

Highlights

Multi-Gigabit Ethernet High Availability

Redundancy features, including hot-swappable power supplies, and redundant fan trays maximize the availability of your network

High-Density 10G Connectivity

Combining 48 high-speed 10GbE ports with 6 non-blocking 40GbE uplinks, the switch enables efficient traffic aggregation, high-bandwidth connectivity, and flexible network expansion for enterprise and campus applications.

Comprehensive Security Solution

ONIE support provides added flexibility and scalability with option to install preferred Network Operation System or activate pre-loaded D-Link OS



DXS-5000-54S

54-Port 10G Managed Switches

Features

High Availability and Reliability

- Variety of high-speed interface combinations to meet different network requirements
- Two AC/DC hot-swappable power modules for 1+1 redundancy and load sharing
- Modular, N+1 hot-swappable fan
- Support Smart FAN auto adjust fan speed according to temperature

Enhanced Features

- 802.3ad Link Aggregation
- IEEE802.1D/802.1w/802.1s Spanning Tree
- IGMP Snooping v1/v2/v3
- Double VLAN (Q in Q)

Convenient Management

- RJ-45/mini-USB console port
- Dedicated management port
- Industry-standard CLI

Overview

The DXS-5000-54S is a high-performance managed switch featuring 48 × 10G SFP+ ports and 6 × 40G QSFP+ ports. With high switching capacity and ultra-low latency, it delivers versatile, high-speed connectivity for enterprise and campus network applications.

The combination of high-density SFP+ and QSFP+ interfaces enables the DXS-5000-54S to meet a wide range of network capacity and scalability requirements. Advanced Layer 2 software features, resilient network capabilities, and flexible deployment options provide reliable performance, operational efficiency, and an excellent return on investment.

High Availability and Reliability

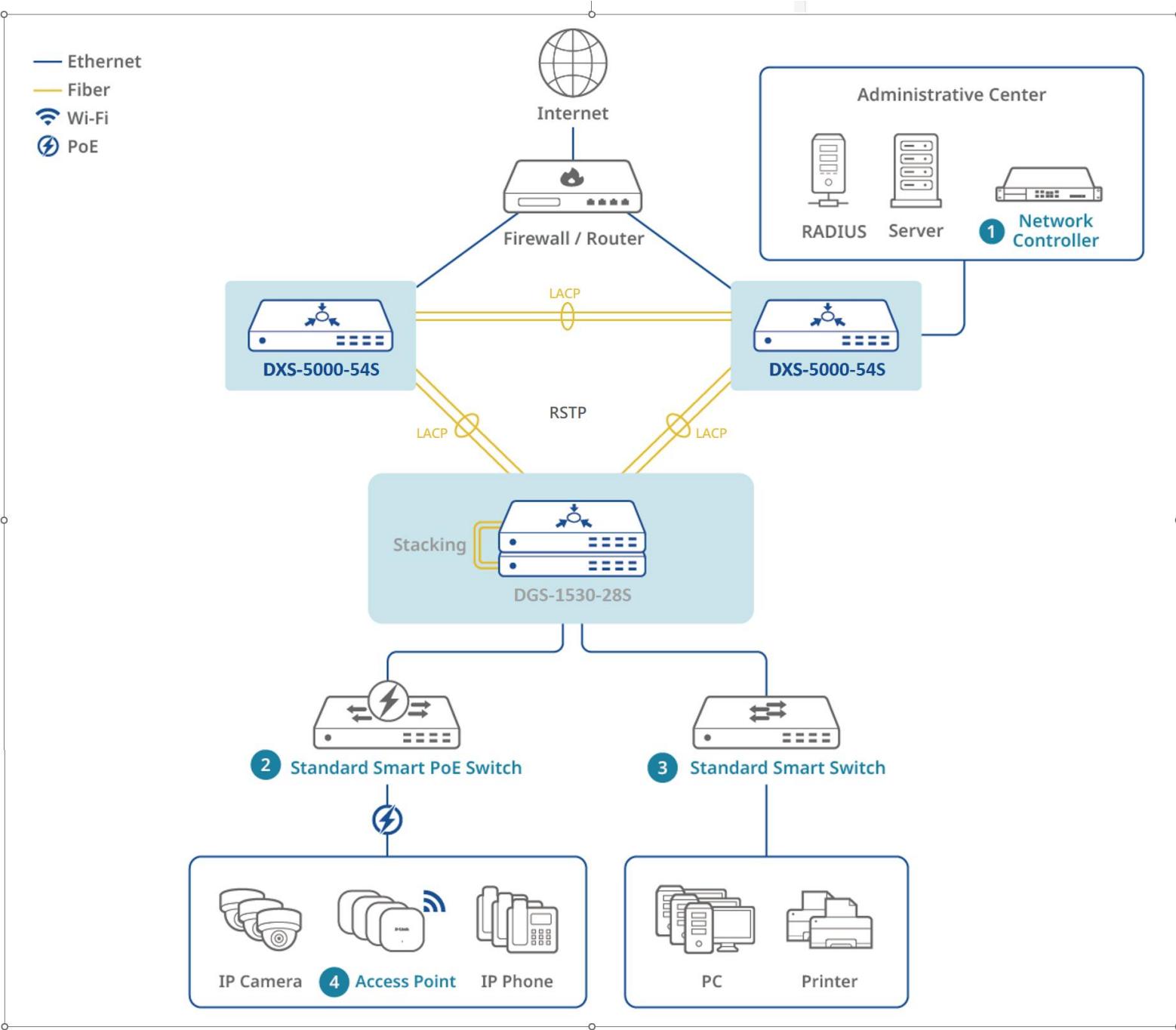
The DXS-5000-54S features a modular fan and power supply design to support high availability and reliable operation. Its hot-swappable fans and power supplies can be replaced without interrupting switch operation, helping to simplify maintenance and minimize service downtime. Load sharing enables both power supplies to evenly distribute load to increase reliability and lifetime. Meanwhile, 1+1 redundancy minimizes downtime in case of a single power supply failure.

Advanced L2/L2+ Features

The DXS-5000-54S provides a comprehensive set of configurable Layer 2 networking features, including VLANs, Quality of Service (QoS), and Spanning Tree Protocol. DSCP-based traffic classification enables different priority levels to be assigned to network traffic, allowing latency-sensitive voice and video applications to take precedence over less critical data.

The switch also supports static routing, IPv4 and IPv6, LACP link aggregation, and IGMP snooping, providing the performance, flexibility, and traffic management capabilities required for a wide range of enterprise and campus network applications.

Connection Diagram



DXS-5000-54S 10G Managed Switch

Specifications

Model	DXS-5000-54S
Hardware Version	A1
General	
Interface	• 48 x 10G SFP+ ports • 6 x 40G QSFP+ ports • 1 x USB 2.0 port
Console Port	• 1 x mini-USB console port
OOB Management Port	• 1 x 10/100/1000BASE-T RJ-45 port
Performance	
Switching Capacity	1.44 Tbps
Transmission Method	Store-and-forward
MAC Address Table	288K entries
Static MAC Addresses	128 entries
Packet Forwarding Rate	1,071 Mpps (1,071Bpps)
Packet Buffer Memory	12 Mbits
Flash Memory	64GB
DRAM Size	8GB
Physical	
Power Input	• 1+1 redundant power supply design • Input: 100 to 240 V AC, 50/60 Hz
Heat Dissipation (Max.)	1006.58 BTU/hr
Acoustics	• Max: 74 dB • Min: 62 dB
Fan	4 x fans
Operating Temperature	0 to 45 °C (32 to 113 °F)
Storage Temperature	-40 to 70°C (-40 to 158°C)
Operating Humidity	5% to 95% relative humidity
Operating Humidity	5% to 95% relative humidity
Max Power Consumption	295W
Standby Power Consumption	140W
Dimensions (L x W x H)	440 x 406 x 44 mm (17.32 x 16 x 1.73 in)
Weight	9 kg (19.8 lbs)
MTBF	205,000 hours
Certifications	
Safety	• cULus • BSMI • CB
EMI	• FCC • CB • BSMI

DXS-5000-54S 10G Managed Switch

Software

Feature		
L2 Features	• MAC address table • DXS-5000-54S: Up to 288K entries • 802.3ad Link Aggregation • Max. 64 groups per device • Max. 32 ports per group • Spanning Tree Protocol (STP) • 802.1D STP • 802.1w RSTP • 802.1s MSTP • BPDU Filter/Guard • Loop Guard • TCN Guard • Root Guard	• Supports 802.3x Flow Control • Jumbo frame • DXS-5000-54S: Up to 9 Kb • Port mirroring • Supports One-to-One, Many-to-One • Supports mirroring for Tx/Rx/Both • Supports up to 4 mirroring groups • Flow mirroring • Supports Rx mirroring • VLAN mirroring • RSPAN • Multi-Chassis Link Aggregation (MLAG)
L2 Multicast Features	• IGMP Snooping • IGMP Snooping v1/v2/v3 • IGMP Fast Leave • Supports up to 256 IGMP groups • Per-VLAN IGMP Snooping • IGMP Snooping Querier	• MLD Snooping • MLD Snooping v1/v2 • Supports up to 256 MLD groups • Per-VLAN MLD Snooping • MLD Snooping Querier
VLAN	• 802.1Q • Port-based VLAN • Multicast VLAN (ISM VLAN for IPv4/IPv6) • Private VLAN	• Double VLAN (Q-in-Q) • VLAN groups • Max. 4K VLAN groups • Max. 1~4093 VLAN IDs
Quality of Service (QoS)	• Max. of 8 priority queues per port • Queue handling • Strict Priority (SP) • Weighted Deficit Round Robin (WDRR) • Congestion control • Weighted Random Early Detection (WRED) • Bandwidth control • Queue-based bandwidth control; min. granularity of 1% of the port speed • Three Color Marker • Two Rate Three Color Marker (trTCM) • Single Rate Three Color Marker (srTCM)	• Class of Service (CoS) • Switch port • Outer 802.1p priority • ToS/IP preference • DSCP • Policy Map • Remark 802.1p priority • Remark ToS/DSCP • Rate limiting
Access Control List (ACL)	• MAC Access List based on: • 802.1p priority mask • VID mask • Source/destination MAC address mask • Ether Type mask • IP Access List based on: • Source/destination IP address mask • IP preference/ToS mask • TCP/UDP port number mask • IPv6 Access List based on: • Source/destination IP address mask • TCP/UDP port number mask • CPU interface filtering • Max. 1023 rule entries	• Time-based ACL • Max. ACL entries: • Max. ingress ACL entries: 16K • Max. egress ACL entries: 16K • Max. number of access control lists: 100 • Max. VLAN access maps: 24 • Max. ACL rule entries: 1K:

DXS-5000-54S 10G Managed Switch

Software

Feature		
Security Features	• Broadcast/unicast/multicast control • SSH • Supports v1/v1.5/v2.0 • Supports IPv4/IPv6 access • Configurable TCP port number • Port security • Supports up to 600 MAC addresses per port • DoS attack prevention • Traffic segmentation	• IP Source Guard • DHCP Snooping • IPv6 Snooping • DHCP Server Screening • Dynamic ARP Inspection (DAI) • IPv6 Route Advertisement (RA) Guard • Duplicate Address Detection (DAD) • BPDU Attack Protection
Authentication, Authorization, Accounting (AAA)	• 802.1X authentication • Supports port-based access control • Supports host-based access control • Identity-driven policy assignment • Dynamic VLAN assignment • QoS assignment • ACL assignment • Guest VLAN • RADIUS authentication	• TACACS+ authentication • MAC-based Access Control (MAC) • Supports port/host-based access control • Compatible with RADIUS server authentication • Authentication for management access • Privilege level for management access • Authentication database failover • RADIUS/TACACS+ accounting
Management	• Industry-standard CLI • Telnet server for IPv4/IPv6 access • TFTP client for IPv4/IPv6 • FTP client for IPv4/IPv6 • Secure FTP (SFTP) client for IPv4/IPv6 • Multiple images • Dual configurations • SNMP • Supports SNMP v1/v2c/v3 • Supports IPv4/IPv6 • SNMP traps • System log for IPv4/IPv6 Syslog server • Command logging • SMTP • RMON v1 • Supports 1/2/3/9 groups • DHCP/BOOTP Client support for IPv4/IPv6 DHCP/BOOTP server • DHCP Relay • Supports IPv4/IPv6 • Option 82 • Supports user-defined TLV for Option 82	• Event log • DNS client • SNTPv4 • LLDP/LLDP-MED • CDP • UDLD • sFlow v5 • DHCP auto-configuration • DHCP auto-image • Flash file system • DNS client for IPv4/IPv6 • Debug command • Password recovery/encryption • Supports IPv4/IPv6 Ping/Traceroute

DXS-5000-54S 10G Managed Switch

Ordering Information

Model	Description
DXS-5000-54S	48 Ports 10G SFP+ + 6 Ports 40G QSFP+ Managed Switch

Optional SFP Transceivers

Model	Speed
DEM-310GT	1000BASE-LX, Single-mode, 10 km
DEM-311GT	1000BASE-SX, Multi-mode, 550 m
DEM-314GT	1000BASE-LHX, Single-mode, 50 km
DGS-712	1000BASE-T to SFP transceiver

Optional 10G SFP+ Transceivers

Model	Description
DEM-431XT	10GBASE-SR, multi-mode, OM1: 33 m/ OM2: 82 m/ OM3: 300 m (with DDM)
DEM-432XT	10GBASE-LR, single-mode, 10 km (with DDM)
DEM-410T ¹	SFP+ to 10GBASE-T, Cat. 6, 30 m

Optional 40G QSFP+ Transceivers

Model	Description
DEM-QX10Q-LR4	40GBASE-LR4, single-mode, 10 km

Optional 10G SFP+ Direct Attach Cables

Model	Description
DEM-CB100S	10G SFP+ to SFP+ 1 m Direct Attach Cable
DEM-CB300S	10G SFP+ to SFP+ 3 m Direct Attach Cable
DEM-CB700S	10G SFP+ to SFP+ 7 m Direct Attach Cable
DEM-CB100QXS-4XS	40G QSFP+ to 4 10G SFP+ 1 m Direct Attach Cable

Optional 40G QSFP+ Direct Attach Cables

Model	Description
DEM-CB100QXS	40G QSFP+ to QSFP+ 1 m Direct Attach Cable
DEM-CB300QXS	40G QSFP+ to QSFP+ 3 m Direct Attach Cable

¹ The DXS-5000-54S supports up to 10 DEM-410T modules simultaneously. The ambient operating temperature must not exceed 40°C (104°F). Actual performances may vary due to settings, cabling, temperature, network configuration, interface, device compatibility, environmental and on-site conditions, and other similar factors. References to power capability, signal or processing speed, signal range or distance, data encryption, storage capacity, display properties, or other performance metrics are based on optimal conditions derived from industry standards and provided for informational purposes only. Specifications may be subject to change without prior notice.