D-Link®
Building Networks for People

Highlights

High Performance
Get the speeds your network needs with up to 960/480 Gbps switching capacity and 714.3/357.1 Mpps forwarding rate

Reliability
The DXS-3600 Series supports dual load sharing for AC power supply, as well as Data Center Bridging to provide "lossless Ethernet" transmission quality

Energy Saving
Intelligent and removable redundant smart fans keep the switch cool and power consumption low

DXS-3600 Series
Top-of-Rack 10 Gigabit Managed Switch

Features

High Performance and Flexibility
- Two AC/DC hot-swappable power modules for 1+1 power redundancy and load sharing
- Three hot-swappable fan trays with airflow control providing N+1 cooling redundancy
- Attain up to 480G stacking bandwidth with four devices functioning together as one[1]

Data Center Features
- IEEE 802.1Qbb Priority-based Flow Control (PFC)
- IEEE 802.1Qaz Enhanced Transmission Selection (ETS)
- IEEE 802.1Qau Congestion Notification (QCN)

Advanced Features
- MPLS
- OSPF/BGP/IS-IS
- ERPS (G.8032 v1/v2)
- Three Color Marker

Easy Management
- Web-based GUI, Command Line Interface (CLI)
- RADIUS/TACAS+
- LLDP/LLDP-MED

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

The D-Link DXS-3600 Series Top-of-Rack 10 Gigabit Managed Switch are a set of new, compact, high-performance switches that feature very low latency wire speed 10G Ethernet switching and routing. The 1U height and selectable front-to-back or back-to-front air flow make the DXS-3600 Series suitable for enterprise and campus aggregation network environments. The DXS-3600 Series switches have 8 or 24 fixed 10G SFP+ ports and can accommodate more ports with the addition of an expansion module. The expansion modules not only provide extra 10G SFP+ ports, but also increase flexibility by allowing 120G stacking[1] or low-cost 10GBASE-T connections for different applications.

Convenient Deployment

The DXS-3600 Series provides your network with high-performance 10G Ethernet switching capacities of up to 960 Gbps and forwarding rates of up to 714 Mpps. These switches feature hot-swappable power supplies and fan trays, which enable the switches to have redundant, high-availability architecture. When inserting two power modules, both power modules share the load and help to extend the lifetime of the other. The DXS-3600 Series also features a modular fan design; three fans can back up each other, providing 2+1 redundancy for the system. If a fan fails or the temperature rises, the smart fans will adjust their speed automatically.

Flexible Software

The DXS-3600 Series can be deployed using one of two different software images[1]. The Standard Image (SI) features a wide range of Layer 2, VLAN, multicasting, Quality of Service (QoS), security, data center, and static routing functions. The Enhanced Image (EI) features comprehensive IPv4/v6 routing including RIP, VRRP, OSPF, 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-3600 Series to be deployed as the core router of an enterprise environment, or as an aggregation switch in an MPLS environment.

Data Center Features

Data Center Bridging (DCB) is an essential set of enhancements to Ethernet for networking in data center environments. The DXS-3600 Series switches support several core components of Data Center Bridging (DCB) such as IEEE 802.1Qbb, IEEE 802.1Qaz, and IEEE 802.1Qau. IEEE 802.1Qbb (Priority-based Flow Control) provides flow control to ensure there is no data loss during network congestion. IEEE 802.1Qaz (Enhanced Transmission Selection) manages the allocation of bandwidth based on different traffic classes. IEEE 802.1Qau (Congestion Notification) provides congestion management for data flows within network domains to avoid congestion. The DXS-3600 Series switches also support cut-through switching, which reduces latency when transmitting data in a network.
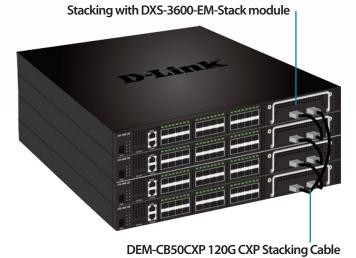
Energy-Efficient

The DXS-3600 Series allows users to manage airflow by using different power and fan module configurations. Front-to-back airflow optimises air circulation to provide more effective cooling throughout rack systems in data centers where the switches are used when compared to side-to-side airflow. The switches also feature built-in smart fans. Internal heat sensors monitor and detect temperature changes and automatically adjust the fan speed accordingly. At lower temperatures, the fans will run slower, reducing both the switch's power consumption and noise.

Stacking with DXS-3600-EM-Stack (DXS-3600-32S only)

DXS-3600-32S with stacking module to build a physical stacking architecture which provides:

- Up to 96 10G SFP+ ports
- Up to 480G stacking bandwidth
- High redundancy and reliability

Stacking with DXS-3600-EM-Stack module

DEM-CB50CXP 120G CXP Stacking Cable

D-Link Assist
Rapid Response Support

If the worst should happen to your network you need the very best support and fast. Downtime costs your business money. D-Link Assist maximises your uptime by solving technical problems quickly and effectively. Our highly trained technicians are on standby around the clock, ensuring that award-winning support is only a phone call away.

With a choice of three affordable service offerings covering all D-Link business products, you can select the package that suits you best:

D-Link Assist Gold - for comprehensive 24-hour support

D-Link Assist Gold is perfect for mission-critical environments where maximum uptime is a high priority. It guarantees four hour around-the-clock response. Cover applies 24/7 for every day of the year including holidays.

D-Link Assist Silver - for prompt same-day assistance

D-Link Assist Silver is designed for 'high availability' businesses that require rapid response within regular working hours. It provides a four hour response service Monday to Friday from 8am to 5pm, excluding holidays.

D-Link Assist Bronze - for guaranteed response on the next business day

D-Link Assist Bronze is a highly cost-effective support solution for less critical environments. Response is guaranteed within eight business hours Monday to Friday from 8am to 5pm, excluding holidays.

D-Link Assist can be purchased together with any D-Link business product. So whether you're buying switching, wireless, storage, security or IP Surveillance equipment from D-Link, your peace of mind is guaranteed. D-Link Assist also offers installation and configuration services to get your new hardware working quickly and correctly.

Technical Specifications		
Model	• DXS-3600-32S	• DXS-3600-16S
General		
Interfaces	• 24 fixed SFP+ 10G ports with one expansion slot	• 8 fixed SFP+ 10G ports with one expansion slot
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	
SD Card Slot	• 1 slot	
Performance		
Switching Capacity	• 960 Gbps	• 480 Gbps
Max. Forwarding Rate	• 714.28 Mpps	• 357.14 Mpps
Packet Buffer Memory	• 9 MB	
MAC Address Table	• 128K	
Physical		
Power Input	• 100 to 240 V AC, 50/60 Hz	
Maximum Power Consumption	• 116.8 W (without expansion module)	• 74.3 W (without expansion module)
Standby Power Consumption	• 88.2 W	• 69.9 W
Heat Dissipation (Max.)	• 398.29 BTU/hr (without expansion module)	• 253.36 BTU/hr (without expansion module)
Heat Dissipation (Standby)	• 300.76 BTU/hr	• 238.36 BTU/hr
Dimensions (W x L x H)	• 440 x 506 x 44 mm (17.32 x 19.92 x 1.73 in)	
Weight	• 10.71 kg (23.6 lbs)	• 9.89 kg (21.8 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	
Certifications		
Safety	• CB, cUL, LVD	
EMI/EMC	• FCC, CE, C-Tick, IC, VCCI	

Standard Image (SI) Features

Stackability	• DXS-3600-32S with:
	  • DXS-3600-EM-Stack expansion module: 480G stacking bandwidth
	• Physical Stacking
	  • Up to 480G stacking bandwidth
	  • Up to 4 switches in a stack
	  • Ring/chain topology support
		• Virtual Stacking/Clustering of up to 32 units
		  • Supports D-Link Single IP Management

L2 Features	• MAC Address Table
	  • 128K entries
	• Flow Control
	  • 802.3x Flow Control when using full-duplex
	  • Back Pressure when using half-duplex
	  • HOL Blocking Prevention
	• Spanning Tree Protocol
	  • 802.1D STP
	  • 802.1w RSTP
	  • 802.1s MSTP
	  • Supports Root Restriction
	• Jumbo Frame
	  • Up to 12,000 bytes
		• 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 4K groups
	  • Host-based MLD Snooping Fast Leave
		• IGMP Snooping
		  • IGMP v1/v2/v3 Snooping
		  • Supports 4K IGMP 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
		• IP Interface
		  • Supports 256 interfaces
		• Loopback Interface
		• IPv6 Neighbor Discovery (ND)

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

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:
		  • 1792 ingress ACL rules
		  • 1K 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 v1/v2/v3
		  • Supports IPv4/v6 access
		• 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	• DNS Resolver • CPU Monitoring • MTU Setting • Traceroute & 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)

Enhanced Image (EI) Additional Features

L3 Multicasting	• Multicast Table Size: 2K • IGMP v1, v2c, v3 • PIM-SM • PIM-DM • Multicast Source Discovery Protocol (MSDP) • PIM6-SSM	• PIM-Sparse-Dense Mode • PIM-SSM • DVMRP v3 • MLD v1/v2
MPLS	• LDP • MPLS LSP trigger filtering • MPLS label-forwarding • MPLS QoS • MPLS ping and traceroute	• L2 protocol tunneling through PW • VPWS • VPLS • PW Redundancy

L3 Features	• IPv6 Tunneling
	  • Static
	  • ISATAP
	  • GRE
	  • 6to4
		• VRRP

L3 VPN	• MPLS/BGP L3 VPN • VRF-Lite	• MP-BGP • VRF aware application

L3 Routing	• Supports 16K hardware routing entries shared by IPv4/IPv6
	  • Max. 16K IPv4 entries
	  • Max. 8K IPv6 entries
	• Supports 8K hardware L3 forwarding entries shared by IPv4/IPv6
	  • Max. 8K IPv4 entries
	  • Max. 4K IPv6 entries
	• RIP
	  • RIP v1/v2
	  • RIPng
	• OSPF
	  • OSPF v2
	  • OSPF v3
	  • OSPF Passive Interface
	  • Stub/NSSA Area
	  • OSPF Equal Cost Route
		• BGPv4
		• IS-IS
		• IS-ISv6
		• Route Redistribution
		  • Default Route
		  • Static Route
		  • RIP
		  • OSPF v2/v3
		  • BGP
		• IP Directed Broadcast
		• Policy Based Route
		• Bidirectional Forwarding Detection (BFD)
		  • Supports OSPF
		  • Supports VRRP

Standards

Standards	
MIB & 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

Optional License Upgrade and Expansion Modules

DXS-3600-32S-SE-LIC	• DXS-3600-32S Standard Image to Enhanced Image License
DXS-3600-EM-4XT	• 4 x 10GBASE-T expansion module
DXS-3600-EM-8T	• 8 x 10/100/1000BASE-T expansion module
DXS-3600-EM-Stack	• 2 x 120G CXP physical stacking module
DXS-3600-PWR-FB	• 300 W AC modular power supply with front-to-back airflow
DXS-PWR300AC	• 300 W AC modular power supply with front-to-back airflow
DXS-3600-FAN-FB	• Fan tray with front-to-back airflow

Optional Management Software

DV-700	• D-View 7 Network Management Software (downloadable from http://dview.dlink.com)
DV-700-N25-LIC	• D-View 7 - 25 Node License
DV-700-N250-LIC	• D-View 7 - 250 Node License
DV-700-P10-LIC	• D-View 7 - 10 Probe License

Optional 10G SFP+ Transceivers	
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-432XT-DD	• 10GBASE-LR SFP+ transceiver (with DDM), 10 km
Optional 1G SFP Transceivers	
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
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
Optional 120G CXP Direct Attach Cables	
DEM-CB50CXP	• CXP to CXP 50 cm Stacking Cable
10G Ethernet Adapter	
DXE-820T	• Dual Port 10GBASE-T RJ-45 PCI Express Adapter

¹ Only available on DXS-3600-32S