

Product Highlights

- Open Network Switch supports innovative third party operating systems and software options
- Full line-rate 10GbE switching and ultra-low latency at L2 and L3
- Supports up to 72 x 10GbE ports
- High Availability architecture
- Ideal for Top-of-Rack (ToR) applications or as part of a 10GbE/40GbE leaf-spine architecture
- Orderable as bare metal switch (ONIE only) or pre-configured with Pluribus Netvisor® Operating System (OS)



DXS-5000-54S

54 Port 10GbE/40GbE Open Network Switch

Features

High Performance

- Open Network Switch for Data Center and Enterprise networks
- 48 x 10GbE SFP+ ports
- 6 x 40GbE QSFP+ ports
- 1440 Gbps switching capacity
- All data ports and management ports on front

Management Features

- RJ45 10/100/1000 Ethernet out of band management port
- Mini-USB Console port
- USB host port

High Availability and Flexibility

- Two hot-swappable power supply modules for 1+1 redundancy and load sharing
- Four hot-swappable fan modules provide 3+1 cooling redundancy
- Port grouping allows one 40GbE port to be split into four 10GbE connections

Software Compatibility

- Support for open-source Open Network Install Environment (ONIE) for zero-touch installation of network OS
- Certified compatible with the Pluribus Netvisor OS enterprise or fabric editions

Overview

D-Link's DXS-5000-54S 10 GbE Open Network Switch is a compact, high-performance switch that features full line-rate 10-Gigabit Ethernet switching and low latency at Layer 2 or Layer 3. With its open architecture and high port density, this switch is ideal in a data center for Top-of-Rack (ToR) applications or as part of a 10GbE/40GbE leaf-spine architecture. In addition, the scalability, capacity and advanced capabilities of the DXS-5000-54S are equally compelling for deployment as a Campus or Enterprise core switch.

The DXS-5000-54S is 1U high and includes forty-eight (48) SFP+ ports supporting 10 Gigabit Ethernet (10GBASE-SR, 10GBASE-LR, or DAC/Direct Attach Copper.) These ports are also backwards compatible with 1GbE SFPs. In addition, there are six (6) QSFP+ ports supporting 40 Gigabit Ethernet (40GBASE-SR, or 40GBASE-LR). Using optional DAC breakout cables, the switch supports up to 72 x 10GbE ports.

Open Networking

The DXS-5000-54S switch supports open networking, providing IT professionals with innovative third party operating systems and software options. This lowers costs by separating software from hardware and increases network agility and flexibility. With support for standards-based tools and standards-based applications, open networking simplifies scalability and future-proofs the network.

ONIE

As a bare metal switch, the DXS-5000-54S ships preloaded with Open Network Install Environment (ONIE). ONIE is an open source install environment that acts as an enhanced boot loader. This small Linux operating system allows IT Professionals to install the network operating system of choice as part of data center provisioning process, in the same manner that their servers are provisioned.

Netvisor Operating System

For simple plug-and-play deployments, the DXS-5000-54S is also available pre-configured with the Pluribus Netvisor OS, the industry's most programmable, open source-based network operating system. The Pluribus Netvisor software is a virtualized network operating system that provides a best-in-class Layer 2 and Layer 3 networking foundation, advanced network services, VXLAN, distributed Adaptive Cloud Fabric™ intelligence and embedded network performance monitoring telemetry.

The Pluribus Netvisor software virtualizes the switch hardware, decoupling network resources from the underlying hardware to create multiple network containers on a single device. Each container can be dynamically allocated, and a single switch can instantiate multiple network containers. Each container has its own virtualized router and can support granular east/west and north/south network segmentation, strict multi-tenant services, security and policies, and the integration of virtualized network services and functions.

D-Link offers the DXS-5000-54S pre-configured with the Pluribus Netvisor OS licensed for either:

- Netvisor Enterprise — includes Layer 2 and Layer 3 switching and routing functionality with all standard networking protocols and high availability features.
- Netvisor Fabric — adds VXLAN, Telemetry, Adaptive Cloud Fabric, Data Center Interconnect and security and segmentation capabilities.

High Availability and Flexibility

The DXS-5000-54S switch features modular fans and power supplies for a high availability architecture. The hot-swappable design means that fans and power supplies can be replaced without affecting switch operation. Each switch ships with a full complement of two power supplies and four fan modules. Additional power supplies and fans may be purchased separately.

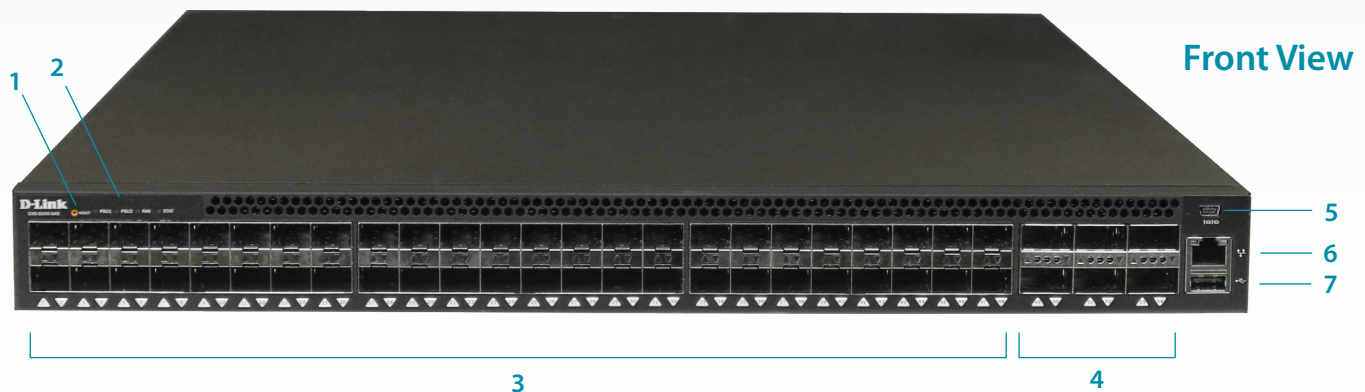
Energy Efficient

The DXS-5000-54S switch supports front-to-back airflow which optimizes air circulation inside the cabinet/rack, supports hot and cold aisles in data centers, and increases energy efficiency. Switches supporting back-to-front airflow are also available for applications where switches are mounted with data ports facing the rear of the cabinet/rack.

The switches feature smart fans, with internal heat sensors that monitor and detect temperature changes, and react accordingly by utilizing different fan speeds for different temperatures. At lower temperatures, the fans will run slower, reducing the switch's power consumption and noise.

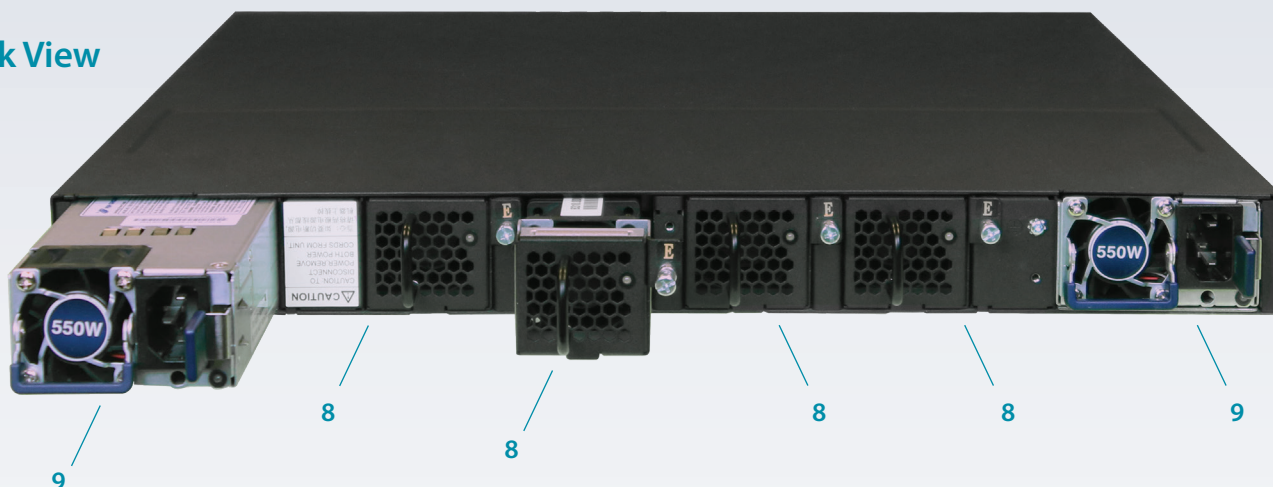
Limited Lifetime Warranty

D-Link offers an industry leading Limited Lifetime Warranty for the DXS-5000-54S 10GbE Open Network Switch, to further its commitment to product quality and long-term customer confidence. ¹



1	Reset	Reset button
2	System LEDs	Displays PSU and fan status
3	10 GbE Ports	48 x 10GbE (SFP+) ports
4	40 GbE Ports	6 x 40GbE (QSFP+) ports
5	Console	Mini-USB console port. Used to connect to the switch CLI for configuration, management, and monitoring
6	MGMT	RJ45 Management port. IP-based, 10/100/1000 Out-of-Band port for Telnet, web, or SNMP management. Used to configure the switch without being connected to the network
7	USB	USB 2.0 Type-A port. Provides additional storage space for portable firmware images and configuration files
8	Fan modules	Four (4) hot-swappable fan modules. (Four included with each switch)
9	Power supplies	Two (2) hot-swappable power supplies. (Two included with each switch)

Back View



Technical Specifications

DXS-5000-54S



Interfaces

10GbE Optical (SFP+) ports	48
40GbE Optical (QSFP+) ports	6
Console Port	Mini USB console port for out-of-band CLI management
Management Port	10/100/1000BASE-T RJ45 Ethernet for out-of-band IP management
USB Port	USB 2.0 Type A

Performance

Switch Capacity	1440 Gbps
Max. Packet Forwarding Rate	1071 Mpps
Switching Engine	Broadcom Trident II ASIC
CPU	2.4GHz 4-core Intel Rangeley C2558
DRAM Size	8 GB DDR3 with ECC
Flash Memory Size	SSD: M.2 64GB
Packet Buffer Memory	12 MB
MAC Address Table	288K

Physical and Environmental

Power Input	100 to 240 VAC, 50/60 Hz
Max Power Consumption	295 W
Standby Power Consumption	140 W

Max. Heat Dissipation	1006.58 BTU/hr
Acoustics	62dB (fan low speed) 74dB (fan high speed)
Dimensions	17.32 x 16.0 x 1.73 inches (440 x 406 x 44mm)
Weight	19.8 lbs / 9 kg
Operating Temperature	23°F to 122°F (0°C to 45°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)
Operating Humidity	5% to 95% RH
Storage Humidity	5% to 95% RH
MTBF	205,000 hours
Certifications	
Safety	cULus, CB, CE, CCC, BSMI
EMI/EMC	CE, FCC, BSMI, CCC
Supported Operating Systems	
Pluribus Netvisor OS (ONVL) – Enterprise Edition version 2.6 or later	
Pluribus Netvisor OS (ONVL) – Fabric Edition version 2.6 or later	

Ordering Information		
Bare Metal Switches	Description	Warranty
DXS-5000-54S/AF	Open Network Switch preloaded with ONIE only (no operating system). 48 x 10 GbE SFP+ ports and 6 x 40 GbE QSFP+ ports. Includes two (2) 550W AC modular power supply, and four (4) fan modules with front-to-back airflow	Limited Lifetime ¹
DXS-5000-54S/AB	Open Network Switch preloaded with ONIE only (no operating system). 48 x 10 GbE SFP+ ports and 6 x 40 GbE QSFP+ ports. Includes two (2) 550W AC modular power supply, and four (4) fan modules with back-to-front airflow	Limited Lifetime ¹
Pre-configured Switches	Description	Warranty
DXS-5000-54S/AF-PNE	Open Network Switch pre-configured with Pluribus Netvisor (ONVL) Enterprise (ONVL-10G-ENT-LIC) perpetual license. 48 x 10 GbE SFP+ ports and 6 x 40 GbE QSFP+ ports. Includes two (2) 550W AC modular power supply, and four (4) fan modules with front-to-back airflow. Includes 1-year support for ONVL-10G-ENT-LIC (SVC-ONVL-10G-ENT-1YR).	Limited Lifetime ¹
DXS-5000-54S/AB-PNE	Open Network Switch pre-configured with Pluribus Netvisor (ONVL) Enterprise (ONVL-10G-ENT-LIC) perpetual license. 48 x 10 GbE SFP+ ports and 6 x 40 GbE QSFP+ ports. Includes two (2) 550W AC modular power supply, and four (4) fan modules with back-to-front airflow. Includes 1-year support for ONVL-10G-ENT-LIC (SVC-ONVL-10G-ENT-1YR).	Limited Lifetime ¹
DXS-5000-54S/AF-PNF	Open Network Switch pre-configured with Pluribus Netvisor (ONVL) Fabric (ONVL-10G-PLEX-LIC) perpetual license. 48 x 10 GbE SFP+ ports and 6 x 40 GbE QSFP+ ports. Includes two (2) 550W AC modular power supply, and four (4) fan modules with front-to-back airflow. Includes 1-year support for ONVL-10G-PLEX-LIC (SVC-ONVL-10G-PLEX-1YR).	Limited Lifetime ¹
DXS-5000-54S/AB-PNF	Open Network Switch pre-configured with Pluribus Netvisor (ONVL) Fabric (ONVL-10G-PLEX-LIC) perpetual license. 48 x 10 GbE SFP+ ports and 6 x 40 GbE QSFP+ ports. Includes two (2) 550W AC modular power supply, and four (4) fan modules with back-to-front airflow. Includes 1-year support for ONVL-10G-PLEX-LIC (SVC-ONVL-10G-PLEX-1YR).	Limited Lifetime ¹

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Optional Switch Accessories		
DXS-PWR550AC/F	550W AC modular power supply with front-to-back airflow	5 Year Limited
DXS-PWR550AC/B	550W AC modular power supply with back-to-front airflow	5 Year Limited
DXS-FAN5K/F	Spare fan module with front-to-back airflow	5 Year Limited
DXS-FAN5K/B	Spare fan module with back-to-front airflow	5 Year Limited
Optional 40 Gbps (QSFP+) Optical Transceivers		
DEM-QX01Q-SR4	40GBASE-SR Multimode QSFP+ Optical Transceiver	
DEM-QX10Q-LR4	40GBASE-LR Single-mode QSFP+ Optical Transceiver	
Optional 10 Gbps (SFP+) Optical Transceivers		
DEM-431XT-DD	10GBASE-SR Transceiver, Multimode, DDM, 80/300M	
DEM-432XT-DD	10GBASE-LR Transceiver, Single-mode, DDM, 10KM	
Optional 1 Gbps (SFP) Optical Transceivers		
DGS-712	1000BASE-T SFP Transceiver	
DEM-310GT	1000BASE-LX SFP Transceiver, Single-mode, 10KM	
DEM-311GT	1000BASE-SX SFP Transceiver, Multimode, 550M	
Optional 10 Gbps / 40 Gbps Direct Attach Copper (DAC) Cables		
DEM-CB100S	1M (40") 10G SFP+ to SFP+ Direct Attach Copper Cable	
DEM-CB300S	3M (118") 10G SFP+ to SFP+ Direct Attach Copper Cable	
DEM-CB100QXS	1M (40") 40G QSFP+ to QSFP+ Direct Attach Copper Cable	
DEM-CB300QXS	3M (118") 40G QSFP+ to QSFP+ Direct Attach Copper Cable	
DEM-CB100QXS-4XS	1M (40") 40G QSFP+ to 4x10G SFP+ Direct Attach Copper Breakout Cable	
Optional Support Licenses		
SVC-ONVL-10G-ENT-1YR	Pluribus 24/7 1 Year support renewal for ONVL-10G-ENT-LIC	
SVC-ONVL-10G-PLEX-1YR	Pluribus 24/7 1 Year support renewal for ONVL-10G-PLEX-LIC	



This is a joint solution of D-Link and Pluribus Networks and requires multiple elements to enable the capabilities referenced. D-Link and Pluribus Networks reserve the right to make changes to its technical information and specifications at any time.

¹ Limited Lifetime Warranty available in USA only. Warranty void when not purchased from Authorized US D-Link Reseller. Please visit us.dlink.com for list of Authorized US Resellers.

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DXS-5000-54S_REVA_DATASHEET_1.12_EN_US.PDF

For more information

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