

Highlights

High Performance

Future-proof your network with 100G uplink port speeds, forwarding rates up to 1607 Mpps, 32 MB packet buffer and 2.16 Tbps switching bandwidth

Reliable Systems

Redundancy features, including hot-swappable power supplies and redundant fan trays maximize the availability of your network. Stack up to 12 switches to operate as a single module, providing fault tolerance and increasing network reliability

Flexible and Open Architecture

Support for multiple software images to fit the need in a datacenter or Enterprise/ISP network. Supports SDN Openflow v1.3 and ONIE for an open networking approach



DXS-3610 Series

Layer 3 Stackable 10G Managed Switches

Features

High Performance and Flexibility

- Two AC/DC hot-swappable power modules for 1+1 power redundancy and load sharing
- Hot-swappable fan trays with front-to-back airflow and N+1 cooling redundancy
- Up to 1200G stacking bandwidth with twelve devices functioning together as a single unit

Data Center Features

- IEEE 802.1Qbb Priority-based Flow Control (PFC)

Advanced Features

- MPLS
- ERPS (G.8032 v1/v2)
- MACSec¹ (DXS-3610-54T 10G BASE-T port only)
- OpenFlow v1.3

OAM

- IEEE 802.3ah Ethernet link OAM
- IEEE 802.1ag
- ITU-T Y.1731

Accessible Management

- Web-based GUI, Command Line Interface (CLI)

The D-Link DXS-3610 Series Layer 3 Stackable 10G Managed Switches are a set of new, compact, high-performance switches that feature ultra low latency, with 10G Ethernet switching and routing. The 1U height and front-to-back airflow make the DXS-3610 Series suitable for Enterprise and campus aggregation network environments. The DXS-3610 Series is available in two configurations; 48 fixed 10G SFP+ with 6 fixed 100G QSFP28 and 48 fixed 10G Base-T with 6 fixed 100G QSFP28. 100G ports allow for either uplink or stacking configurations, depending on your system's needs.

Performance, Availability and Redundancy

The DXS-3610 Series boasts high-performance 10G Ethernet switching capacity of up to 2.16 Tbps with forwarding rates of up to 1607 Mpps. This switch series features hot-swappable power supplies and fan trays to provide a redundant, high-availability architecture. The modular power design allows network administrators to use either AC or DC power sources for maximum deployment flexibility. When using two power modules, the power load is distributed, extending the lifetime of the modules. The DXS-3610 Series also features a modular fan back-up design, providing n+1 redundancy for the system. Safeguarding against fan failure or rising temperatures, smart fans automatically adjust their speed.

Flexible Software

The DXS-3610 Series can be deployed using one of two different software images. The Standard Image (SI) features a wide range of Layer 2, VLAN, multicasting, Quality of Service (QoS), security, data center, and static routing protocols including RIP, VRRP and OSPF. The Enhanced Image (EI) features comprehensive IPv4/v6 routing including BGP and L3 multicasting features such as IGMP, MLD, PIM-DM, SM, SDM, SSM, and DVMRP. The Enhanced Image (EI) also supports L2/L3 MPLS VPN, which enables the DXS-3610 Series to be deployed as the core router of an enterprise environment, or as an aggregation switch in an MPLS environment. The Switch

Resource Management (SRM) feature allows the hardware table size to be dynamically adjusted, so that switch functions can be optimized based on the use of the switch. There are 3 modes: IP Mode, LAN Mode, and L2 VPN Mode. These modes modify the size of the Layer 2 and 3 tables for optimum efficiency.

Software-Defined Networking

By supporting software-defined networking (SDN), the DXS-3610 Series gives network operators more flexibility and control by providing new ways to design, build and manage their networks. As a streamlined approach to network management, SDN separates the control plane from the data plane, where the control plane manages infrastructure by utilizing open protocols such as OpenFlow. The DXS-3610 Series with SDN can help build centrally managed agile networks, abstract cloud resources and simplify network operations.

Switch and Link Failover

In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), the DXS-3610 Series also supports advanced Ethernet failover redundancy technologies, such as Ethernet Ring Protection Switching (ERPS) and FlexLink. ERPS provides millisecond-level failover in a ring topology, while FlexLink offers link failover on designated switch ports, providing link redundancy without STP or LBD.

Advanced Security and Reliability

The DXS-3610 Series provides a complete set of security features, including multi-layer Access Control Lists (ACLs) and 802.1X user authentication via TACACS+ and RADIUS. The DXS-3610 Series also offers extensive VLAN support, including GVRP and 802.1Q VLAN to enhance security and performance. A robust set of QoS features help ensure that critical network services such as Voice over IP and video conferences are given high priority on the network. The D-Link Safeguard Engine increases the switches' reliability, serviceability, and availability by preventing traffic flooding caused by malicious attacks.

Versatile Management

The DXS-3610 Series utilizes the D-Link Network Assistant (DNA) utility, an industry-standard CLI with an intuitive web-based management interface that enables administrators to set up and remotely manage their networks. Support for SNMP allows centralized management of a large number of devices and out-of-band management is available via a dedicated console port. The DXS-3610 Series can be managed through the RJ-45 console port, without any additional connections, while the USB Type A port can connect to storage devices to save logs, configuration settings, and firmware images. The DHCP auto-configuration and auto-image features enable deployment of multiple switches automatically, saving costs for mass deployment. The DXS-3610 Series employs essential OpenFlow 1.3 features, enabling the switch to be managed through an OpenFlow controller.

Technical Specifications		
General	DXS-3610-54S	DXS-3610-54T
Size	• 19-inch, 1U rack-mount	
Interfaces	• 48 x 1/10GbE SFP/SFP+ ports • 6 x 40/100GbE QSFP+/QSFP28 ports	• 48 x 1/10GbE Base-T ports • 6 x 40/100 GbE QSFP+/QSFP28 ports
Console Port	• RJ-45 console port for out-of-band management	
Management Port	• 10/100/1000 BASE-T RJ-45 Ethernet for out-of-band remote management	
USB Port	• 1 x USB 2.0 Type A port	
Performance		
Switching Capacity	• 2.16 Tbps	
Max. Forwarding Rate	• 1607.04 Mpps	
Packet Buffer Memory	• 32 MB	
MAC Address Table ²	• Up to 288K	
IPv4 Routing Table ²	• Up to 32K	
IPv6 Routing Table ²	• Up to 16K	
IPv4 Forwarding Table ²	• Up to 144K	
IPv6 Forwarding Table ²	• Up to 144k	
Jumbo Frame Size	• 9436 bytes	
Physical		
Power Input	• 1 + 1 redundant power supply design • Input: 100 to 240 V AC, 50/60 Hz	
Maximum Power Consumption	• 320.8 W	• 330.2 W
Standby Power Consumption	• 120.6 W	• 108.2 W
Heat Dissipation (Max.)	• 1083 BTU/hr	• 1126 BTU/hr
Acoustics	• Max: 79.4 dB(A) • Min: 65.3 dB(A)	• Max: 76.6 dB(A) • Min: 69.7 dB(A)
Fans	• 5 x fans	
Dimensions (W x L x H)	• 441.0 x 487.44 x 43.5 mm (17.36 x 19.19 x 1.71 in)	
Weight	• 9.80 kg (21.61 lbs)	• 9.88 kg (21.78 lbs)
Operating Temperature	• 0 to 45 °C (32 to 113 °F)	
Storage Temperature	• -40 to 70 °C (-40 to 158 °F)	
Operating Humidity	• 0% to 95% RH	
Storage Humidity	• 0% to 95% RH	
MTBF	• 94,262 hours	• 96,503 hours
Certifications		
Safety	• CB, cUL, LVD	
EMI/EMC	• FCC, CE, C-Tick, IC, VCCI	

Standard Image (SI) Features

Stackability	• Virtual Stacking/Clustering of up to 32 units • Supports D-Link Single IP Management	• Physical Stacking • Up to 1200G stacking bandwidth (by using QSFP28 DAC DEM-CB100Q28) • Up to 12 switches in a stack • Ring/chain topology support
L2 Features	• MAC Address Table • Max 288K entries² • Flow Control • 802.3x Flow Control when using full-duplex • HOL Blocking Prevention • Spanning Tree Protocol • 802.1D STP • 802.1w RSTP • 802.1s MSTP • Supports Root Restriction • Jumbo Frame • Up to 9416 bytes • Multi-Chassis Link Aggregation Group (MLAG)	• 802.1AX Link Aggregation • Max. 32 groups per device, 12 ports per group • ERPS (Ethernet Ring Protection Switching) • Port Mirroring • Supports One-to-One, Many-to-One • Supports Mirroring for Tx/Rx/Both • Supports 4 mirroring groups • Flow Mirroring • Supports One-to-One, Many-to-One • Supports Mirroring for Rx • Supports 4 mirroring groups • RSPAN mirroring • Loopback Detection • L2 Protocol Tunneling
L2 Multicast Features	• L2 Multicast Filtering • Forwards all groups • Forwards all unregistered groups • Filters all unregistered groups • MLD Snooping • MLD v1/v2 Snooping • Supports a max of 8k MLD snooping groups • Host-based MLD Snooping Fast Leave	• IGMP Snooping • IGMP v1/v2/v3 Snooping • Supports a max of 16K IGMP snooping groups • Supports 1K static multicast addresses • IGMP per VLAN • Host-based IGMP Snooping Fast Leave • PIM Snooping
L3 Features	• ARP • 512 Static ARP • Supports Gratuitous ARP • IPv6 Tunneling • Static • ISATAP • GRE • 6to4	• IP Interface • Supports 256 interfaces • Loopback Interface • IPv6 Neighbor Discovery (ND) • IP Helper
L3 Routing	• Static Routing • Max. 1K IPv4 entries • Max. 512 IPv6 entries • Supports secondary route • Supports Equal Cost/Weighted Cost multi-path route • Default Routing • Supports hardware routing entries shared by IPv4/IPv6 • Max. 32K IPv4 entries • Max. 16K IPv6 entries • Supports hardware L3 forwarding entries shared by IPv4/IPv6 • Max. 144K IPv4 entries² • Max. 144K IPv6 entries² • Route Redistribution • Default Route • Static Route	• Graceful Restart (GR) Helper • Policy Based Route • Bidirectional Forwarding Detection (BFD) • IPv4/v6 Static Route • RIP/RIPng • Supports OSPF • Supports VRRP • OSPF • OSPFv2/v3 • IPv4 Static Route • OSPF Passive Interface • OSPF Equal Cost Route • RIP • RIPv1/v2 • RIPng • VRRPv2/v3
VLAN	• 802.1Q • 802.1v Protocol-based VLAN • Double VLAN (Q-in-Q) • Port-based Q-in-Q • Selective Q-in-Q • Port-based VLAN • MAC-based VLAN • Subnet-based VLAN • Private VLAN	• VLAN Group • Max. 4K static VLAN groups • Max. 4094 VIDs • GVRP • Up to 4K dynamic VLANs • VLAN Translation • ISM VLAN (Multicast VLAN) • Private VLAN • Super VLAN • VLAN Trunking

AAA	• 802.1X Authentication • Supports port-based access control • Supports host-based access control • Dynamic VLAN assignment • Identity-driven policy (VLAN/ACL/QoS) assignment • Web-based Access Control (WAC) • Supports port-based access control • Supports host-based access control • Dynamic VLAN Assignment • Identity-driven Policy (VLAN/ACL/QoS) Assignment	• MAC-based Access Control (MAC) • Supports port-based access control • Supports host-based access control • Dynamic VLAN Assignment • Identity-driven Policy (VLAN/ACL/QoS) Assignment • Guest VLAN • Compound Authentication • Microsoft NAP • Supports 802.1X NAP • Supports DHCP NAP • RADIUS and TACACS+ authentication • Authentication Database Failover • Trusted Host
QoS (Quality of Service)	• 802.1p Quality of Service (QoS) • 8 queues per port • Queue handling • Strict • Weighted Round Robin (WRR) • Strict + WRR • Round Robin (RR) • Weighted Deficit Round Robin (WDRR) • QoS based on: • 802.1p Priority Queues • DSCP • IP address • MAC address • VLAN • IPv6 Traffic Class • IPv6 Flow Label • TCP/UDP port	• Bandwidth Control • Port-based (ingress/egress, min. granularity 8 Kb/s) • Flow-based (ingress/egress, min. granularity 8 Kb/s) • Per queue bandwidth control (min. granularity 8 Kb/s) • Three Color Marker • trTCM • srTCM • Congestion Control • WRED • Support for following actions: • Remark 802.1p priority tag • Remark TOS/DSCP tag • Bandwidth Control • Committed Information Rate (CIR)
Access Control List (ACL)	• ACL based on: • 802.1p priority • VLAN • MAC address • EtherType • IP address • DSCP • Protocol type • TCP/UDP port number • IPv6 Traffic Class • IPv6 Flow Label	• Max. ACL entries: • 2304 ingress ACL rules • 2K egress ACL rules • 3K VLAN Access Maps • Time-based ACL
Security	• Port Security • Supports up to 12K MAC addresses per port/system • Broadcast/Multicast/Unicast Storm Control • D-Link Safeguard Engine • DHCP Server Screening • IP-MAC-Port Binding (IMPB) • Dynamic ARP Inspection • IP Source Guard • DHCP Snooping • IPv6 Snooping • DHCPv6 Guard • IPv6 Route Advertisement (RA) Guard	• IPv6 ND Inspection • ARP Spoofing Prevention • Max. 64 entries • Traffic Segmentation • SSL • Supports IPv4/v6 access • Supports TLS 1.2 • SSH • Supports v2 • Supports IPv4/v6 access • BPDU Attack Protection • DOS Attack Prevention

Management	• Web-based GUI • CLI • Telnet Server/Client • TFTP Client • FTP Client • Traffic Monitoring • SNMP • Supports v1/v2c/v3 • SNMP Trap • System Log • DHCP Client • DHCP Server • DHCP Relay options 12, 60, 61, 82 • Multiple Image • Multiple Configuration • Flash File System • Microsoft® Network Load Balancing (NLB) • Switch Resource Management (SRM) • sFlow	• DNS Resolver • CPU Monitoring • MTU Setting • Traceroute and Ping • LLDP/LLDP-MED • DNS Relay • SMTP • DHCP Auto Configuration • SNTP • RCP (Remote Copy Protocol) • RMONv1 • RMONv2 • Trusted Host • Password encryption • Debug command • IPv6 Stateless Address Auto-configuration (SLAAC) • D-Link Discover Protocol (DDP) • D-Link License Management System (DLMS) • OpenFlow v1.3
Enhanced Image (EI) Additional Features		
L3 Multicasting	• Multicast Table Size: Up to 16K³ • IGMP v1, v2c, v3 • PIM-SM IPv4/IPv6 • PIM-DM • Multicast Source Discovery Protocol (MSDP)	• PIM-Sparse-Dense Mode • PIM-SSM • DVMRP v3 • MLD v1/v2
MPLS	• Label Distribution Protocol (LDP) • Penultimate Hop Popping (PHP) • Virtual Private Wire Service (VPWS) • Virtual Private LAN Service (VPLS)	• BGP/MPLS VPN • Multiprotocol extensions for BGP4 • Virtual Routing Forwarding (VRF) • LSP MPLS Ping/Traceroute • VCCV Ping/Traceroute
L3 VPN	• MPLS/BGP L3 VPN • MP-BGP	• VRF aware application
L3 Routing	• BGP v4/v4+ • IS-IS • IS-ISv6 • VRF Lite • BGPv4 • OSPFv2 • IPV4 Static Route • RIPv1/2	• IP Directed Broadcast • Bidirectional Forwarding Detection (BFD) • BGP

Standards

MIB and RFC Standards

- RFC1213 MIB II
- RFC1907 SNMP v2 MIB
- RFC5519 IGMP v3 MIB
- RFC1724 RIP v2 MIB
- RFC2021 RMONv2 MIB
- RFC1643, RFC2358, RFC2665 Ether-like MIB
- RFC4836 802.3 MAU MIB
- RFC4363 802.1p MIB
- RFC2618 RADIUS Authentication Client MIB
- RFC4292 IP Forwarding Table MIB
- RFC2932 IPv4 Multicast Routing MIB
- RFC2934 PIM MIB for IPv4
- RFC2620 RADIUS Accounting Client MIB
- RFC2925 Traceroute MIB
- RFC2925 Ping MIB
- RFC1850 OSPF MIB
- Private MIB
- RFC1112, RFC2236, RFC3376, RFC4541 IGMP Snooping
- RFC4363 802.1v
- RFC2338 VRRP
- RFC1058, RFC1388, RFC1723, RFC2453, RFC2080 RIP
- RFC1370 Applicability Statement for OSPF
- RFC1765 OSPF Database Overflow
- RFC2328 OSPF v2
- RFC2740 OSPF for IPv6
- RFC3101 OSPF Not-So-Stubby Area (NSSA) option; makes RFC1587 obsolete
- RFC2328 makes RFC2178 obsolete
- RFC2178 makes RFC1583 obsolete
- RFC1771, RFC1997, RFC2439, RFC2796, RFC2842, RFC2918 BGP
- RFC3973 PIM-DM
- RFC5059 PIM-SM
- RFC3569, RFC4601, RFC4608, RFC4607, RFC4604 PIM SSM
- RFC3376 IGMP
- RFC2475 Priority Queue Mapping
- RFC2475, RFC2598 Class of Service (CoS)
- RFC2597, RFC2598 QoS Flow Actions
- RFC2697, RFC2698 Three Color Marker, RFC2093, RFC2904, RFC2095, RFC2906 AAA
- RFC1321, RFC2144, RFC2313, RFC2420, RFC2841, RFC3394 Encryption
- RFC2289 One-Time
- RFC3580 802.1X
- RFC2866 RADIUS Accounting
- RFC2138, RFC2139, RFC2865, RFC2618 RADIUS Author. for Management Access
- RFC1492 TACACS+ Auth. for Management Access
- RFC2068, RFC2616 Web-based GUI
- RFC854 Telnet Server
- RFC783, RFC1350 TFTP Client
- RFC1157, RFC1901, RFC1908, RFC2570, RFC2574, RFC2575, RFC3411-17 SNMP
- RFC3164 System Log
- RFC2819 RMON v1
- RFC951, RFC1542, RFC2131, RFC3046 BootP/DHCP Client
- RFC1769 Time Setting
- RFC2131 DHCP Server
- RFC1191 MTU Setting
- RFC1065, RFC1066, RFC1155, RFC1156, RFC2578 MIB Structure
- RFC1215 MIB Traps Convention
- RFC4188 Bridge MIB
- RFC1157, RFC2571-2576, RFC3411-3415, RFC3418 SNMP MIB
- RFC1901-1908, RFC1442, RFC2578 SNMP v2 MIB
- RFC2737 Entity MIB
- RFC768 UDP
- RFC791 IP
- RFC792 ICMP
- RFC793 TCP
- RFC826 ARP
- RFC1338, RFC1519 CIDR
- RFC2716, RFC3748 EAP
- RFC2571, RFC2572, RFC2573, RFC2574 SNMP

Ordering Information

Part Number	Description
DXS-3610-54S	• 48-port 10G SFP+, 6-port 100G QSFP28 interfaces switch with Standard Image with 2 full load front-to-back AC PSUs and 5 front-to-back fan modules
DXS-3610-54T	• 48-port 10GBase-T, 6-port 100G QSFP28 interfaces switch with Standard Image with 2 front-to-back AC PSUs and 5 front-to-back fan modules
DXS-3610-54S-SE-LIC	• DXS-3610-54S Standard Image to Enhanced Image License
DXS-3610-54T-SE-LIC	• DXS-3610-54T Standard Image to Enhanced Image License
DXS-PWR700AC	• 770 W AC modular power supply with front-to-back airflow
DXS-PWR1000DC	• 1100 W DC modular power supply with front-to-back airflow
DXS-FAN200	• Fan tray with front-to-back airflow

Optional Management Software

DV-700-N25-LIC	• D-View 7 - 25 Node License
DV-700-N50-LIC	• D-View 7 - 50 Node License
DV-700-N100-LIC	• D-View 7 - 100 Node License
DV-700-N250-LIC	• D-View 7 - 250 Node License
DV-700-N500-LIC	• D-View 7 - 500 Node License
DV-700-N1000-LIC	• D-View 7 - 1000 Node License
DV-700-P5-LIC	• D-View 7 - 5 Probe License
DV-700-P10-LIC	• D-View 7 - 10 Probe License
DV-700-P25-LIC	• D-View 7 - 25 Probe License
DV-700-P50-LIC	• D-View 7 - 50 Probe License
DV-700-P100-LIC	• D-View 7 - 100 Probe License

Optional 100G QSFP28 Transceivers⁴

DEM-Q2801Q-SR4	• 100GBASE-SR4 QSFP28, Multi-Mode 100 m SR4 transceiver
DEM-Q2810Q-LR4	• 100GBASE-LR4 QSFP28, Single-Mode 10 km LR4 transceiver

Optional 40G QSFP+ Transceivers⁴

DEM-QX01Q-SR4	• 40GBASE-SR4 Multi-mode, OM3:100M/OM4:150 m
DEM-QX10Q-LR4	• 40GBASE-LR4 Single-mode, 10 km

DXS-3610 Series Layer 3 Stackable 10G Managed Switches

Optional 10G SFP+ Transceivers⁴

DEM-431XT	• 10GBASE-SR SFP+ transceiver (w/o DDM), 80 m: OM1 & OM2 MMF, 300 m: OM3 MMF
DEM-432XT	• 10GBASE-LR SFP+ transceiver (w/o DDM), 10 km
DEM-433XT	• 10GBASE-ER SFP+ transceiver (w/o DDM), 40 km
DEM-434XT	• 10GBASE-ZR SFP+ transceiver (w/o DDM), 80 km
DEM-436XT-BXU	• 10GBASE-LR BiDi SFP+ transceiver (w/o DDM) 20 km, Tx: 1270 nm, Rx: 1330 nm
DEM-436XT-BXD	• 10GBASE-LR BiDi SFP+ transceiver (w/o DDM) 20 km, Tx: 1330 nm, Rx: 1270 nm

Optional 1G SFP Transceivers⁴

DEM-310GT	• 1000BASE-LX SFP transceiver, single-mode fiber, 10 km, 3.3 V operating voltage
DEM-311GT	• 1000BASE-SX SFP transceiver, multi-mode fiber, 550 m, 3.3 V operating voltage
DEM-312GT2	• 1000BASE-SX SFP transceiver multi-mode fiber, 2 km, 3.3 V operating voltage
DEM-314GT	• 1000BASE-LHX SFP transceiver, single-mode fiber, 50 km, 3.3 V operating voltage
DEM-315GT	• 1000BASE-ZX SFP transceiver, single-mode fiber, 80 km, 3.3 V operating voltage
DEM-330T	• 1000BASE-BX WDM SFP transceiver, single-mode fiber, 10 km, 3.3 V operating voltage, Tx: 1550 nm, Rx: 1310 nm
DEM-330R	• 1000BASE-BX WDM SFP transceiver, single-mode fiber, 10 km, 3.3 V operating voltage, Tx: 1310 nm, Rx: 1550 nm
DEM-331T	• 1000BASE-BX WDM SFP transceiver, single-mode fiber, 40 km, 3.3 V operating voltage, Tx:1550 nm, Rx: 1310 nm
DEM-331R	• 1000BASE-BX WDM SFP transceiver single-mode fiber, 40 km, 3.3 V operating voltage, Tx: 1310 nm, Rx: 1550 nm
DGS-712	• 1000BASE-TX SFP transceiver

Optional 100G QSFP28 Direct Attach Cables

DEM-CB100Q28	• 100G QSFP28 to QSFP28 1 m Direct Attach Cable
DEM-CB100Q28-4S28	• 100G QSFP28 to 4x 25G SFP28 1 m Direct Attach Cable

Optional 40G QSFP+ Direct Attach Cables

DEM-CB100QXS	• 40G QSFP+ to QSFP+ 1 m Direct Attach Cable
DEM-CB300QXS	• 40G QSFP+ to QSFP+ 3 m Direct Attach Cable
DEM-CB100QXS-4XS	• 40G QSFP+ to 4 10G SFP+ 1 m Direct Attach Cable

Optional 10G SFP+ Direct Attach Cables

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

¹ Will be supported in future releases.

² Based on maximum value of Switch Resource Management (SRM)

³ Table is shared between all multicast functions

⁴ Only supports full duplex mode

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