D-Link®

Lifetime Warranty

Product Highlights

High Availability

Redundancy features including hot-swappable power supplies, redundant fan trays, and switch stacking maximize network availability

Layer 3 Features

Optional Enhanced Image software supports L3 Dynamic Routing Protocols

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

DXS-3400 Series

Layer 3 Stackable 10GbE Managed Switches

Features

High Availability and Flexibility

- Two AC/DC hot-swappable power supply modules for 1+1 redundancy and load sharing
- Three hot-swappable fan modules 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

Layer 3 Dynamic Routing (optional upgrade)

- OSPF v2/v3, IPv6 Tunneling, IGMP, MLD, DVMRPv3, and Multicast Source Discovery Protocol (MSDP)

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

- RJ45/mini-USB console port
- Management and alarm ports
- USB Port for firmware and configuration files
- Easy-to-use web GUI
- Industry standard CLI

Overview

D-Link's DXS-3400 Series Layer 3 Stackable 10 GbE Managed Switches are 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. 10GbE copper and fiber versions are available. The DXS-3400-24TC includes twenty (20) 10GBASE-T (RJ45) ports and four (4) 10GbE "Combo" ports (RJ45/SFP+). The DXS-3400-24SC includes twenty (20) 10GbE optical (SFP+) ports and four (4) 10GbE "Combo" ports (RJ45/SFP+).

High Availability and Flexibility

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

Standard and Enhanced Software Images

The DXS-3400 Series switches include the Standard Image (SI) software, and for additional functionality, they may be upgraded to the Enhanced Image (EI) software with a separately ordered license upgrade. The Standard Image provides core SMB and SME functionality, such as L2 switching, entry-level routing, L2 multicast, advanced Quality of Service (QoS), Operations, Administration, and Maintenance (OAM), and robust security features. The Enhanced Image supports all Standard

Image features, in addition to advanced L3 routing for enterprise integration, including OSPFv2/v3, IPv6 Tunneling, and multicast features such as IGMP, MLD, DVMRPv3, and Multicast Source Discovery Protocol (MSDP).

This approach allows I.T. managers to deploy a lower cost L2/L2+ solution today, and upgrade to a L3 solution in the future if networking needs change and a full dynamic routing solution is required.

Lossless Ethernet

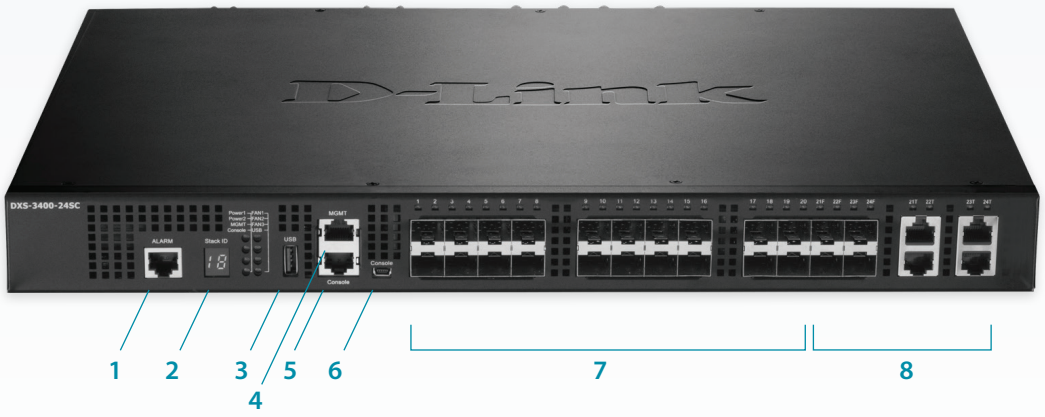
Data Center Bridging (DCB) is an essential set of enhancements to Ethernet for networking in data center environments. The DXS-3400 Series switches support several core components of Data Center Bridging (DCB) such as IEEE 802.1Qbb, IEEE 802.1Qaz, and IEEE 802.1Qau. IEEE 802.1Qbb (Priority-based Flow Control) provides flow control on specific priority to help ensure there is no data loss during network congestion. IEEE 802.1Qaz (Enhanced Transmission Selection) manages the allocation of bandwidth within different traffic classes. IEEE 802.1Qau (Congestion Notification) provides congestion management for data flows within network domains to help avoid frame loss.

Energy Efficient

The DXS-3400 Series switches feature front-to-back airflow which optimizes air circulation inside the rack, supports hot and cold aisles in data centers, and increases energy efficiency. The switches also feature smart fans. Internal heat sensors monitor and detect temperature changes, and react accordingly by utilizing different fan speeds for different temperatures. At lower temperatures, the fans will run slower, reducing the switch's power consumption and noise.

Lifetime Warranty and NBD Replacement

D-Link offers a Lifetime Warranty and Next Business Day (NBD) hardware replacement on the DXS-3400 Series of Lite Layer 3 Stackable 10GbE Managed Switches to further its commitment to product quality and long-term customer confidence. [1]



1	**Alarm**	RJ45 port (8 pins) provides external alarm detection
2	**Stack ID**	Displays switch stacking number
3	**USB**	USB 2.0 Type-A port provides additional storage space for portable firmware images and configuration files
4	**MGMT**	RJ45 Management port. IP-based, 10/100/1000 Out-of-Band port for Telnet, web, or SNMP management. Can be used to configure the switch without being connected to the network
5	**Console**	RJ45 console port. Used to connect to the switch CLI for configuration, management, and monitoring. Special console cable (included) with DB9 interface connects the switch to the PC serial port (COM)
6	**Console**	Mini-USB console port. Can be used to connect to the switch CLI for configuration, management, and monitoring
7	**10 GbE Ports**	DXS-3400-24TC = 20 x 10GBASE-T (RJ45) ports DXS-3400-24SC = 20 x 10GbE Optical (SFP+) ports
8	**10 GbE Combo Ports**	4 Combo ports. Can operate as either 10GbE Optical (SFP+) or 10GBASE-T (RJ45) ports
9	**Fan modules**	Three hot-swappable fan modules. (Three included with each swtich)
10	**Power supplies**	Two hot-swappable power supplies. (One included with each switch)

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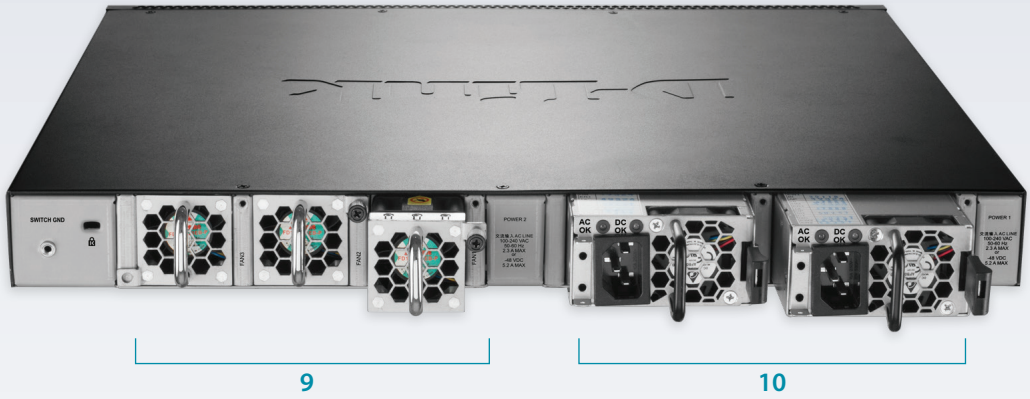
DXS-3400 Series
Layer 3 Stackable 10GbE Managed Switches



Technical Specifications		
	DXS-3400-24TC	DXS-3400-24SC
		
General		
Interfaces:		
• 10GBASE-T (RJ45) ports	20	—
• 10GbE Optical (SFP+) ports	—	20
• 10GbE Combo Ports (RJ45/SFP+)	4	4
Console Port	RJ45 and Mini USB console ports for out-of-band CLI management	
Management Port	10/100/1000BASE-T RJ45 Ethernet for out-of-band IP management	
Alarm Port	RJ45	RJ45
USB Port	USB 2.0 Type A	USB 2.0 Type A
Performance		
Switch Capacity	480 Gbps	480 Gbps
Max. Forwarding Rate	357.12 Mpps	357.12 Mpps
Packet Buffer Memory	4 MBytes	4 MBytes
MAC Address Table	Up to 48K entries	Up to 48K entries
Physical and Environmental		
Heat Dissipation	557.94 BTU/hr	388.39 BTU/hr
Power Input	100 to 240 VAC, 50/60 Hz, 2A	100 to 240 VAC, 50/60 Hz, 2A
Max Power Consumption	159.8 W	118.6 W
Standby Power Consumption	85.1 W	64.8 W

Dimensions	17.4 x 15.0 x 1.73 inches (441 x 380 x 44 mm)	17.4 x 15.0 x 1.73 inches (441 x 380 x 44 mm)
Weight	16.8 lbs / 7.6 kg (2 PSUs, 3 fan modules) 14.7 lbs / 6.65 kg (1 PSU, 3 fan modules) 11.6 lbs / 5.25 kg (no PSU or fan modules)	16.4 / 7.45 kg (2 PSUs, 3 fan modules) 14.3 / 6.5 kg (1 PSU, 3 fan modules) 11.2 lbs / 5.1 kg (no PSU or fan modules)
Operating Temperature	23°F to 122°F (-5°C to 50°C)	23°F to 122°F (-5°C to 50°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Operating Humidity	0% to 95% RH	0% to 95% RH
Storage Humidity	0% to 95% RH	0% to 95% RH
MTBF	134,447 hours	144,438 hours
Certifications		
Safety	cUL, CB, CE, CCC, BSMI	
EMI/EMC	CE, FCC, C-Tick, VCCI, BSMI, CCC	

Software Features - All Models

Standard Image (SI) Software Features

- Ships with product
- All models support the following features:

Stackability	Physical stacking • Up to 80G 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 • Up to 48K 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 • Root Guard • Loop Guard Jumbo Frame • Up to 12 KBytes	802.1AX Link Aggregation • Max. 32 groups per device, 8 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 Mirroring for Rx VLAN Mirroring L2 Protocol Tunneling Loopback Detection (LBD) iSCSI Awareness
L2 Multicast Features	MLD Snooping • 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	IGMP Snooping • 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

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DXS-3400 Series
Layer 3 Stackable 10GbE Managed Switches

L3 Features	ARP • 512 Static ARP • Supports Gratuitous ARP • ARP Proxy IP Interface • Supports 256 interfaces Loopback Interface IPv6 Neighbor Discovery (ND)	UDP Helper IPv6 Tunneling • Static • ISATAP • GRE • 6to4 IGMP Proxy Reporting VRRP v2/v3
L3 Routing	Static Routing • Max. 256 IPv4 entries • Max. 128 IPv6 entries • Supports Route Redistribution • Supports secondary route Supports 4096 hardware routing entries shared by IPv4/IPv6 • Max. 4096 IPv4 entries • Max. 1024 IPv6 entries Supports 32K hardware L3 forwarding entries shared by IPv4/IPv6 • Max. 32K IPv4 entries • Max. 16K IPv6 entries Default Routing Policy-based Route (PBR) Null Route	Bidirectional Forwarding Detection (BFD) • IPv4/IPv6 static route • RIP • VRRP RIP • RIPv1/v2 • RIPng Graceful Restart (GR) Helper for RIP Route Redistribution • Default Route • Static Route • RIP • RIPng • Null Route
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 ISM VLAN (Multicast VLAN) Voice VLAN Auto Surveillance VLAN VLAN Trunking GVRP • Up to 4094 dynamic VLANs
AAA	802.1X Authentication • Supports Port-based access control • Supports Host-based access control • Identity-driven Policy Assignment • Dynamic VLAN Assignment • QoS Assignment • ACL Assignment Web-based Access Control (WAC) • Identity-driven Policy Assignment • Dynamic VLAN Assignment • QoS Assignment • ACL Assignment • Supports Port-based access control • Supports Host-based access control	MAC-based Access Control (MAC) • Identity-driven Policy Assignment • Dynamic VLAN Assignment • QoS Assignment • ACL Assignment • Supports Port-based access control • Supports Host-based access control Compound Authentication Microsoft® NAP • Support 802.1X NAP • Support DHCP NAP RADIUS and TACACS+ Authentication Authentication Database Failover Guest VLAN
Quality of Service (QoS)	802.1p Quality of Service 8 queues per port QoS based on • 802.1p Priority Queues • DSCP • IP address • MAC address • VLAN • IPv6 Traffic Class • IPv6 Flow Label • TCP/UDP port • Switch Port • Ether Type • ToS/IP Preference • Protocol Type Congestion Control • WRED	Queue Handling • Strict • Weighted Round Robin (WRR) • Strict + WRR • Deficit Round Robin (DRR) • Weighted Deficit Round Robin (WDRR) Bandwidth Control • 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: • Remark 802.1p priority tag • Remark ToS/DSCP tag Committed Information Rate (CIR) Three Color Marker • trTCM • srTCM

Data Center Bridging (DCB)	802.1Qbb Priority-based Flow Control (PFC) 802.1Qaz Enhanced Transmission Selection (ETS)	802.1Qau Congestion Notification (CN)
ACL (Access Control List)	ACL based on: • 802.1p priority • VID • MAC address • EtherType • IP address • DSCP mask • Protocol type • TCP/UDP port number • IPv6 Traffic Class • IPv6 Flow Label	Max. ACL entries: • Ingress • IPv4: 1792 • IPv6: 448 • Egress • IPv4: 512 • IPv6: 256 • 3K VLAN access map Time-based ACL
Security Features	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 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 Duplicate Address Detection (DAD) L3 Control Packet Filtering Traffic Segmentation SSL • Supports v1/v2/v3 • Supports IPv4/IPv6 access SSH • Supports SSH v2 • Supports IPv4/IPv6 access BPDU Attack Prevention DOS Attack Prevention
OAM (Operations, Administration and Maintenance)	Cable Diagnostics 802.3ah Ethernet Link OAM D-Link Unidirectional Link Detection (DULD) Dying gasp	802.1ag Connectivity Fault Management (CFM) Y.1731 OAM Optical Transceiver Digital Diagnostic Monitoring (DDM)
Management	Web-based GUI CLI Telnet Server Telnet Client TFTP Client FTP Client Secure FTP (SFTP) Server Traffic Monitoring SNMP • 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	CPU Monitoring MTU Setting ICMP Tools • Ping • Traceroute LLDP & LLDP-MED DNS Relay SMTP DHCP Auto Configuration NTP RCP (Remote Copy Protocol) RMONv1/v2 Trusted Host Password Encryption Debug Command sFlow Switch Resource Management (SRM) Microsoft® Network Load Balancing (NLB)

Enhanced Image (EI) Software Features

- Requires additional license upgrade
- Includes all SI features plus the following:

L3 Features	IPv6 Tunneling • Static • ISATAP • GRE • 6to4	
L3 Routing	OSPF • OSPF v2/v3 • OSPF Passive Interface • Stub/NSSA Area Graceful Restart (GR) Helper for OSPF Route Preference • OSPF v2/v3	Route Redistribution • OSPF v2/v3 Bidirectional Forwarding Detection (BFD) • OSPF
L3 Multicast	IGMP v1/v2/v3 MLD v1/v2 IGMP/MLD Proxy	DVMRP v3 PIM-DM/SM/SM v6/SSM/SDM Multicast Source Discovery Protocol (MSDP)

Standards

MIB & RFC Standards	• 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)	• 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

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DXS-3400 Series
Layer 3 Stackable 10GbE Managed Switches

Ordering Information		
Model Number	**Description**	**Warranty**
DXS-3400-24TC	20 x 10GBASE-T ports and 4 x 10GBASE-T/SFP+ combo ports. Includes one (1) 300W AC modular power supply, and three (3) fan modules with front-to-back airflow	Lifetime [1]
DXS-3400-24SC	20 x 10 GbE SFP+ ports and 4 x 10GBASE-T/SFP+ combo ports. Includes one (1) 300W AC modular power supply, and three (3) fan modules with front-to-back airflow	Lifetime [1]
Optional Accessories		
DXS-PWR300AC	300W AC modular power supply with front-to-back airflow	5 Year Limited
DXS-FAN100	Spare fan module with front-to-back airflow	5 Year Limited
Optional License Upgrades		
DXS-3400-24TC-SE-LIC	DXS-3400-24TC Standard Image to Enhanced Image License Upgrade	
DXS-3400-24SC-SE-LIC	DXS-3400-24SC Standard Image to Enhanced Image License Upgrade	
Optional 10 Gbps (SFP+) and 1 Gbps (SFP) Optical Transceivers		
DEM-431XT-DD	10GBASE-SR Transceiver, Multimode, DDM, 80/300M	
DEM-432XT-DD	10GBASE-LR Transceiver, Single-mode, DDM, 10KM	
DEM-435XT-DD	10GBASE-LRM Transceiver, Multimode, DDM, 220M	
DGS-712	1000BASE-T SFP Transceiver	
DEM-310GT	1000BASE-LX SFP Transceiver, Single-mode, 10KM	
DEM-311GT	1000BASE-SX SFP Transceiver, Multimode, 550M	
Optional 10 Gbps Direct Attach Copper (DAC) Cables		
DEM-CB100S	1M (40") 10G Direct Attach Copper Cable for Data/Stacking	
DEM-CB300S	3M (118") 10G Direct Attach Copper Cable for Data/Stacking	
DEM-CB100QXS-4XS	40G QSFP+ to 4x10G SFP+ 1M Direct Attach Copper Cable	
Optional 10G Ethernet Adapters		
DXE-810S	Single Port 10G SFP+ PCI Express Adapter	
DXE-820T	Dual Port 10GBASE-T RJ45 PCI Express Adapter	

Optional Management Software	
DV-700	D-View 7 Network Management System
DV-700-N25-LIC	D-View 7 NMS - 25 Node License Upgrade
DV-700-N50-LIC	D-View 7 NMS - 50 Node License Upgrade
DV-700-N100-LIC	D-View 7 NMS - 100 Node License Upgrade
DV-700-N250-LIC	D-View 7 NMS - 250 Node License Upgrade
DV-700-N500-LIC	D-View 7 NMS - 500 Node License Upgrade
DV-700-N1000-LIC	D-View 7 NMS - 1000 Node License Upgrade
DV-700-P5-LIC	D-View 7 NMS - 5 Probe License Upgrade
DV-700-P25-LIC	D-View 7 NMS - 25 Probe License Upgrade

[1] Lifetime Warranty available in USA only. Lifetime Warranty void when not purchased from Authorized US D-Link Reseller. Please visit us.dlink.com for list of Authorized US Resellers.

Updated 06-SEP-2018
DXS-3400_REVA_DATASHEET_1.11_EN_US.PDF

For more information

U.S.A. | 17595 Mt. Herrmann Street | Fountain Valley, CA 92708 | 800.326.1688 | dlink.com

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