D-Link®

Product Highlights

Feature-Rich Software

An integrated software image provides powerful L2 and L3 features to fulfil different applications' requirements, capable of building solid, reliable networks

Embedded 25G Ports

Four embedded high-speed 25G ports simplify the network deployment by providing versatile options for uplink connections

Scalability and High Availability

Physical stacking provides agile expansion and redundancy, while reliability through fault-tolerant topologies ensures rock-solid connectivity
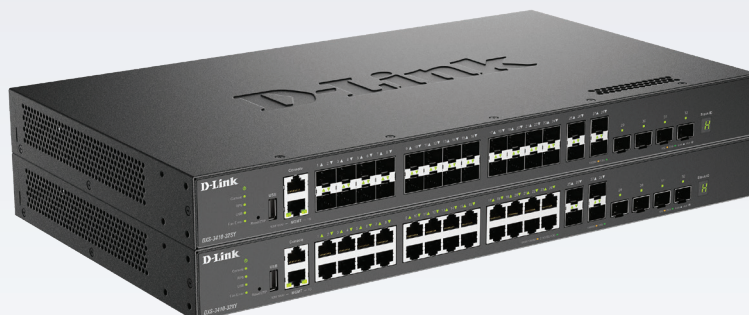
DXS-3410 Series

10G Layer 3 Stackable Managed Switches

Features

High Availability and Flexibility
- Variety of high-speed interface combinations to meet different network requirements
- 24 x multi-Gigabit 100M/1/2.5/5/10GBASE-T ports
- 28 x SFP+ ports
- 4 x 10/25G SFP28 ports

Reliability
- Redundant power supply (RPS) support
- Ethernet Ring Protection Switching (ERPS)
- IEEE 802.1D/802.1w/802.1s Spanning Tree
- Loopback Detection (LBD)
- Smart fan with Quiet mode design

L3 Features
- Static Route
- RIP/RIPng
- OSPFv2/v3

Lossless Ethernet via Data Center Bridging (DCB)
- IEEE 802.1Qbb Priority-based Flow Control (PFC)

Operations, Administration and Maintenance
- IEEE 802.3ah Ethernet Link OAM
- IEEE 802.1ag/ITU-T Y.1731 Service OAM

High Bandwidth Stacking
- Physical stack of up to 9 units via four 25G ports
- Supports long-distance stacking over fibre
- 200 Gbps per device physical stacking bandwidth

The DXS-3410 Series 10G Layer 3 Stackable Managed Switches are compact, high-performance switches with wire-speed 10-Gigabit Ethernet switching, 25-Gigabit uplinks, routing, and ultra-low latency. The 1U height and high port density make the DXS-3410 Series suitable for enterprise and campus environments where space is at a premium. These switches support multicasting and enhanced security, making them an ideal multi-Gigabit access layer solution. The DXS-3410 Series is equipped with multi-Gigabit Ethernet and SFP+ network connection options and includes models equipped with multi-Gigabit Ethernet and SFP28 network connection capabilities. Each model boasts 10G fibre ports and four 10/25G SFP28 ports to provide versatility and speed. This series is also equipped with a USB 2.0 port, allowing users to boot images and upload configuration files directly from, as well as conveniently save syslog files to a USB 2.0 storage device.

D-LinkAssist
Next Business Day Service

All D-Link products with 5-year or Limited Lifetime warranty come with complimentary Next Business Day Service. D-Link will send out a replacement product to you on the next business day after acceptance of a product failure. On receipt of the replacement product, you simply arrange the return of the defective product to us. Any products with a 2-year/3-year warranty can also benefit from the Next Business Day advance replacement service when the optional 3-year warranty extension has been purchased.

Find out more at **eu.dlink.com/services**

Enhanced Network Reliability

The DXS-3410 Series is designed for enterprise and metro Ethernet applications, and customers who require a high level of network security and maximum uptime. The DXS-3410 supports an external redundant power supply to ensure continued operation. In addition, these switches incorporate essential reliability features to enhance network resilience, including 802.1D Spanning Tree (STP), 802.1w Rapid Spanning Tree (RSTP), 802.1s Multiple Spanning Tree (MSTP), Loopback Detection (LBD), and Broadcast Storm Control. The G.8032 Ethernet Ring Protection Switching (ERPS) minimises the recovery time to 50 ms. For load sharing and redundancy backup in a switch cascading/server attachment configuration, the DXS-3410 Series provides dynamic 802.3ad Link Aggregation Port Trunking.

Comprehensive Security

The DXS-3410 Series provides users with the latest security features, such as Multi-layer and Packet Content Access Control Lists (ACL), Storm Control, and IP-MAC-Port Binding (IMPB) with DHCP Snooping. The IP-MAC-Port Binding feature allows administrators to bind a source IP address with an associated MAC and define the port number to enhance user access control. With the DHCP Snooping feature, the switch automatically learns IP/MAC pairs by snooping DHCP packets and saving them to the IMPB whitelist.

Versatile Traffic Management

The DXS-3410 Series implements a rich set of multi-layer QoS/CoS features to ensure that critical network services such as VoIP, video conferences, IPTV, and IP surveillance are always given high priority. Traffic Shaping features guarantee bandwidth for these services when the network is busy. L2 Multicast support enables the DXS-3410 Series to handle growing IPTV applications.

Host-based IGMP/MLD Snooping allows multiple multicast subscribers per physical interface, while ISM VLAN allows the switches to send multicast streams in a multicast VLAN to save bandwidth and to provide better security to the backbone network. The ISM VLAN profiles allow administrators to bind or replace the pre-defined multicast registration information to subscriber ports quickly and easily.

High Availability and Flexibility

The DXS-3410 Series combines multiple switches to form a single physical or virtual stack, increasing redundancy over multiple physical units, simplifying management, and providing a single IP address to manage all stack members. Up to 9 switches can be combined using DACs/Fibres to make up to 200 Gigabit Ethernet ports available, increasing switching capacity with demand.

Easy Access Control Policies

The DXS-3410 Series supports authentication mechanisms such as 802.1X, Web-based Access Control (WAC), and MAC-based Access Control (MAC) for strict access control and easy deployment. After authentication, individual policies such as VLAN membership, QoS policies, and ACL rules can be assigned to each host.

Technical Specifications

Interfaces	DXS-3410-32XY	DXS-3410-32SY
Ports	• 24 x 100M/1/2.5/5/10GBASE-T ports • 4 x 10G SFP+ ports • 4 x 10/25G SFP28 ports	• 28 x 10G SFP+ ports • 4 x 10/25G SFP28 ports
Optional Redundant Power Supply	• DPS-500A	• DPS-500A
Console Port	• RJ-45 port for out-of-band CLI management	
Management Port	• 10/100/1000BASE-T RJ-45 port for out-of-band IP management	
Stacking Ports	• 4	
USB Ports	• 1 x USB 2.0 Type A port	

Performance

Switching Capacity	• 760 Gbps	
64-Byte Packet Forwarding Rate	• 565.44 Mpps	
Packet Buffer Memory	• 4 MB	

Physical

MTBF (Hours)	• 434,433.88 hours	• 437,675.04 hours
Acoustics	• Max: 53.0 dB • Min: 28.8 dB	• Max: 53.3 dB • Min: 24.8 dB
Heat Dissipation	• 371.92 BTU/h	• 354.86 BTU/h
Power Input	• 100 to 240 VAC, 50 to 60 Hz	
Max Power Consumption	• Max.: 109.0 W • Standby: 41.8 W	• Max.: 104.0 W • Standby: 29.3 W
Dimensions (W x D x H)	• 441.0 x 250 x 44.0 mm	• 441.0 x 250 x 44.0 mm
Weight	• 3.67 kg	• 3.8 kg
Ventilation	• 3 x Smart fans	
Operation Temperature	• 0 to 50 ˚C (32 to 122 ˚F)	
Storage Temperature	• -40 to 70 ˚C (-40 to 158 ˚F)	
Operating Humidity	• 10% to 90% RH	
Storage Humidity	• 5% to 90% RH	
Emission (EMI)	• FCC Class A, CE Class A, VCCI Class A, IC, RCM, BSMI	
Safety	• CB, cUL, BSMI	

Technical Specifications

Software Features

Stackability	• Physical stacking • Up to 9 units per stack • Up to 200 Gbps stacking bandwidth • Ring/chain topology support	• Virtual stacking • D-Link Single IP Management (SIM) • Up to 32 units per virtual stack
L2 Features	• MAC Address Table: 32K entries • Flow Control • 802.3x Flow Control • HOL Blocking Prevention • Jumbo Frames up to 10 Kbytes • 802.1AX/802.3ad Link Aggregation • Max. 32 groups per device, 8 ports per group • Spanning Tree Protocols • 802.1D STP • 802.1w RSTP • 802.1s MSTP • BPDU Filtering • Root Guard • Loop Guard	• Loopback Detection • Port Mirroring • Supports One-to-One, Many-to-One • Supports Mirroring for both Tx/Rx • Supports 4 mirroring groups • Flow mirroring • Supports Mirroring for Tx/Rx • VLAN Mirroring • RSPAN • L2 Protocol Tunneling • Ethernet Ring Protection Switching (ERPS) v1/v2 • Loopback Detection (LBD) • iSCSI Awareness • Multi-Chassis Link Aggregation Group (MLAG)[1]
L2 Multicasting	• IGMP Snooping • IGMP v1/v2/v3 Snooping • Supports 1024 IGMP groups • IGMP Snooping Fast Leave • Supports 1024 static IGMP groups • Per VLAN IGMP Snooping • Data Driven Learning • IGMP Snooping Querier • IGMP Authentication • IGMP Accounting	• Report Suppression • MLD Snooping • MLD v1/v2 Snooping • Support 1024 MLD Groups • MLD Snooping Fast Leave • Supports 1024 static MLD groups • MLD Snooping Querier • Per VLAN MLD Snooping • MLD Proxy Reporting
L3 Multicasting	• IGMP v1/v2/v3	• PIM-SM for IPv4
VLAN	• VLAN Group • Max. 4K VLAN groups • Max. 1~4094 VIDs • GVRP • Max. 4K dynamic VLAN groups • Double VLAN (Q-in-Q) • Port-based Q-in-Q • Selective Q-in-Q • 802.1Q • Auto Surveillance VLAN • Port-based VLAN	• 802.1v Protocol-based VLAN • Voice VLAN • MAC-based VLAN • VLAN translation • Multicast VLAN (ISM VLAN for IPv4/IPv6) • Asymmetric VLAN • Private VLAN • VLAN Trunking • Super VLAN
Quality of Service	• 802.1p • 8 queues per port • Queue Handling • Strict Priority • Weighted Round Robin (WRR) • Strict + WRR • Weighted Deficit Round Robin (WDRR) • Policy Map • Remark 802.1p priority • Remark IP precedence/DSCP • Congestion Control • Weighted Random Early Detection (WRED)	• CoS based on • Switch port • Inner/Outer VID • Inner/Outer 802.1p Priority • MAC address • IP address • DSCP • Protocol type • TCP/UDP port • IPv6 traffic class • IPv6 flow label • Bandwidth Control • Port-based (ingress/egress, min. granularity 64 Kbps) • Flow-based (ingress/egress, min. granularity 64 Kbps) • Per queue bandwidth control (min. granularity 64 Kbps) • Three Color Marker • CIR/PIR minimum granularity: 8 kbps • trTCM • srTCM
Data Center Bridging	• 802.1Qbb Priority-based Flow Control (PFC)	

Access Control List (ACL)	• ACL based on
	  • 802.1p priority
	  • VID
	  • MAC address
	  • Ether Type
	  • LLC
	  • VLAN
	  • IP address
	  • IP preference/ToS
	  • DSCP mask
	  • Protocol type
	  • TCP/UDP port number
	  • IPv6 Traffic Class
	  • IPv6 Flow Label
		• Time-based ACL
		• CPU Interface Filtering
		• Max. ACL entries:
		  • Ingress
		    • IPv4: 2560
		    • IPv6: 640
		  • Egress
		    • IPv4: 1024
		    • IPv6: 512
		• 2048 VLAN access map

Security	• Port Security
	  • Supports up to 12K MAC addresses per port
	• Broadcast/Multicast/Unicast Storm Control
	• D-Link Safeguard Engine
	• DHCP Server Screening
	• IP Source Guard
	• DHCP Snooping
	• IPv6 Snooping
	• Dynamic ARP Inspection (DAI)
	• DHCPv6 Guard
	• IPv6 Route Advertisement (RA) Guard
	• IPv6 ND Inspection
	• Duplicate Address Detection (DAD)
	• ARP Spoofing Prevention
	  • Max. 128 entries
		• L3 Control Packet Filtering
		• Traffic Segmentation
		• SSL
		  • Supports TLS 1.0/1.1/1.2
		  • Supports IPv4/IPv6 access
		• SSH
		  • Supports SSH v2
		  • Supports IPv4/IPv6 access
		• BPDU Attack Protection
		• DOS Attack Prevention

AAA	• Guest VLAN
	• 802.1X Authentication
	  • Supports port/host-based access control
	  • Identity-driven Policy Assignment
	  • Dynamic VLAN Assignment
	  • Ingress/Egress Bandwidth Control
	  • ACL Assignment
	• Privilege Level for Management Access
	• Trusted Host
	• RADIUS/TACACS+ Accounting
	• Web-based Access Control (WAC)
	  • Supports port/host-based access control
	  • Identity-driven Policy Assignment
	  • Dynamic VLAN Assignment
	  • Support IPv4 access
	  • Ingress/Egress Bandwidth Control
	  • ACL Assignment
		• RADIUS and TACACS+ Authentication
		• Authentication Database Failover
		• Compound Authentication
		• MAC-based Access Control (MAC)
		  • Supports port/host-based access control
		  • Identity-driven Policy Assignment
		  • Dynamic VLAN Assignment
		  • Ingress/Egress Bandwidth Control
		  • ACL Assignment

Green Features	• Energy-Efficient Ethernet (EEE) • Power saving by link status • Power saving by LED shut-off	• Power saving by port shut-off • Power saving by system hibernation
OAM (Operations, Administration and Maintenance)	• 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
	  • Support IPv4/IPv6 access
	  • Support SSL (HTTPS)
	• Command Line Interface (CLI)
	• Telnet Server for IPv4/IPv6
	• Telnet Client for IPv4/IPv6
	• TFTP Client for IPv4/IPv6
	• DNS Client for IPv4/IPv6
	• Secure FTP Server for IPv4/IPv6
	• SNMP
	  • Support v1/v2c/v3
	  • Support for IPv4/IPv6 access
	• SNMP Traps
	• System Log for IPv4/IPv6 Syslog Server
	• sFlow
	• Multiple images/ Multiple Configurations
	• RMON v1:
	  • Supports 1, 2, 3, 9 groups
	• RMON v2:
	  • Supports ProbeConfig group
	• LLDP/LLDP-MED
	• DHCP Client
		• DHCP Auto-Configuration
		• DHCP/DHCPv6 Local Relay
		• DHCP Relay Option 60/61/82/125
		• Flash File System
		• PPPoE Circuit-ID Tag Insertion
		• D-Link Discover Protocol (DDP)
		• Debug command
		• Support IPv4/v6 SNTP Server
		• NTPv3/v4
		• Password recovery/ encryption
		• DHCP server
		  • Support for IPv4/IPv6 address assignment
		• Command Logging
		• SMTP
		• DHCPv6 Prefix Delegation (PD)
		• Ping/ Traceroute for IPv4/IPv6
		• Microsoft® Network Load Balancing (NLB)
		• Zero Touch Provisioning (ZTP)

L3 Features	• IPv4 ARP Entries: 16128
	  • 512 Static ARP
	• IPv6 ND Entries: 7680
	  • 256 Static ND Entries
	• IP Interface
	  • Supports 256 interfaces
		• Gratuitous ARP
		• Loopback Interface
		• Proxy ARP
		  • Support local ARP proxy
		• VRRP v2/v3
		• IP Helper

L3 Routing	• Supports 12K hardware routing entries shared by IPv4/IPv6
	  • 1 entry consumed by each IPv4 route
	  • 2 entries consumed by each IPv6 route
	• Supports up to 16K IPv4 / 8K IPv6 hardware L3 forwarding entries
	  • 1 entry consumed by each IPv4 route
	  • 2 entries consumed by each IPv6 route
	• IPv4/IPv6 Static Route
	  • Max. 256 IPv4 entries
	  • Max. 128 IPv6 entries
	  • Support Equal-Cost Multi-Path Route (ECMP)
	• IPv4/IPv6 Default Route
		• PBR (Policy-based Route)
		• Null Route
		• Route Preference
		• Route Redistribution
		• RIPv1/v2/ng
		• OSPF
		  • OSPF v2/v3
		  • OSPF passive interface
		  • Stub/NSSA area
		  • Support Equal-Cost Multi-Path Route (ECMP)
		  • Text/MD5

MIB	• RFC1065, RFC1066, RFC1155, RFC1156, RFC2578 MIB Structure • RFC1212 Concise MIB Definitions • RFC1213 MIBII • RFC1215 MIB Traps Convention • RFC1493, RFC4188 Bridge MIB • RFC1157, RFC2571, RFC2572, RFC2573, RFC2574, RFC2575, RFC2576 SNMP MIB • RFC1442, RFC1901, RFC1902, RFC1903, RFC1904, RFC1905, RFC1906, RFC1907, RFC1908, RFC2578, RFC3418, RFC3636 SNMPv2 MIB • RFC2819 RMON MIB • RFC2021 RMONv2 MIB • RFC1398, RFC1643, RFC1650, RFC2358, RFC2665, RFC3635 Ether-like MIB • RFC4836 802.3 MAU MIB • RFC2674, RFC4363 802.1p MIB • Interface Group MIB • RFC2618 RADIUS Authentication Client MIB • RFC4022 MIB for TCP	• RFC4113 MIB for UDP • RFC2620 RADIUS Accounting Client MIB • RFC2925 Ping & TRACEROUTE MIB • TFTP uploads and downloads (D-Link MIB) • Trap MIB (D-Link MIB) • RFC4293 IPv6 MIB • RFC4133 Entity MIB • RFC2782 VRRP MIB • RFC1724 RIPv2 MIB • RFC1850 OSPF MIB • RFC4293 IPv6 SNMP Mgmt Interface MIB • DDM MIB (D-Link MIB) • Private MIB • MIB for D-Link Zone Defense • RFC3621 Power Ethernet MIB • DDP MIB • LLDP-MED MIB • IPv4 Multicast Routing MIB • PIM MIB for IPv4 • IP Forwarding Table MIB

RFC Standard Compliance	• RFC791 IP • RFC768 UDP • RFC793 TCP • RFC792 ICMPv4 • RFC2463, RFC4443 ICMPv6 • RFC4884 Extended ICMP to Support Multi-Part Messages • RFC826 ARP • RFC1338, RFC1519 CIDR • RFC2474, RFC3168, RFC3260 Definition of the DS Field in the IPv4 and IPv6 headers • RFC1321, RFC2284, RFC2865, RFC2716, RFC1759, RFC3580, RFC3748 Extensible Authentication Protocol (EAP) • RFC2571 SNMP Framework • RFC3246 Expedited Forwarding PHB (Per-Hop Behavior)	• RFC1886 DNS extension support for IPv6 • RFC1981 Path MTU Discovery for IPv6 • RFC2460 IPv6 • RFC2461, RFC4861 Neighbor Discovery for IPv6 • RFC2462, RFC4862 IPv6 Stateless Address Auto-configuration (SLAAC) • RFC2464 IPv6 over Ethernet and definition • RFC3513, RFC4291 IPv6 Addressing Architecture • RFC2893, RFC4213 IPv4/IPv6 dual stack function • RFC2068, RFC2616 • RFC2866 RADIUS Accounting • RFC2574 User-based Security Model for SNMPv3 • RFC854 Telnet • RFC2131 DHCP Client

Optional Accessories

DEM-CB100S	1 m 10G SFP+ Direct Attach Cable (DAC)
DEM-CB300S	3 m 10G SFP+ Direct Attach Cable (DAC)
DEM-CB100Q28-4S28	1 m 100G QSFP28 to 4x 25G SFP28 Direct Attach Cable (DAC)
DEM-CB100S28	1 m 25G SFP28 Direct Attach Cable (DAC)

Optional Redundant Power Supplies

DPS-500A	AC Redundant Power Supply

Optional 1G Transceivers

DEM-310GT	1000Base-LX Single-Mode, 10KM (w/o DDM)
DEM-311GT	1000Base-SX Multi-mode, 550M (w/o DDM)
DEM-312GT2	1000Base-SX Multi-mode, 2KM (w/o DDM)

Optional SFP+ Transceivers

DEM-410T[2]	10GBASE-T Copper SFP+ transceiver, 30M (w/o DDM)
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 25 Gigabit Ethernet SFP28 Transceivers

DEM-S2801SR	25G SFP28 Multi-Mode, 100 m Transceiver
DEM-S2810LR	25G SFP28 Single-Mode 10 km Transceiver

[1] D-Link MLAG Switch does not support L3 features and L2 feature only supports LACP. For management, you can use the management interface (OOB interface) directly or establish a separate VLAN and use the port as a management interface.

[2] Only HW version A2 DEM-410T transceivers are compatible with the DXS-3410 Series switches, and can only be installed in ports 25 through 32 within environments not exceeding an ambient temperature of 40 °C (104 °F).

For more information: www.dlink.com

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