D-Link®

Product Highlights

High Performance
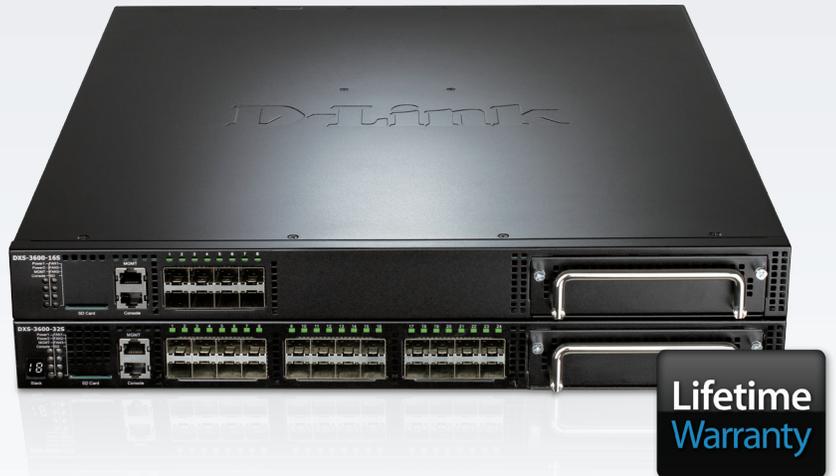Up to 960 Gbps switching capacity

Flexible Deployments
Suitable for top-of-rack in data centers and enterprise network environments

Redundant Features
Modular and hot swappable power supplies and fans with N+1 redundancy

High Performance
Saves energy and increases the product's lifespan

Lifetime Warranty

DXS-3600 Series

10 Gigabit L3 Managed Aggregation Switch

Features

High Performance and Flexibility

- Fast performance with up to 960Gbps switching capacity
- 8 or 24 fixed SFP+ 10G ports with one expansion module
- Upgradable software image license
- Two hot-swappable power modules support 1+1 power redundancy and load sharing
- Three hot-swappable fan trays provide N+1 cooling redundancy

Trusted Security

- Access Control List
- Port Security
- Traffic Segmentation
- ARP Spoofing Prevention
- Broadcast/Multicast/Unicast Storm Control
- D-Link Safeguard Engine
- DoS Attack Prevention

D-Link's DXS-3600 10GbE L3 Switch family consists of new compact, high-performance switches that feature wire-speed 10-Gigabit Ethernet switching, routing, and very low latency. The 1U height and high performance switching make the DXS-3600 series suitable for top-of-rack (ToR) deployment in data centers or enterprise and campus aggregation network environments. The DXS-3600 switches have 8 or 24 fixed 10 GbE SFP+ ports and can feature more ports with the addition of an expansion module. The expansion modules can provide extra 1000BASE-T Ports, 10G SFP+ ports, 40G uplinks, or low cost inter-rack 10G Base-T connections for different applications.

The DXS-3600 switches deliver high-performance 10-Gigabit Ethernet switching capacity of up to 960 Gbps and forwarding rates of up to 714.28 Mpps. The switches feature hot-swappable power supplies and fan trays, which enable a redundant, high availability architecture. Utilizing two power modules shares the load and helps to extend the lifetime of the power supplies. The DXS-3600 series also features a modular fan design. Three fans can back up each other, providing N+1 redundancy for the system. If one of the fans fails, the other fans will increase their speed by automatically detecting the system temperature. Both power and fan modules are hot-swappable, which minimizes the downtime of the DXS-3600 series.

Data Center Features

- IEEE 802.1Qbb
- IEEE 802.1Qaz
- IEEE 802.1Qau

Advanced Features

- Three Color Marker
- Congestion Control

Easy Management

- Web-based GUI
- Telnet
- Command Line Interface (CLI)
- SSH, SSL
- SNMP & RMON
- RADIUS/TACACS+
- LLDP/LLDP-MED

Standard Features

The DXS-3600 switches support a wide range of Layer 2, VLAN, multicasting, Quality of Service (QoS), security, data center, and static routing functions. These features make the DXS-3600 ideal for use in enterprise/campus applications as a high performance 10G aggregation switch, with 40Gbps uplink to the core, and 10Gbps downlinks to the Access.

Data Center Features

Data Center Bridging (DCB) is an essential set of enhancements to Ethernet for networking in data center environments. The DXS-3600 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 amongst different traffic classes. IEEE 802.1Qau (Congestion Notification) provides congestion management for data flows within network domains to avoid congestion.

In addition to store-and-forward switching, the DXS-3600 switches also support selectable cut-through switching, which reduces network latency in transmitting data in a network.

Energy Efficient

The switches feature built-in smart fans; internal heat sensors monitor and detect temperature change, and react accordingly by utilizing different fan speeds for different temperatures. At lower temperatures, the fans will run slower and reduce the switch's power consumption and noise.

Lifetime Warranty

D-Link offers a Full Lifetime Warranty on the DXS-3600 switches and expansion modules to further its commitment to product quality and long-term customer confidence. This Lifetime Warranty applies for as long as the original customer owns the product and includes Next Business Day (NBD) advance hardware replacement.

Technical Specifications

General	DXS-3600-16S	DXS-3600-32S
Interfaces	8 fixed SFP+ 10G ports with one expansion module	24 fixed SFP+ 10G ports with one expansion module
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	

Performance	DXS-3600-16S	DXS-3600-32S
Switching Capacity	480Gbps	960Gbps
Max. Forwarding Rate	357.14Mpps	714.28Mpps
Max Latency	1.31µs	1.93µs
Forwarding Mode	Selectable cut-through or store-and-forward	
Packet Buffer Memory	9 MB	
MAC Address Table	128K	

Physical & Environmental

Physical & Environmental	DXS-3600-16S	DXS-3600-32S
Power Input	100 to 240 V AC, 50/60 Hz	
Power Consumption	• Maximum: 74.3 W (without expansion module) • Maximum: 105.3 W (with DXS-3600-EM-4QXS) • Standby: 69.9W	• Maximum: 115.3 W (without expansion module) • Maximum: 160.4 W (with DXS-3600-EM-4QXS) • Standby: 85.9W
Heat Dissipation	• Maximum: 253.4 W (without expansion module) • Maximum: 359.1 W (with DXS-3600-EM-4QXS) • Standby: 238.4W	• Maximum: 398.3 W (without expansion module) • Maximum: 547.1 W (with DXS-3600-EM-4QXS) • Standby: 300.3W
Dimensions	17.32" x 19.92" x 1.73" (440 x 506 x 44mm)	17.32" x 19.92" x 1.73" (440 x 506 x 44mm)
Weight	21.8 lbs (9.9 kg) without expansion module	22.5 lbs (10.2 kg) without expansion module
Temperature	• Operating: 32 to 113 °F (0 to 45 °C) • Storage: 104 to 158 °F (40 to 70 °C)	
Humidity	• Operating: 0% to 95% RH • Storage: 0% to 95% RH	

Diagnostic LEDs	• Per device:
	  - Power 1, Power 2,
	  - Fan 1, Fan 2, Fan 3,
	  - Console, MGMT, SD Card, Stacking ID
		• Per SFP+ Port:
		  - Link
		  - Activity
		  - Speed

MTBF	• 138,345 Hr.	• 134,331 Hr.

Certifications	• CB • cUL • LVD • FCC	• CE • C-Tick • IC • VCCI
Expansion Modules	**Number of Ports**	**Media Type**
DXS-3600-4QXS	4	40G QSFP+
DXS-3600-4XT	4	10GBase-T
DXS-3600-8T	8	1000Base-T
DXS-3600-8XS	8	10G SFP+
DXS-3600-EM-STACK	2	120G CXP

Standard Image (SI) Features

Stackability	• Physical Stacking up to 4 units per stack
	  • Supports 480Gbps bidirectional stacking bandwidth using DXS-3600-EM-STACK module (DXS-3600-32S only)
	  • Supports 160Gbps bidirectional stacking bandwidth with DXS-3600-EM-4QXS expansion module (DXS-3600-16S and DXS-3600-32S)
		• Virtual Stacking up to 32 units per stack
		  • Supports D-Link Single IP Management

L2 Features	• MAC Address Table - 128K entries
	• Flow Control
	  - 802.3x Flow Control when Full Duplex
	  - Back Pressure when Half Duplex
	  - HOL Blocking Prevention
	• Spanning Tree Protocol
	  - 802.1D STP
	  - 802.1w RSTP
	  - 802.1s MSTP
	  - Support Root Restriction
	• 802.1AX Link Aggregation
	  - Max. 16 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
		• Jumbo Frame
		  - Up to 12,000 bytes

L2 Multicast Features	• IGMP Snooping
	  - IGMP v1/v2/v3 Snooping
	  - Supports 4K IGMP groups
	  - Supports 1K static multicast addresses
	  - -IGMP per VLAN
	• L2 Multicast Filtering
	  - Forwards all groups
	  - Forwards all unregistered groups
	  - Filters all unregistered groups
		• MLD Snooping
		  - MLD v1/v2 Snooping
		  - Support 4K groups
		  - Host-based MLD Snooping Fast Leave

VLAN	• 802.1Q
	• 802.1v
	• 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

L3 Features	• ARP
	  - 512 Static ARP
	  - Supports Gratuitous ARP
		• IP Interface
		  - Supports 256 interfaces
		• Loopback Interface

L3 Routing	• Default Routing
	• Static Routing
	  - Max. 1K IPv4 entries
	  - Max. 512 IPv6 entries
	  - Support route distribution
	  - Support secondary route
	  - Support Equal Cost/Weighted Cost multi-path route

QoS (Quality of Service)	• 802.1p Quality of Service
	• 8 queues per port
	• Queue Handling
	  - Strict
	  - Weighted Round Robin (WRR)
	  - Strict + WRR
	  - Round Robin (RR)
	  - Weighted Elastic Round Robin (WERR)
	• CoS 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)

ACL (Access Control List)	• Max. ACL entries:
	  - 1792 ingress ACL rule
	  - 1K egress ACL rules
	  - 1K VLAN ACL rules
	• Time-based ACL
	
	• ACL based on:
	  - 802.1p priority
	  - VLAN
	  - MAC address
	  - Ether type
	  - IP address
	
	  - DSCP
	  - Protocol type
	  - TCP/UDP port number
	  - IPv6 Traffic Class
	  - IPv6 flow label

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
	  - ARP inspection
	  - IP inspection
	  - DHCP Snooping
	
	• ARP Spoofing Prevention
	  - Max. 64 entries
	• Traffic Segmentation
	• SSL
	  - Supports v1/v2/v3
	  - Supports IPv4/v6 access
	• SSH
	• BPDU Attack Prevention
	• DOS Attack Prevention

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)
	• MAC-based Access Control (MAC)
	• Guest VLAN

Management	• Web-based GUI • CLI • Telnet • TFTP Client • FTP Client • Traffic Monitoring • SNMP - Supports v1/v2/v3 • SNMP Trap • System Log • DHCP Client • DHCP Server • DHCP Relay • Multiple Image • Multiple Configuration • Flash File System • DNS Resolver • CPU Monitoring • MTU Setting • Traceroute • LLDP • DNS Relay • SMTP • DHCP Auto Configuration[1] • SNTP • RCP • RMONv1 • RMONv2 • Trusted Host • Password Encryption • Debug Command

Enhanced Image (EI) Additional Features

L3 Multicasting	• Multicast Table Size: 2K • IGMP v1, v2, v3 • PIM-SM • PIM-DM • 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
		• IPv6 Core Ready Logo Phase II Compliant

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
		  - Route Redistribution
		  - IP Directed Broadcast
		  - Policy Based Route

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 • RFC2668 802.3 MAU MIB • RFC2674 802.1p MIB • RFC2618 RADIUS Authentication Client MIB • RFC2096 IP Forwarding Table MIB • RFC2932 IPv4 Multicast Routing MIB • RFC2934 PIM MIB for IPv4 • RFC2620 RADIUS Accounting Client MIB • RFC2925 Trace Out MIB • RFC2925 Ping MIB • RFC1850 OSPF MIB • Private MIB • RFC1112, RFC2236, RFC3376, RFC4541 IGMP Snooping • 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	• RFC4363 802.1v • RFC2338 VRRP • RFC1058, RFC1388, RFC1723, RFC2453, RFC2080 RIP • RFC1370, RFC1765, RFC2328, RFC2740, RFC3101 makes RFC1587 obsolete, RFC2328 makes RFC1583, RFC2178 OSPF v2,v3 • 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 • 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	Warranty
DXS-3600-16S/SI	8 fixed SFP+ ports with one expansion slot with Standard Image, one AC power supply, and three fan trays (front-to-back airflow) included	Lifetime
DXS-3600-16S-SE-LIC	SI to EI upgrade license for DXS-3600-16S/SI	-
DXS-3600-32S/SI	24 fixed SFP+ ports with one expansion slot with Standard Image, one AC power supply, and three fan trays (front-to-back airflow) included	Lifetime
DXS-3600-32S-SE-LIC	SI to EI upgrade license for DXS-3600-32S/SI	-
DXS-3600-EM-4XT	4 x 10GBase-T expansion module	Lifetime
DXS-3600-EM-8T	8 x 1000Base-T expansion module	Lifetime
DXS-3600-EM-4QXS	4 x 40G QSFP+ expansion module	Lifetime
DXS-3600-EM-8XS	8 x 10G SFP+ expansion module	Lifetime
DXS-3600-EM-STACK	2 x 120G CXP stacking module (DXS-3600-32S only)	Lifetime
DXS-3600-PWR-FB	300W AC power supply tray with front-to-back airflow	5-year limited
DXS-3600-FAN-FB	Fan tray with front-to-back airflow	5-year limited

Supported Transceivers & Cables

DEM-310GT	1000Base-LX Single-mode SFP
DEM-311GT	1000Base-SX Multi-mode SFP
DGS-712	1000Base-TX SFP
DEM-431XT-DD	10GBase-SR SFP+ with DDM
DEM-432XT-DD	10GBase-LR SFP+ with DDM
DEM-435XT-DD	10GBase-LRM SFP+ with DDM
DEM-CB100S	10-GbE SFP+ to SFP+ 1m Direct Attach Cable
DEM-CB300S	10-GbE SFP+ to SFP+ 3m Direct Attach Cable
DEM-CB700S	10-GbE SFP+ to SFP+ 7m Direct Attach Cable
DEM-CB100QXS	40-GbE QSFP+ to QSFP+ 1M Direct Attach Cable
DEM-CB300QXS	40-GbE QSFP+ to QSFP+ 3M Direct Attach Cable
DEM-CB100QXS-4XS	40-GbE QSFP+ to 4xSFP+ 1M Direct Attach Cable
DEM-CB50CXP	120G CXP to CXP 0.5M Stacking Cable

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