

Highlights

High Availability

Redundancy features, such as hot-swappable power supplies, redundant fan trays, and switch stacking maximise the availability of your network

Lossless Ethernet

Data Center functionality available through Data Center Bridging (DCB) enhances network performance and reliability

Easy Management

Industry-standard management tools allow the switch to be easily administered, integrating seamlessly with existing devices



DXS-3400 Series

Top-of-Rack 10 Gigabit Stackable Managed Switches

Features

High Availability and Flexibility

- Two AC hot-swappable power modules for 1+1 redundancy and load sharing¹
- Three hot-swappable fan trays provide N+1 cooling redundancy
- Physical stacking via four 10G ports, can stack up to 4 devices
- Ethernet Ring Protection Switching (ERPS)
- Switch Resource Management (SRM) for flexible management of system resources

Lossless Ethernet via Data Center Bridging (DCB)

- IEEE 802.1Qbb Priority-based Flow Control (PFC)
- IEEE 802.1Qaz Enhanced Transmission Selection (ETS)
- IEEE 802.1Qau Congestion Notification (CN)

Traffic Monitoring & Bandwidth Control

- Port mirroring/Bandwidth Control
- Broadcast/Multicast/Unicast storm control
- Single Rate Three Color Marker (srTCM)
- Two Rate Three Color Marker (trTCM)

Easy Management

- RJ-45/Mini-USB console port
- Management and alarm ports
- USB port for firmware and configuration files
- Easy-to-use Web GUI
- Industry-standard CLI

D-Link's DXS-3400 Series Top-of-Rack 10 Gigabit Stackable Managed Switches are new, compact, high-performance switches that feature wire-speed 10-Gigabit Ethernet switching, routing, and ultra-low latency. The 1U height and high port density make the DXS-3400 Series suitable for enterprise and campus environments where space is at a premium. The DXS-3400 Series switches also include 20 10GBASE-T or 10G SFP+ ports and 4 10GBASE-T/SFP+ combo ports, making them suitable for datacenter, core, and distribution applications.

High Availability and Flexibility

The DXS-3400 Series switches feature a modular fan and power supply¹ design for a high availability architecture. The hot-swappable design means that fans and power supplies¹ can be replaced without affecting switch operation. Physical and virtual switch stacking allow the switches to be managed from a single IP address and provide redundancy for connected devices. The Switch Resource Management (SRM) feature allows the hardware table size to be changed, so that switch functions can be optimised based on the use of the switch. The DXS-3400 Series switches come with 3 modes: IP Mode, LAN Mode, and L2 VPN Mode, which modify the size of the Layer 2 and 3 tables for optimum efficiency.

Feature Rich Software

The DXS-3400 Series switches include feature rich software which satisfies the needs of Small Medium Business, Small Medium Enterprise, and campus users. It supports a wide range of Layer 2 and 3 functions such as VLANs, inter-VLAN routing, multicasting, Quality of Service (QoS), Virtual Router Redundancy Protocol (VRRP), Routing Information Protocol (RIP) v1/2, Next Generation RIP (RIPng), Policy-Based Routing (PBR), and security features. The DXS-3400 Series also includes an easy-to-use web interface and an industry standard CLI for improved management.

Top-of-Rack 10 Gigabit Stackable Managed Switches

Lossless Ethernet

Data Center Bridging (DCB) is an essential set of enhancements to Ethernet for networking in data center environments. The DXS-3400 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 on specific priority 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.

Energy Efficient

The DXS-3400 Series switches feature front-to-back airflow which facilitates the building of energy-efficient data centers. The front-to-back airflow optimises air circulation inside the rack, allowing hot and cold isles in data centers, increasing energy efficiency in comparison to a mix of front-to-back and side-to-side airflow. The switches also feature in-built smart fans; internal heat sensors monitor and detect temperature changes, and react accordingly by utilising different fan speeds for different temperatures. At lower temperatures, the fans will run more slowly, reducing the switch's power consumption and noise.

Technical Specifications

General	DXS-3400-24TC	DXS-3400-24SC
Interfaces	<ul style="list-style-type: none"> • 20 10GBASE-T ports • 4 10GBASE-T/SFP+ combo ports 	<ul style="list-style-type: none"> • 20 10G SFP+ ports • 4 10GBASE-T/SFP+ combo ports
Console Port	<ul style="list-style-type: none"> • RJ-45 and Mini USB console ports for out-of-band CLI management 	
Management Port	<ul style="list-style-type: none"> • 10/100/1000BASE-T RJ-45 Ethernet for out-of-band IP management 	
USB Port	<ul style="list-style-type: none"> • 1 port 	
Performance		
Switching Capacity	<ul style="list-style-type: none"> • 480 Gbps 	
Max. Forwarding Rate	<ul style="list-style-type: none"> • 357.12 Mpps 	
Packet Buffer Memory	<ul style="list-style-type: none"> • 4 MB 	
MAC Address Table	<ul style="list-style-type: none"> • Up to 48K entries 	
Physical		
Power Input	<ul style="list-style-type: none"> • 100 to 240 V, 50/60 Hz, 2 A 	
Maximum Power Consumption	<ul style="list-style-type: none"> • 159.8 W 	<ul style="list-style-type: none"> • 118.6 W
Standby Power Consumption	<ul style="list-style-type: none"> • 85.1 W 	<ul style="list-style-type: none"> • 64.8 W
Heat Dissipation (Max.)	<ul style="list-style-type: none"> • 557.94 BTU/hr 	<ul style="list-style-type: none"> • 388.39 BTU/hr
Dimensions (W x D x H)	<ul style="list-style-type: none"> • 441 x 44 x 380 mm 	
Weight	<ul style="list-style-type: none"> • 7.6 kg (2 PSUs, 3 fan modules) • 6.65 kg (1 PSU, 3 fan modules) • 5.25 kg (no PSU or fan modules) 	<ul style="list-style-type: none"> • 7.45 kg (2 PSUs, 3 fan modules) • 6.5 kg (1 PSU, 3 fan modules) • 5.1 kg (no PSU or fan modules)
Operating Temperature	<ul style="list-style-type: none"> • -5 to 50 °C 	
Storage Temperature	<ul style="list-style-type: none"> • -40 to 70 °C 	
Operating Humidity	<ul style="list-style-type: none"> • 0% to 95% RH 	
Storage Humidity	<ul style="list-style-type: none"> • 0% to 95% RH 	
Certifications		
Safety	<ul style="list-style-type: none"> • cUL, CB, CE, CCC, BSMI 	
EMI/EMC	<ul style="list-style-type: none"> • CE, FCC, C-Tick, VCCI, BSMI, CCC 	

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Standard Image Software Features		
Stackability	<ul style="list-style-type: none"> Physical Stacking <ul style="list-style-type: none"> Up to 80G stacking bandwidth Up to 4 switches in a stack Ring/chain topology support 	<ul style="list-style-type: none"> Virtual stacking/clustering of up to 32 units <ul style="list-style-type: none"> Supports D-Link Single IP Management
L2 Features	<ul style="list-style-type: none"> MAC Address Table <ul style="list-style-type: none"> Up to 48K 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 Root Guard Loop Guard Jumbo Frame <ul style="list-style-type: none"> Up to 12 Kb 	<ul style="list-style-type: none"> 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 Supports 4 mirroring groups Flow mirroring <ul style="list-style-type: none"> Supports mirroring for Rx VLAN mirroring L2 protocol tunneling Loopback Detection (LBD) iSCSI awareness Multi-Chassis Link Aggregation (MLAG)
L2 Multicast Features	<ul style="list-style-type: none"> MLD Snooping <ul style="list-style-type: none"> MLD v1/v2 Snooping Supports 256 groups Host-based MLD Snooping Fast Leave Supports 64 static MLD groups MLD Snooping Querier Per-VLAN MLD Snooping MLD Proxy Reporting 	<ul style="list-style-type: none"> IGMP Snooping <ul style="list-style-type: none"> IGMP v1/v2/v3 Snooping Supports 512 IGMP groups Supports 64 static IGMP groups Per VLAN IGMP Snooping IGMP Snooping Querier 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 ARP Proxy IP Interface <ul style="list-style-type: none"> Supports 256 interfaces Loopback interface IPv6 Neighbor Discovery (ND) 	<ul style="list-style-type: none"> UDP helper IPv6 tunneling <ul style="list-style-type: none"> Static ISATAP GRE 6to4 IGMP Proxy Reporting VRRP v2/v3
L3 Routing	<ul style="list-style-type: none"> Static routing <ul style="list-style-type: none"> Max. 256 IPv4 entries Max. 128 IPv6 entries Supports Route Redistribution Supports secondary route Supports 4096 hardware routing entries shared by IPv4/IPv6 <ul style="list-style-type: none"> Max. 4096 IPv4 entries Max. 1024 IPv6 entries Supports 32K hardware L3 forwarding entries shared by IPv4/IPv6 <ul style="list-style-type: none"> Max. 32K IPv4 entries Max. 16K IPv6 entries Default routing Policy-based Route (PBR) Null route 	<ul style="list-style-type: none"> Bidirectional Forwarding Detection (BFD) <ul style="list-style-type: none"> IPv4/IPv6 static route RIP <ul style="list-style-type: none"> VRRP RIP <ul style="list-style-type: none"> RIP v1/v2 RIPng Graceful Restart (GR) Helper for RIP Route Redistribution <ul style="list-style-type: none"> Default route Static route RIP RIPng Null route
VLAN	<ul style="list-style-type: none"> 802.1Q 802.1v 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 	<ul style="list-style-type: none"> VLAN group <ul style="list-style-type: none"> Max. 4K static VLAN groups Max. 4094 VIDs ISM VLAN (multicast VLAN) Voice VLAN Auto Surveillance VLAN VLAN trunking GVRP <ul style="list-style-type: none"> Up to 4094 dynamic VLANs

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<p>AAA</p>	<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 • Identity-driven policy assignment <ul style="list-style-type: none"> • Dynamic VLAN assignment • QoS assignment • ACL assignment • Web-based Access Control (WAC) <ul style="list-style-type: none"> • Identity-driven policy assignment <ul style="list-style-type: none"> • Dynamic VLAN assignment • QoS assignment • ACL assignment • Supports port-based access control • Supports host-based access control 	<ul style="list-style-type: none"> • MAC-based Access Control (MAC) <ul style="list-style-type: none"> • Identity-driven policy assignment <ul style="list-style-type: none"> • Dynamic VLAN assignment • QoS assignment • ACL assignment • Supports port-based access control • Supports host-based access control • Compound Authentication • Microsoft NAP <ul style="list-style-type: none"> • Support 802.1X NAP • Support DHCP NAP • RAIDUS and TACACS+ authentication • Authentication Database Failover • Guest VLAN
<p>Quality of Service (QoS)</p>	<ul style="list-style-type: none"> • 802.1p Quality of Service • 8 queues per port • 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 • Switch port • EtherType • ToS/IP Preference • Protocol type • Congestion Control <ul style="list-style-type: none"> • WRED 	<ul style="list-style-type: none"> • Queue handling <ul style="list-style-type: none"> • Strict • Weighted Round Robin (WRR) • Strict + WRR • Deficit Round Robin (DRR) • Weighted Deficit Round Robin (WDRR) • 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) • Support for following actions: <ul style="list-style-type: none"> • Remark 802.1p priority tag • Remark ToS/DSCP tag • Committed Information Rate (CIR) • Three Color Marker <ul style="list-style-type: none"> • trTCM • srTCM
<p>Data Center Bridging (DCB)</p>	<ul style="list-style-type: none"> • 802.1Qbb Priority-based Flow Control (PFC) • 802.1Qaz Enhanced Transmission Selection (ETS) 	<ul style="list-style-type: none"> • 802.1Qau Congestion Notification (CN)
<p>Access Control List (ACL)</p>	<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"> • Ingress <ul style="list-style-type: none"> • IPv4: 1792 • IPv6: 448 • Egress <ul style="list-style-type: none"> • IPv4: 512 • IPv6: 256 • 3K VLAN access map • Time-based ACL
<p>Security</p>	<ul style="list-style-type: none"> • Port Security <ul style="list-style-type: none"> • 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 • Dynamic ARP Inspection • IP Source Guard • DHCP Snooping • IPv6 Snooping • DHCPv6 Guard • IPv6 Route Advertisement (RA) Guard • IPv6 ND Inspection 	<ul style="list-style-type: none"> • ARP Spoofing Prevention <ul style="list-style-type: none"> • Max. 64 entries • Duplicate Address Detection (DAD) • L3 Control Packet Filtering • Traffic Segmentation • SSL <ul style="list-style-type: none"> • Supports v1/v2/v3 • Supports IPv4/IPv6 access • SSH <ul style="list-style-type: none"> • Supports SSH v2 • Supports IPv4/IPv6 access • BPDU attack protection • DoS attack prevention
<p>Operations, Administration, and Maintenance (OAM)</p>	<ul style="list-style-type: none"> • Cable diagnostics • 802.3ah Ethernet link OAM • D-Link Unidirectional Link Detection (DULD) • Dying Gasp 	<ul style="list-style-type: none"> • 802.1ag Connectivity Fault Management (CFM) • Y.1731 OAM • Optical Transceiver Digital Diagnostic Monitoring (DDM)

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<p>Management</p>	<ul style="list-style-type: none"> • Web-based GUI • CLI • Telnet server • Telnet client • TFTP client • FTP client • Secure FTP (SFTP) server • Traffic monitoring • SNMP <ul style="list-style-type: none"> • Supports v1/v2c/v3 • SNMP Trap • System log • DHCP client • DHCP server • DHCP Relay options 60, 61, 82 • Multiple images • Multiple configurations • Flash file system • DNS client <ul style="list-style-type: none"> • CPU monitoring • MTU setting • ICMP tools <ul style="list-style-type: none"> • Ping • Traceroute • LLDP & LLDP-MED • DNS Relay • SMTP • DHCP Auto Configuration • NTP • RCP (Remote Copy Protocol) • RMON v1/v2 • Trusted host • Password encryption • Debug command • sFlow • Switch Resource Management (SRM) • Microsoft Network Load Balancing (NLB)
<p>Standards</p>	
<p>MIB & RFC Standards</p>	<ul style="list-style-type: none"> • MIB Structure: RFC1065, RFC1066, RFC1155, RFC1156, RFC2578 • Concise MIB Definitions: RFC1212 • MIBII: RFC1213 • MIB Traps Convention: RFC1215 • Bridge MIB: RFC1493, RFC4188 • SNMP MIB: RFC1157, RFC2571, RFC2572, RFC2573, RFC2574, RFC2575, RFC2576 • SNMPv2 MIB: RFC1442, RFC1901, RFC1902, RFC1903, RFC1904, RFC1905, RFC1906, RFC1907, RFC1908, RFC2578, RFC3418, RFC3636 • RMON MIB: RFC271, RFC1757, RFC2819 • RMONv2 MIB: RFC2021 • Ether-like MIB: RFC1398, RFC1643, RFC1650, RFC2358, RFC2665, RFC3635 • 802.3 MAU MIB: RFC2668 • 802.1p MIB: RFC2674, RFC4363 • Interface Group MIB: RFC2863 • RADIUS Authentication Client MIB: RFC2618 • MIB for TCP: RFC4022 • MIB for UDP: RFC4113 • MIB for Diffserv.: RFC3298 • RADIUS Accounting Client MIB: RFC2620 • Ping & TRACEROUTE MIB: RFC2925 • Running configuration writes and backup (D-Link MIB) • TFTP uploads and downloads (D-Link MIB) • Trap MIB (D-Link MIB) • IPv6 MIB: RFC2465 • ICMPv6 MIB: RFC2466 • Entity MIB: RFC2737 • VRRP MIB: RFC2787 • RIPv2 MIB: RFC1724 • OSPF MIB: RFC1850 • IPv4 Multicast Routing MIB: RFC5132, RFC2932 • PIM MIB for IPv4: RFC2934 • IP Forwarding Table MIB: RFC4292 • IPv6 SNMP Mgmt Interface MIB: RFC4293 • DDM MIB (D-Link MIB) <ul style="list-style-type: none"> • Private MIB (D-Link MIB) • DIFFSERV MIB (D-Link MIB) • MIB for D-Link Zone Defense (D-Link MIB) • IP: RFC791 • UDP: RFC768 • TCP: RFC793 • ICMPv4: RFC792 • ICMPv6: RFC2463, RFC4443 • Extended ICMP to Support Multi-Part Messages: RFC4884 • ARP: RFC826 • CIDR: RFC1338, RFC1519 • Definition of the DS Field in the IPv4 and IPv6 Headers: RFC2474, RFC3168, RFC3260 • Extensible Authentication Protocol (EAP): RFC1321, RFC2284, RFC2865, RFC2716, RFC1759, RFC3580, RFC3748 • SNMP Framework: RFC2571 • SNMP Message Processing and Dispatching: RFC2572 • SNMP Applications: RFC2573 • User-based Security Model for SNMPv3: RFC2574 • Expedited Forwarding PHB (Per-Hop Behavior): RFC3246 • Supplemental Information for the New Definition of the EF PHB (Expedited Forwarding Per-Hop Behavior): RFC3247 • DNS extension support for IPv6: RFC1886 • Path MTU Discovery for IPv6: RFC1981 • IPv6: RFC2460 • Neighbor Discovery for IPv6: RFC2461, RFC4861 • IPv6 Stateless Address Auto-configuration: RFC2462, RFC4862 • IPv6 over Ethernet and definition: RFC2464 • Dual Stack Hosts using the "Bump-In-the-Stack" Technology: RFC2767 • IPv6 Addressing Architecture: RFC3513, RFC4291 • IPv4/IPv6 dual stack function: RFC2893, RFC4213 • Default Address Selection for Internet Protocol version 6: RFC3484 • IP-IP tunnel: IP Encapsulation within IP: RFC2003 • IP-IP tunnel: Allow MTU = 1500 or 1520: RFC1191 • L2 distributed tunnel - CAPWAP Encapsulation: RFC5415

DXS-3400 Series

Top-of-Rack 10 Gigabit Stackable Managed Switches

Optional Redundant Power Supply	
DXS-PWR300AC	• 300 W AC modular power supply with front-to-back airflow
Optional Management Software	
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 1000BASE-T SFP Transceivers	
DGS-712	• 1000BASE-T Copper SFP Transceiver
Optional 100/1000 Mbps SFP Transceivers	
DEM-310GT	• 1000BASE-LX Single-mode, 10 km
DEM-311GT	• 1000BASE-SX Multi-mode, 550 m
DEM-312GT2	• 1000BASE-SX Multi-mode, 2 km
Optional 10G SFP+ Transceivers	
DEM-431XT	• 10GBASE-SR Multi-mode, OM1:33M/OM2:82M/OM3:300M (w/o DDM)
DEM-432XT	• 10GBASE-LR Single-mode, 10 km (w/o DDM)
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-CB100QXS-4XS	• 40G QSFP+ to 4 10G SFP+ 1 m Direct Attach Cable

¹ Includes 1 PSU only. Optional PSU (DXS-PWR300AC) needed to support redundant and load sharing function.



For more information: www.dlink.com

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