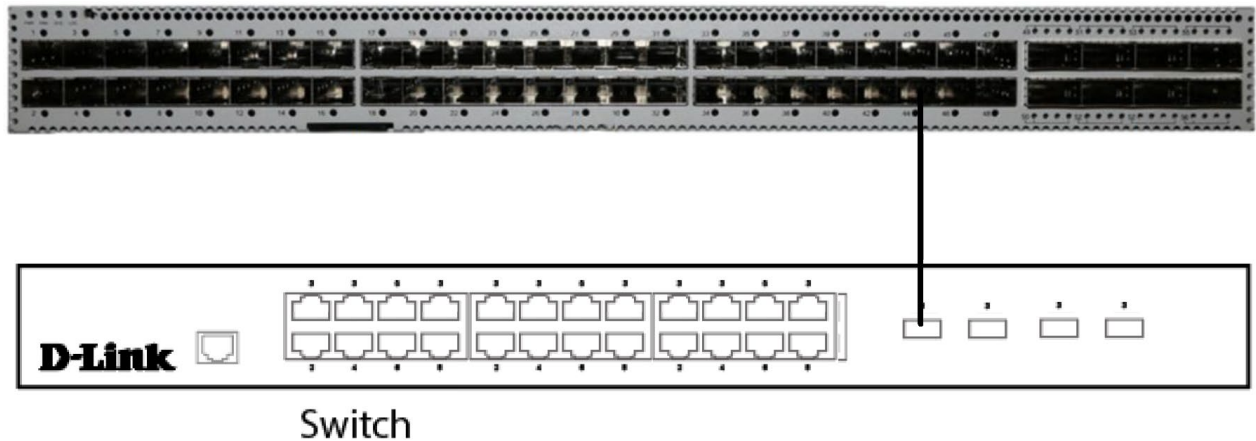
Switch Connections

Switch to Another switch

Switch to a Server

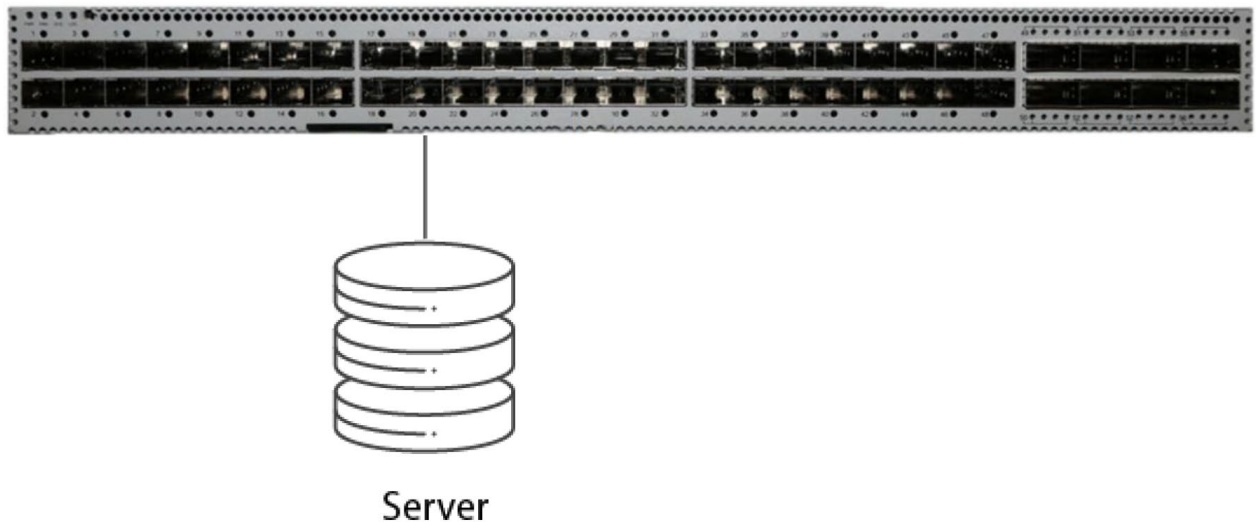
Switch to Another Switch

Two or more switches can also be interlinked using fiber optic cables or direct-attached cables via the SFP+, SFP28, QSFP+, and QSFP28 access ports.



Switch to a Server

Servers can be connected to the network using fiber optic cables via the SFP+, SFP28, QSFP+, and QSFP28 access ports.



Switch Management

Management Options

Connecting to the Console Port

Management Options

This switch provides multiple access platforms that can be used to configure, manage, and monitor networking features available on this switch.

The Command Line Interface (CLI)

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

SNMP-Based Management

The switch can be managed with an SNMP-compatible console program. The switch supports SNMP v1, SNMPv2c and SNMPv3. The SNMP agent decodes the incoming SNMP messages and responds to requests with MIB objects stored in the database. The SNMP agent updates the MIB objects to generate statistics and counters.

Connecting to the Console Port

The front panel of the switch provides a console 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 a physical connection.

1. To use the console port, the following equipment is needed:
 - A terminal or a computer with both an RS-232 serial port and terminal emulation software.
 - A console cable with a male DB-9 connector on one end and an RJ-45 connection on the other end. This cable should be included with the switch.

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

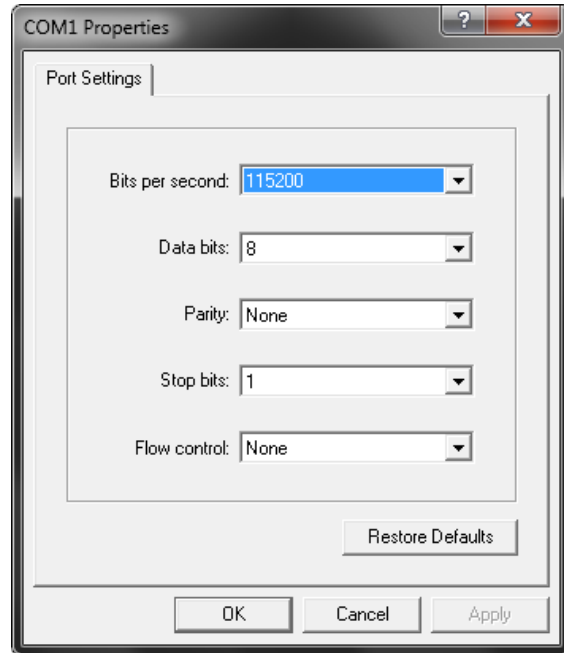


Figure 4-1 COM1 Properties – Port Settings

- Under Properties, select **VT100** for Emulation mode.
- Select **Terminal keys** for Function, Arrow and Ctrl keys.

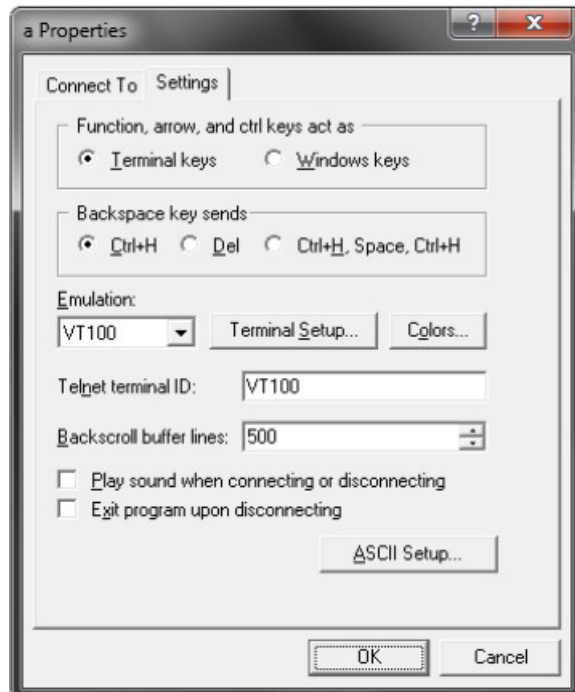


Figure 4-2 COM1 Properties – General Settings

3. After correctly configuring the terminal, plug the power cable into the power connector on the back of the switch. You will be presented with an option to select an operating system to boot the switch in, either SONiC or ONIE.
4. To load **SONiC**, you need to select the corresponding option. Further details are provided in **section 11**.
5. To load **ONIE**, you need to select the corresponding option.

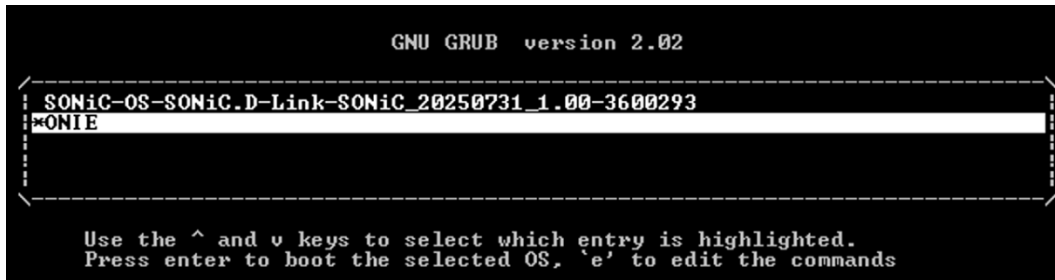


Figure 4-3 OS Selection screen

Installing SONiC OS

6. Choose Install OS

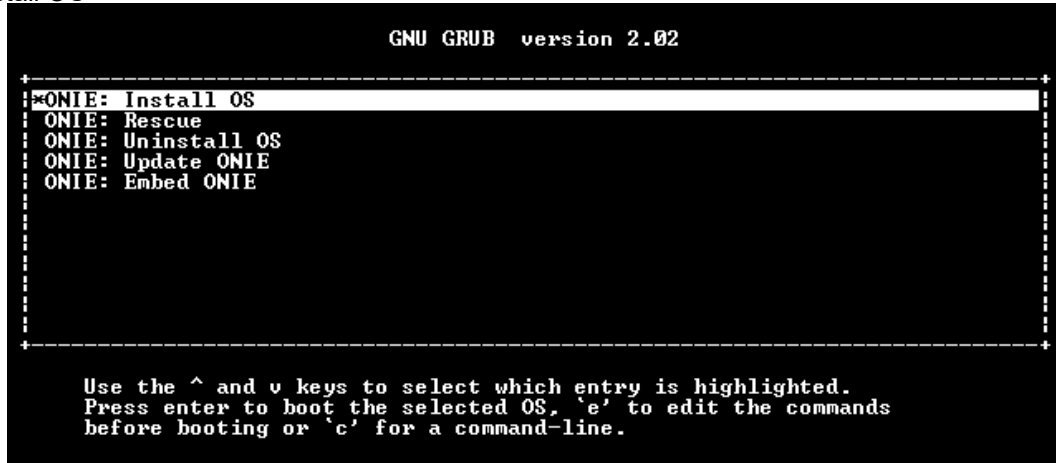


Figure 4-4 Install OS selection screen

7. Type onie-stop and click "Enter"

```

Info: Attempting file://dev/sdb/onie-installer-x86_64-mvl.bin ...
Info: Attempting file://dev/sdb/onie-installer-x86_64 ...
Info: Attempting file://dev/sdb/onie-installer-x86_64.bin ...
Info: Attempting file://dev/sdb/onie-installer ...
Info: Attempting file://dev/sdb/onie-installer.bin ...
Info: Attempting file://dev/sda4/onie-installer-x86_64-DQS-5000-56ZS-A1 ...
Info: Attempting file://dev/sda4/onie-installer-x86_64-DQS-5000-56ZS-A1.bin ...
Info: Attempting file://dev/sda4/onie-installer-x86_64-dlink_dqs5000_56zs ...
Info: Attempting file://dev/sda4/onEXT4-fs (sda3): couldn't mount as ext3 due to feature incompatibilities
ie-installer-x86_64-dlink_dqs5000_56zs.bin ...
Info: Attempting file://dev/sda4/onie-installer-dlink_dqs5000_56zs ...
Info: Attempting file://dev/sda4/onie-installer-dlink_dqs5000_56zs.bin ...
Info: Attempting file://dev/sda4/onie-installer-x86_64-mvl ...
Info: Attempting file://dev/sda4/onie-installer-x86_64-mvl.bin ...
Info: Attempting file://dev/sda4/onie-installer-x86_64 ...
Info: Attempting file://dev/sda4/onie-installer-x86_64.bin ...
Info: Attempting file://dev/sda4/onie-installer ...
Info: Attempting file://dev/sda4/onie-installer.bin ...
Info: Attempting file://dev/sda3/onie-installer-x86_64-DQS-5000-56ZS-A1 ...
Info: Attempting file://dev/sda3/onie-installer-x86_64-DQS-5000-56ZS-A1.bin ...
Info: Attempting file://dev/sda3/onie-installer-x86_64-dlink_dqs5000_56zs ...
Info: Attempting file://dev/sda3/onie-installer-x86_64-dlink_dqs5000_56zs.bin ...
Info: Attempting file://dev/sda3/onie-installer-dlink_dqs5000_56zs ...
Info: Attempting file://dev/sda3/onie-installer-dlink_dqs5000_56zs.bin ...
Info: Attempting file://dev/sda3/onie-installer-x86_64-mvl ...
Info: Attempting file://dev/sda3/onie-installer-x86_64-mvl.bin ...
Info: Attempting file://dev/sda3/onie-installer-x86_64 ...
Info: Attempting file://dev/sda3/onie-installer-x86_64.bin ...
Info: Attempting file://dev/sda3/onie-installer ...
Info: Attempting file://dev/sda3/onie-installer.bin ...

To check the install status inspect /var/log/onie.log.
Try this: tail -f /var/log/onie.log

** Installer Mode Enabled **
ONIE:/ # onie-stop
discover: installer mode detected.
Stopping: discover... done.
ONIE:/ #

```

Figure 4-5 ONIE-STOP

8. Determine your ONIE platform and ONIE machine - Use "cat /etc/machine.conf"

```

ONIE:/ # cat /etc/machine.conf
onie_version=2020.02-dirty
onie_vendor_id=20495
onie_build_machine=DQS-5000-56ZS-A1
onie_machine_rev=0
onie_arch=x86_64
onie_build_platform=x86_64-DQS-5000-56ZS-A1-r0
onie_config_version=1
onie_build_date="2025-04-01T21:03:00:00"
onie_partition_type=gpt
onie_kernel_version=4.9.95
onie_firmware=auto
onie_switch_asic=mvl
onie_skip_ethgmt_mac=no
onie_grub_image_name=grubx64.efi
onie_uefi_boot_loader=grubx64.efi
onie_uefi_arch=x64
# Runtime ONIE Machine
onie_machine=DQS-5000-56ZS-A1
onie_platform=ERROR: TLV code not present in EEPROM: 0x28
onie_sata_device=""
onie_mmc_device="/dev/sda"
onie_boot_device="/dev/sda"
nos_install_device="/dev/sda"
ONIE:/ #
CTRL-A Z for help | 115200 8N1 | NOR | Minicom 2.7.1 | VT102 | Offline | ttyUSB2

```

Figure 4-6 ONIE platform screen

9. `onie-nos-install https://{http_ip}/<sonic-image-name>.bin`

The last command will download an image from the https server and install it automatically. The system will be rebooted after installation.

10. Once loaded, enter the default username **admin** and password **admin** to log into the Linux Shell.
 11. Check containers status `docker ps`

```

Linux sonic 6.1.0-22-2-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.94-1 (2024-06-21) x86_64
You are on

SONiC
-- Software for Open Networking in the Cloud --

Unauthorized access and/or use are prohibited.
All access and/or use are subject to monitoring.

Help:   https://sonic-net.github.io/SONiC/

Last login: Thu Mar 13 05:52:52 2025 from 10.0.0.178
admin@sonic:~$
admin@sonic:~$
admin@sonic:~$ docker ps

```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
d4a14440257f	docker-snmplib:latest	"/usr/bin/docker-snmplib..."	3 minutes ago	Up 3 minutes		snmp
203606e0b73e	docker-platform-monitor:latest	"/usr/bin/docker_ini..."	3 minutes ago	Up 3 minutes		pmon
f6acaab4ad05	docker-sonic-mgmt-framework:latest	"/usr/local/bin/supervisord..."	3 minutes ago	Up 3 minutes		mgmt-framework
5d3f259fb9a4	docker-lldp:latest	"/usr/bin/docker-ll..."	3 minutes ago	Up 3 minutes		lldp
5e2b40f570a6	docker-sonic-gnmplib:latest	"/usr/local/bin/supe..."	3 minutes ago	Up 3 minutes		gnmi
e5025273bcb8	docker-fpm-frr:latest	"/usr/bin/docker_ini..."	4 minutes ago	Up 4 minutes		bgp
876edff27306	elaece9e0a02	"/usr/bin/docker_ini..."	4 minutes ago	Up 3 minutes		dhcp_relay
5f3f369beb78	docker-router-advertiser:latest	"/usr/bin/docker_ini..."	4 minutes ago	Up 3 minutes		radv
f5058d4e039e	docker-teamd:latest	"/usr/local/bin/supe..."	5 minutes ago	Up 3 minutes		teamd
9fa4e93a0d9e	docker-syncd-mrvl:latest	"/usr/local/bin/supe..."	5 minutes ago	Up 3 minutes		syncd
6166c6f7a3ad	docker-orchagent:latest	"/usr/bin/docker_ini..."	5 minutes ago	Up 3 minutes		swss
3248884c9df0	docker-eventd:latest	"/usr/local/bin/supe..."	5 minutes ago	Up 5 minutes		eventd
fe7e3f14d696	docker-database:latest	"/usr/local/bin/dock..."	5 minutes ago	Up 5 minutes		database

Figure 4-7 Docker status

12. Check if interfaces are present

admin@sonic:~\$ show interfaces status

Interface	Lanes	Speed	MTU	FEC	Alias	Vlan	Oper	Admin	Type	Asym PFC
Ethernet0	0	25G	9100	none	twenty5GigE0	routed	down	up	N/A	N/A
Ethernet1	1	25G	9100	none	twenty5GigE1	routed	down	up	N/A	N/A
Ethernet2	2	25G	9100	none	twenty5GigE2	routed	down	up	N/A	N/A
Ethernet3	3	25G	9100	none	twenty5GigE3	routed	down	up	N/A	N/A
Ethernet4	4	25G	9100	none	twenty5GigE4	routed	down	up	N/A	N/A
Ethernet5	5	25G	9100	none	twenty5GigE5	routed	down	up	N/A	N/A
Ethernet6	6	25G	9100	none	twenty5GigE6	routed	down	up	N/A	N/A
Ethernet7	7	25G	9100	none	twenty5GigE7	routed	down	up	N/A	N/A
Ethernet8	8	25G	9100	none	twenty5GigE8	routed	down	up	N/A	N/A
Ethernet9	9	25G	9100	none	twenty5GigE9	routed	up	up	N/A	N/A
Ethernet10	10	25G	9100	none	twenty5GigE10	routed	down	up	N/A	N/A
Ethernet11	11	25G	9100	none	twenty5GigE11	routed	up	up	N/A	N/A
Ethernet12	12	25G	9100	none	twenty5GigE12	routed	down	up	N/A	N/A
Ethernet13	13	25G	9100	none	twenty5GigE13	routed	down	up	N/A	N/A
Ethernet14	14	25G	9100	none	twenty5GigE14	routed	down	up	N/A	N/A
Ethernet15	15	25G	9100	none	twenty5GigE15	routed	down	up	N/A	N/A
Ethernet16	16	25G	9100	none	twenty5GigE16	routed	down	up	N/A	N/A
Ethernet17	17	25G	9100	none	twenty5GigE17	routed	down	up	N/A	N/A
Ethernet18	18	25G	9100	none	twenty5GigE18	routed	down	up	N/A	N/A
Ethernet19	19	25G	9100	none	twenty5GigE19	routed	down	up	N/A	N/A
Ethernet20	20	25G	9100	none	twenty5GigE20	routed	down	up	N/A	N/A
Ethernet21	21	25G	9100	none	twenty5GigE21	routed	up	up	N/A	N/A
Ethernet22	22	25G	9100	none	twenty5GigE22	routed	down	up	N/A	N/A
Ethernet23	23	25G	9100	none	twenty5GigE23	routed	up	up	N/A	N/A
Ethernet24	24	25G	9100	none	twenty5GigE24	routed	down	up	N/A	N/A
Ethernet25	25	25G	9100	none	twenty5GigE25	routed	up	up	N/A	N/A
Ethernet26	26	25G	9100	none	twenty5GigE26	routed	down	up	N/A	N/A
Ethernet27	27	25G	9100	none	twenty5GigE27	routed	up	up	N/A	N/A
Ethernet28	28	25G	9100	none	twenty5GigE28	routed	down	up	N/A	N/A
Ethernet29	29	25G	9100	none	twenty5GigE29	routed	up	up	N/A	N/A
Ethernet30	30	25G	9100	none	twenty5GigE30	routed	down	up	N/A	N/A
Ethernet31	31	25G	9100	none	twenty5GigE31	routed	up	up	N/A	N/A
Ethernet32	32	25G	9100	none	twenty5GigE32	routed	down	up	N/A	N/A
Ethernet33	33	25G	9100	none	twenty5GigE33	routed	up	up	N/A	N/A
Ethernet34	34	25G	9100	none	twenty5GigE34	routed	down	up	N/A	N/A
Ethernet35	35	25G	9100	none	twenty5GigE35	routed	up	up	N/A	N/A
Ethernet36	36	25G	9100	none	twenty5GigE36	routed	down	up	N/A	N/A
Ethernet37	37	25G	9100	none	twenty5GigE37	routed	down	up	N/A	N/A
Ethernet38	38	25G	9100	none	twenty5GigE38	routed	down	up	N/A	N/A
Ethernet39	39	25G	9100	none	twenty5GigE39	routed	down	up	N/A	N/A
Ethernet40	40	25G	9100	none	twenty5GigE40	routed	down	up	N/A	N/A
Ethernet41	41	25G	9100	none	twenty5GigE41	routed	down	up	N/A	N/A
Ethernet42	42	25G	9100	none	twenty5GigE42	routed	down	up	N/A	N/A
Ethernet43	43	25G	9100	none	twenty5GigE43	routed	down	up	N/A	N/A
Ethernet44	44	25G	9100	none	twenty5GigE44	routed	down	up	N/A	N/A
Ethernet45	45	25G	9100	none	twenty5GigE45	routed	up	up	N/A	N/A
Ethernet46	46	25G	9100	none	twenty5GigE46	routed	down	up	N/A	N/A
Ethernet47	47	25G	9100	none	twenty5GigE47	routed	up	up	N/A	N/A
Ethernet48	64,65,66,67	100G	9100	rs	one00GigE48	routed	up	up	N/A	N/A
Ethernet49	68,69,70,71	100G	9100	rs	one00GigE49	routed	up	up	N/A	N/A
Ethernet50	72,73,74,75	100G	9100	rs	one00GigE50	routed	down	up	N/A	N/A
Ethernet51	76,77,78,79	100G	9100	rs	one00GigE51	routed	down	up	N/A	N/A
Ethernet52	80,81,82,83	100G	9100	rs	one00GigE52	routed	down	up	N/A	N/A

Appendix A - Technical Specifications

General	
DQS-5000-56ZS	
Interfaces	48 x 10/25G SFP28 ports, 8 x 40G/100G QSFP28 ports
Console Port	1 x RJ45 console port
OOB Management Port	1 x 10/100/1000BASE-T RJ-45 port
Performance	
Switching Capacity	2 Tbps
Bridge FDB Entries	Up to 128k
Packet Buffer Memory	24 MB
Router IPv4 Host Routes	Up to 256k
Physical	
Power Input	1+1 redundant power supply design Input: 100–240V AC 50/60 Hz, 100-127V AC/ 7A; 200-240V AC/ 3.6A
Maximum Power Consumption	520W (Maximum power consumption under full traffic load includes five fan trays - full speed SFP28(1.5W) transceivers x48pcs and QSFP28 (3.5W) transceivers x8pcs.)
Heat Dissipation (Max.)	1769.71 BTU/hr
Fans	5 x fans
Acoustics	Max: 74 dB. Min: 62 dB
Dimensions (W x D x H)	440 x 470 x 44 mm
Weight	9.7 kg
Operating Temperature	0 to 40 °C (32 to 113 °F)
Storage Temperature	-40 to 70 °C (-40 to 158 °F)
Operating Humidity	5% to 95% RH, non-condensing
Storage Humidity	5% to 95% RH, non-condensing
MTBF	205,000 hours
Certifications	
Safety	UL 62368 ED2, IEC 62368 ED2, IEC 60950
EMI/EMC	FCC, Part 15, Class A, CE

Optional 25G SFP28 Transceivers	
DEM-S2801SR	100 m 25G SFP28 transceiver
DEM-S2810LR	10 km 25G SFP28 transceiver
Optional 100G QSFP28 Transceivers	
DEM-Q2801Q-SR4	100 m 100G QSFP28 transceiver
DEM-Q2810Q-LR4	10 km 100G QSFP28 transceiver
Optional 10G SFP+ Direct Attach Cables	
DEM-CB100S	1 m 10G SFP+ Direct Attach Cable (DAC)
DEM-CB300S	3 m 10G SFP+ Direct Attach Cable (DAC)
DEM-CB100Q28	1 m 100G QSFP28 Direct Attach Cable (DAC)
DEM-CB100Q28-4S28	1 m 100G QSFP28 to 4 x 25G SFP28 Direct Attach Cable (DAC)
DEM-CB100S28	1 m 25G SFP28 Direct Attach Cable (DAC)

Appendix B - Cables and Connectors

Console Cable

A console cable is used to connect to the console port of the switch to access the command line interface. The following diagrams and tables show the standard RS-232-to-RJ-45/Mini-USB receptacle/connector and their pin assignments.

DB9/RS-232-to-RJ-45 Pin Assignment

Contact	Console (DB9/RS232)	RJ-45
1	NC	Not Used
2	TX	Not Used
3	RX	UART-TX
4	NC	GND
5	GND (shared)	GND
6	NC	UART-RX
7	NC	Not Used
8	NC	Not Used
9	NC	X

Regulatory Statements

Federal Communication Commission Interference 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 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 the instruction 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.

Non-modification Statement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Caution

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Safety Warning:

CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

ATTENTION: Risque d'explosion si la batterie est remplacée par un type incorrect. Jetezles piles usagées selon les instructions.

CE EMI Class A Warning

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

SAFETY INSTRUCTIONS

The following general safety guidelines are provided to help ensure your own personal safety and protect your product from potential damage. Remember to refer to the product user instructions for more details.

- Static electricity can be harmful to electronic components. Discharge static electricity from your body (i.e. touching grounded bare metal) before touching the product.
- Do not attempt to service the product and never disassemble the product. For some products with a user replaceable battery, please read and follow the instructions in the user manual.
- Do not spill food or liquid on your product and never push any objects into the openings of your product.
- Do not use this product near water, areas with high humidity, or condensation unless the product is specifically rated for outdoor application.
- Keep the product away from radiators and other heat sources.

- Always unplug the product from mains power before cleaning and use a dry lint free cloth only. **SICHERHEITSVORSCHRIFTEN**

Die folgenden allgemeinen Sicherheitsvorschriften dienen als Hilfe zur Gewährleistung Ihrer eigenen Sicherheit und zum Schutz Ihres Produkts. Weitere Details finden Sie in den Benutzeranleitungen zum Produkt.

- Statische Elektrizität kann elektronischen Komponenten schaden. Um Schäden durch statische Aufladung zu vermeiden, leiten Sie elektrostatische Ladungen von Ihrem Körper ab, (z. B. durch Berühren eines geerdeten blanken Metallteils), bevor Sie das Produkt berühren.
- Unterlassen Sie jeden Versuch, das Produkt zu warten, und versuchen Sie nicht, es in seine Bestandteile zu zerlegen. Für einige Produkte mit austauschbaren Akkus lesen Sie bitte das Benutzerhandbuch und befolgen Sie die dort beschriebenen Anleitungen.
- Vermeiden Sie, dass Speisen oder Flüssigkeiten auf Ihr Produkt gelangen, und stecken Sie keine Gegenstände in die Gehäuseschlitze oder -öffnungen Ihres Produkts.
- Verwenden Sie dieses Produkt nicht in unmittelbarer Nähe von Wasser und nicht in Bereichen mit hoher Luftfeuchtigkeit oder Kondensation, es sei denn, es ist speziell zur Nutzung in Außenbereichen vorgesehen und eingestuft.
- Halten Sie das Produkt von Heizkörpern und anderen Quellen fern, die Wärme erzeugen.
- Trennen Sie das Produkt immer von der Stromzufuhr, bevor Sie es reinigen und verwenden Sie dazu ausschließlich ein trockenes fusselfreies Tuch.

CONSIGNES DE SÉCURITÉ

Les consignes générales de sécurité ci-après sont fournies afin d'assurer votre sécurité personnelle et de protéger le produit d'éventuels dommages. Veuillez consulter les consignes d'utilisation du produit pour plus de détails.

- L'électricité statique peut endommager les composants électroniques. Déchargez l'électricité statique de votre corps (en touchant un objet en métal relié à la terre par exemple) avant de toucher le produit.
- N'essayez pas d'intervenir sur le produit et ne le démontez jamais. Pour certains produits contenant une batterie remplaçable par l'utilisateur, veuillez lire et suivre les consignes contenues dans le manuel d'utilisation.
- Ne renversez pas d'aliments ou de liquide sur le produit et n'insérez jamais d'objets dans les orifices.
- N'utilisez pas ce produit à proximité d'un point d'eau, de zones très humides ou de condensation sauf si le produit a été spécifiquement conçu pour une application extérieure.
- Éloignez le produit des radiateurs et autres sources de chaleur.
- Débranchez toujours le produit de l'alimentation avant de le nettoyer et utilisez uniquement un chiffon sec non pelucheux.
-

INSTRUCCIONES DE SEGURIDAD

Las siguientes directrices de seguridad general se facilitan para ayudarle a garantizar su propia seguridad personal y para proteger el producto frente a posibles daños. No olvide consultar las instrucciones del usuario del producto para obtener más información.

- La electricidad estática puede resultar nociva para los componentes electrónicos. Descargue la electricidad estática de su cuerpo (p. ej., tocando algún metal sin revestimiento conectado a tierra) antes de tocar el producto.
- No intente realizar el mantenimiento del producto ni lo desmonte nunca. Para algunos productos con batería reemplazable por el usuario, lea y siga las instrucciones del manual de usuario.
- No derrame comida o líquidos sobre el producto y nunca deje que caigan objetos en las aberturas del mismo.
- No utilice este producto cerca del agua, en zonas con humedad o condensación elevadas a menos que el producto esté clasificado específicamente para aplicación en exteriores.
- Mantenga el producto alejado de los radiadores y de otras fuentes de calor.
- Desenchufe siempre el producto de la alimentación de red antes de limpiarlo y utilice solo un paño seco sin pelusa.

EU Battery & WEEE Directives Disposal and Recycling

This product may contain a battery. Recycle or dispose of batteries in accordance with the battery manufacturer's instructions and local/national disposal and recycling regulations. For more information, please refer to the warranty guide.

ISTRUZIONI PER LA SICUREZZA

Le seguenti linee guida sulla sicurezza sono fornite per contribuire a garantire la sicurezza personale degli utenti e a proteggere il prodotto da potenziali danni. Per maggiori dettagli, consultare le istruzioni per l'utente del prodotto.

- L'elettricità statica può essere pericolosa per i componenti elettronici. Scaricare l'elettricità statica dal corpo (ad esempio toccando una parte metallica collegata a terra) prima di toccare il prodotto.
- Non cercare di riparare il prodotto e non smontarlo mai. Per alcuni prodotti dotati di batteria sostituibile dall'utente, leggere e seguire le istruzioni riportate nel manuale dell'utente.
- Non versare cibi o liquidi sul prodotto e non spingere mai alcun oggetto nelle aperture del prodotto.
- Non usare questo prodotto vicino all'acqua, in aree con elevato grado di umidità o soggette a condensa a meno che il prodotto non sia specificatamente approvato per uso in ambienti esterni.
- Tenere il prodotto lontano da caloriferi e altre fonti di calore.
- Scollegare sempre il prodotto dalla presa elettrica prima di pulirlo e usare solo un panno asciutto che non lasci filacce.
-

VEILIGHEIDSINFORMATIE

De volgende algemene veiligheidsinformatie werd verstrekt om uw eigen persoonlijke veiligheid te waarborgen en uw product te beschermen tegen mogelijke schade. Denk eraan om de gebruikersinstructies van het product te raadplegen voor meer informatie.

- Statische elektriciteit kan schadelijk zijn voor elektronische componenten. Ontlaad de statische elektriciteit van uw lichaam (d.w.z. het aanraken van geaard bloot metaal) voordat u het product aanraakt.
- U mag nooit proberen het product te onderhouden en u mag het product nooit demonteren. Voor sommige producten met door de gebruiker te vervangen batterij, dient u de instructies in de gebruikershandleiding te lezen en te volgen.
- Mors geen voedsel of vloeistof op uw product en u mag nooit voorwerpen in de openingen van uw product duwen.
- Gebruik dit product niet in de buurt van water, gebieden met hoge vochtigheid of condensatie, tenzij het product specifiek geclassificeerd is voor gebruik buitenshuis.
- Houd het product uit de buurt van radiators en andere warmtebronnen.
- U dient het product steeds los te koppelen van de stroom voordat u het reinigt en gebruik uitsluitend een droge pluisvrije doek.

Additional Info

Documentation/Support/Warranty



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