

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.

Flexible and Open Architecture

Support for multiple software images to fit the need in a datacenter or Enterprise/ISP network. Supports SDN OpenFlow v1.4 and ONIE for an open networking approach.



DXS-F3610 Series

Layer 3 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

Data Center Features

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

Advanced Features

- ERPS (G.8032 v1/v2)
- OpenFlow v1.4

OAM

- IEEE 802.3ah Ethernet link OAM
- IEEE 802.1ag

Accessible Management

- Web-based GUI (only through AMPCON), Command Line Interface (CLI)

The D-Link DXS-F3610 Series Layer 3 10G Managed Switches are a set of new, compact, high-performance switches that feature ultralow latency, with 10G Ethernet switching and routing. The 1U height and front-to-back airflow make the DXS-F3610 Series suitable for Enterprise and campus aggregation network environments. The DXS-F3610 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 uplink configurations, depending on your system's needs.

Performance, Availability and Redundancy

The DXS-F3610 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-F3610 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-F3610 Series can be deployed as CORE switch. 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 comprehensive IPv4/v6 routing including BGP and L3 multicasting features such as IGMP, SM, SSM. The supports which enable the DXS-F3610 Series to be deployed as the core router of an enterprise environment, or as an aggregation switch

Software-Defined Networking

By supporting software-defined networking (SDN), the DXS-F3610 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-F3610 Series with SDN can help build centrally managed agile networks, abstract cloud resources and simplify network operations.

Switch and Link Failover

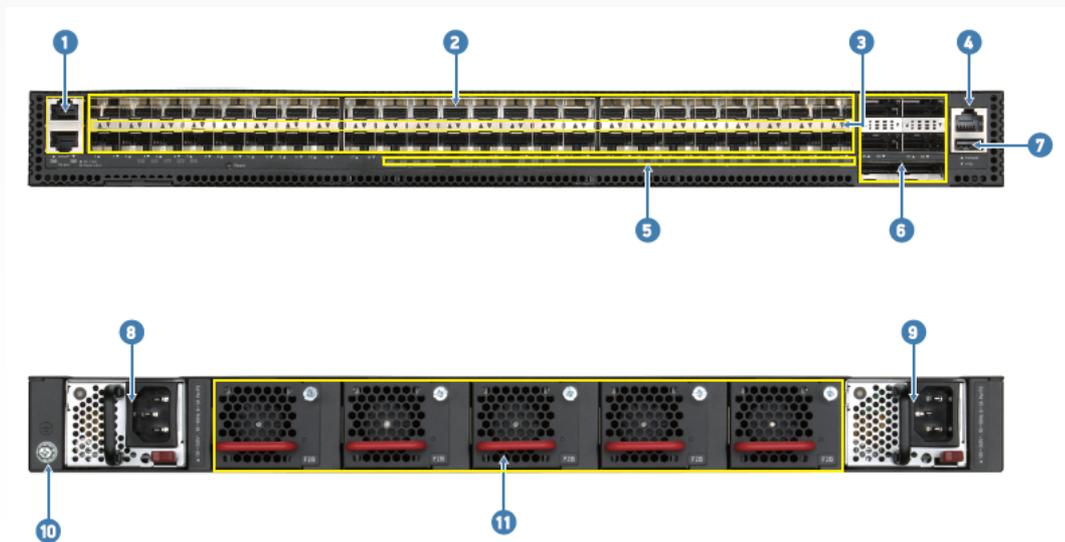
In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), the DXS-F3610 Series also supports advanced Ethernet failover redundancy technologies, such as Ethernet Ring Protection Switching (ERPS) and it provides millisecond-level failover in a ring topology, while Up-Link failover detection (UFD) offers link failover on designated switch ports, providing link redundancy without STP or LBD.

Advanced Security and Reliability

The DXS-F3610 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-F3610 Series also offers extensive VLAN support, including GVRP (MVRP) 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. Increases the switches' reliability, serviceability, and availability by preventing traffic flooding caused by malicious attacks.

Versatile Management

The DXS-F3610 Series utilizes the, an industry-standard CLI with 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 and Management Ethernet Port. The DXS-F3610 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-F3610 Series employs essential OpenFlow 1.4 features, enabling the switch to be managed through an OpenFlow controller.



Description			
1	2 x management ports (MGMT)	7	USB storage port
2	48 x 10G SFP+ ports OR 48 x 10G BASE-T ports	8	PSU 2
3	Port LED indicators	9	PSU 1
4	Console port	10	Grounding point
5	40/100 Breakout mode LEDs	11	Hot-swappable 4+1 redundant fans
6	6 x QSFP28 ports		

Technical Specifications		
General	DXS-F3610-54S	DXS-F3610-54T
Size	• 19-inch, 1U rackmount	
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	
DRAM	16 GB S0-DIMM DDR4	
Flash Memory	32MB SPI NOR, M.2 32GB MLC	
CPU	Intel Atom/Denverton C3558 2.2GHz 4 core x86 processor	
Performance		
Switching Capacity	2.16 Tbps	
MAX. Forwarding Rate	1607.04 Mpps	
Packet Buffer Memory	32 MB	
MAC Address Table	160K	
Jumbo Frame Size	9416 bytes	
Physical		
Power Input	1 + 1 redundant power supply design Input: 100 to 240 V AC, 50/60 Hz	
Maximum Power Consumption	356 W	330.2 W
Fans	5 x fans	
Dimensions (W x L x H)	442.2 x 473.3 x 43.95 mm	
Weight	8.815 kg	
Operating Temperature	0 to 40 °C	
Storage Temperature	-40 to 70 °C (-40 to 158 °F)	
Operating Humidity	5% to 90% RH	
Storage Humidity	5% to 90% RH	
Certifications		
Safety	UL	
EMI/EMC	CE, FCC	

Standard Image (SI) Features	
High Availability	<ul style="list-style-type: none"> Multi-Chassis Link Aggregation Group (MLAG)
L2 Features	<ul style="list-style-type: none"> MAC Address Table <ul style="list-style-type: none"> Max 160K entries Flow Control <ul style="list-style-type: none"> 802.3x Flow Control when using full-duplex Back Pressure when using half-duplex HOL Blocking Prevention Spanning Tree Protocol <ul style="list-style-type: none"> 802.1D STP 802.1w RSTP 802.1s MSTP Supports Root Restriction Jumbo Frame <ul style="list-style-type: none"> Up to 9416 bytes 802.1AX Link Aggregation <ul style="list-style-type: none"> Max. 32 groups per device, 8 ports per group ERPS (Ethernet Ring Protection Switching) Port Mirroring <ul style="list-style-type: none"> Supports One-to-One, Many-to-One Supports Mirroring for Tx/Rx/Both Flow Mirroring <ul style="list-style-type: none"> Supports One-to-One, Many-to-One Supports Mirroring for Rx ERSPAN mirroring Loopback Detection L2 Protocol Tunneling
L2 Multicast Features	<ul style="list-style-type: none"> L2 Multicast Filtering <ul style="list-style-type: none"> Forwards all groups Forwards all unregistered groups Filters all unregistered groups IGMP Snooping <ul style="list-style-type: none"> IGMP v1/v2/v3 Snooping Supports a max of 1K IGMP snooping groups Supports 1K static multicast addresses. IGMP per VLAN Host-based IGMP Snooping Fast Leave PIM Snooping
L3 Features	<ul style="list-style-type: none"> ARP <ul style="list-style-type: none"> 512 Static ARP Supports Gratuitous ARP IP Interface <ul style="list-style-type: none"> Supports 1K interfaces. Loopback Interface IPv6 Neighbor Discovery (ND)
L3 Routing	<ul style="list-style-type: none"> Static Routing <ul style="list-style-type: none"> Max. 1K IPv4 entries Max. 512 IPv6 entries Supports Equal Cost/Weighted Cost multi-path route Default Routing L2 mode: IPv4/IPv6 route up to 96k (route table) L3 mode: Route up to 115k (route table) Route Redistribution <ul style="list-style-type: none"> Default Route Static Route Graceful Restart (GR) Helper Policy Based Route Bidirectional Forwarding Detection (BFD) <ul style="list-style-type: none"> Supports OSPF BGP PIM OSPF <ul style="list-style-type: none"> OSPFv2/v3 OSPF Passive Interface OSPF Equal Cost Route RIP <ul style="list-style-type: none"> RIPv1/v2 RIPng VRRPv2/v3
VLAN	<ul style="list-style-type: none"> 802.1Q 802.1v Protocol-based VLAN Double VLAN (Q-in-Q) <ul style="list-style-type: none"> Port-based Q-in-Q Selective Q-in-Q Port-based VLAN MAC-based VLAN Subnet-based VLAN Private VLAN VXLAN VLAN Group <ul style="list-style-type: none"> Max. 4K static VLAN groups Max. 4094 VIDs GVRP <ul style="list-style-type: none"> Up to 4K dynamic VLANs VLAN Translation ISM VLAN (Multicast VLAN) VLAN Trunking

AAA	<ul style="list-style-type: none"> • 802.1X Authentication <ul style="list-style-type: none"> • 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) <ul style="list-style-type: none"> • Supports port-based access control • Supports host-based access control • Dynamic VLAN Assignment • Identity-driven Policy (VLAN/ACL) Assignment 	<ul style="list-style-type: none"> • MAC-based Access Control (MAC) <ul style="list-style-type: none"> • Supports port-based access control • Supports host-based access control • Dynamic VLAN Assignment • Identity-driven Policy (VLAN/ACL) Assignment • Guest VLAN • Compound Authentication • Microsoft NAP, Cisco ISE, HP Aruba Clear Pass, <ul style="list-style-type: none"> • Supports 802.1X NAP • RADIUS and TACACS+ authentication • Authentication Database Failover • Trusted Host
QoS (Quality of Service)	<ul style="list-style-type: none"> • 802.1p Quality of Service (QoS) • 8 queues per port • Queue handling <ul style="list-style-type: none"> • Strict • Weighted Round Robin (WRR) • Weighted Deficit Round Robin (WDRR) • QoS based on: <ul style="list-style-type: none"> • 802.1p Priority Queues • DSCP • IP address • MAC address • VLAN • IPv6 Traffic Class • IPv6 Flow Label • TCP/UDP port 	<ul style="list-style-type: none"> • Bandwidth Control <ul style="list-style-type: none"> • Port-based (ingress/egress, min. granularity 64 Kb/s) • Flow-based (ingress/egress, min. granularity 64 Kb/s) • Per queue bandwidth control (min. granularity 64 Kb/s) • Congestion Control <ul style="list-style-type: none"> • WRED • Support for following actions: <ul style="list-style-type: none"> • Remark 802.1p priority tag • Remark TOS/DSCP tag • Bandwidth Control • Committed Information Rate (CIR)
Access Control List (ACL)	<ul style="list-style-type: none"> • ACL based on: <ul style="list-style-type: none"> • 802.1p priority • VLAN • MAC address • EtherType • IP address • DSCP • Protocol type • TCP/UDP port number • IPv6 Traffic Class • IPv6 Flow Label 	<ul style="list-style-type: none"> • Max. ACL entries: <ul style="list-style-type: none"> • 2K ingress ACL rules • 1K egress ACL rules • Time-based ACL
Security	<ul style="list-style-type: none"> • Port Security <ul style="list-style-type: none"> • Supports up to 12K MAC addresses per port. • Broadcast/Multicast/Unicast Storm Control • 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 	<ul style="list-style-type: none"> • IPv6 ND Inspection • ARP Spoofing Prevention <ul style="list-style-type: none"> • Max. 64 entries • Traffic Segmentation • SSL <ul style="list-style-type: none"> • Supports IPv4/v6 access • Supports TLS 1.2 • SSH <ul style="list-style-type: none"> • Supports v2 • Supports IPv4/v6 access • BPDU Attack Protection • DOS Attack Prevention

<p>Management</p>	<ul style="list-style-type: none"> • Web-based GUI (Using AMPCON) • CLI • Telnet Server/Client • TFTP Client • FTP Client • Password encryption • SFlow • Debug command • Traffic Monitoring • SNMP <ul style="list-style-type: none"> • Supports v1/v2c/v3 • SNMP Trap • SNTp • System Log • DHCP Client • RMONv1/v2
<p>L3 Multicasting</p>	<ul style="list-style-type: none"> • Multicast Table Size: Up to 1K • IGMP v1, v2c, v3 <ul style="list-style-type: none"> • PIM-SSM • PIM-SM IPv4/IPv6 • Multicast Source Discovery Protocol (MSDP)
<p>L3 Routing</p>	<ul style="list-style-type: none"> • BGP v4/v4+ • IS-IS • BGP • VRF Lite <ul style="list-style-type: none"> • BGPv4 • OSPFv2 • IPv4 Static Route • IP Directed Broadcast • Bidirectional Forwarding Detection (BFD)

DXS-F3610 Series

Layer 3 10G Managed Switches

Ordering Information	
Part Number	Description
DXS-F3610-54S	48 10G SFP+ Ports & 6 x 100G QSFP28 Two AC modular power supplies and five fan modules with front-to-back airflow, 1U, 19-inch rack-mounted installation.
DXS-F3610-54T	48 10G BASE-T Ports & 6 x 100G QSFP28 Two AC modular power supplies and five fan modules with front-to-back airflow, 1U, 19-inch rack-mounted installation.
Optional 10 Gbe SFP+ Transceivers & DAC cable	
DEM-431XT	10GBASE-SR Multi-mode, OM1:33M/OM2:82M/OM3:300M
DEM-432XT/TW	10GBASE-LR Single-mode, 10 km
DEM-F410T	10GBASE-T up to 30 m with CAT 6A cable
DEM-CB100S	10G SFP+ to SFP+ 1 m Direct Attach Cable
DEM-CB300S	10G SFP+ to SFP+ 3 m Direct Attach Cable
Optional 1 Gbe SFP Transceivers	
DGS-712-G	1000BASE-T Copper SFP Transceiver
DEM-310GT/TW	1000BASE-LX Single-mode, 10 km
DEM-311GT	1000BASE-SX Multi-mode, 550 m
Optional 100G QSFP28 Transceivers ⁴	
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+ Transceivers ⁴	
DEM-QX01Q-SR4	40GBASE-SR4 Multi-mode, OM3:100M/OM4:150 m
DEM-QX10Q-LR4	40GBASE-LR4 Single-mode, 10 km
Optional 100G QSFP28 Direct Attach Cables	
DEM-CB100Q28	100G QSFP28 to QSFP28 1 m Direct Attach Cable
Optional 40G QSFP+ Direct Attach Cables	
DEM-CB100QXS	40G QSFP+ to QSFP+ 1 m Direct Attach Cable