

## L2+ Gigabit Stack

### Enhanced Access Layer Switch

- 24 or 48 Gigabit Ports Per Switch
- 4 Combo SFP Fiber Gigabit
- 2 or 3 Open Slots for Optional 10-Gigabit Uplinks
- Virtual Stack or Physical High-Speed Stacking
- Enhanced L2+ With Static Routing, Multi-Layer ACL and QoS
- Malicious Traffic and Performance Degradation Prevention

#### FEATURES

##### Flexible Choices

- 24 or 48 10/100/1000BASE-T Ports
- 4 Combo SFP for Fiber Gigabit
- 2 or 3 Open Slots for Optional 10-Gigabit Uplinks
- Stackable Through Optional 10-Gigabit Coaxial Ports
- Optional External Redundant Power Supply

##### xStack Integration

- Virtual Stack of Up to 32 Units
- Single IP Management for Integration With L3 Core Switches
- Physical Stackable to 12 Units, 576 Gigabit Ports <sup>2</sup>

##### Enhanced L2+ Features

- IP v.4/v.6 Static Routing
- IP v.6 Tunneling <sup>1</sup>

##### Security

- L2/L3/L4 Multi-Layer Access Control
- D-Link Safeguard Engine
- 802.1x Authentication, External RADIUS/TACACS+ Support
- SSH/SSL Support
- Health Check <sup>3</sup>

##### Quality of Service

- 802.1p Priority Queues/Multi-Layer CoS
- 8 Hardware Queues

##### Traffic Monitoring/Bandwidth

###### Control

- Traffic Segmentation
- Bandwidth Control Down to 64Kbps
- Per Flow Bandwidth Control
- Broadcast Storm Control Down to 1pps
- 802.3ad Link Aggregation (Port Trunks)
- Port Mirroring

##### Configuration/Management

- Web-Based
- Command Line Interface (CLI)
- SNMP v.1, v.2c, v3
- D-Link Single IP Management (SIM) v.1.5
- Telnet Server
- Dual Images/Configurations

<sup>1</sup> Star stacking available in future; other functions available in future firmware upgrade.

<sup>2</sup> Calculation based on 12 units of DGS-3450 stacked in the Ring Topology.

<sup>3</sup> Health Check ZoneDefense operates in conjunction with D-Link NetDefend firewalls.

The xStack DGS-3400 series of next generation switches delivers performance, flexibility, security, multi-layer Quality of Service (QoS) and redundant power option for the SMB and enterprises. With high Gigabit port densities for desktop connections, SFP fiber connectivity, 10-Gigabit uplink options and enhanced Layer 2+ functions, these switches comprise the workgroup access-layer stack for seamless integration with L3 core switches to form part of a multi-level network structured with high-speed backbone and centralized servers.

*Unparalleled Flexibility.* Any switch in the DGS-3400 series can operate as a stand-alone device or part of a scalable stack. Embedded with Single IP Management capability, a stand-alone switch can form part of a virtual stack, where intra-stack traffic flows through the usual network wires, doing away with the costly stacking cables. Without stacking cables, cable distance barriers and physical stacking limitations, a virtual stack can comprise units that are located anywhere on the network that minimizes the impact of any single point of failure.

*Ring or Star <sup>1</sup> Stacking.* Alternatively, optional 10-Gigabit modules can be installed in the open slots to create a physical stack. Up to 12 units or 576 Gigabit ports can be configured for a stack. <sup>2</sup> Users can install one or two single-port modules, depending on whether the fault-tolerant Ring or Star <sup>1</sup> stacking is implemented. With each of these ports providing 20Gbps full duplex transmission on the cost-effective coaxial cable, the DGS-3400 series provides not only high-bandwidth stacking but also cost control capability that allows users to add ports strictly on a per need basis. Modules with single 10-Gigabit XFP can also be installed in any of the open slots for uplink to a server or a fiber backbone.

*More Intelligent Than Simple Layer 2 Switch.* The DGS-3400 series provides a complete set of security features, which includes L2/L3/L4 multi-layer Access Control Lists and 802.1x user authentication via TACACS+ and RADIUS servers. In addition, it offers suppression capabilities, Layer 3 IP v.4/v.6 Static Routing and IP v.6 Tunneling <sup>1</sup> to increase network performance and security. To ensure that not only proper user access is served, but also malicious traffic within the network is prevented, the DGS-3400 series includes a Health Check mechanism that provides proactive network security without the need for manual intervention from the administrator. <sup>3</sup>

*Security, Performance & Availability.* The DGS-3400 series provides extensive VLAN support including GARP/GVRP, 802.1Q and asymmetric VLAN to enhance security and performance. To support converged applications including VoIP, ERP, Intranet and video conference, a robust set of L2/L3/L4 QoS/CoS features ensures that critical network services are served with proper priority. With Multi-layer L2/L3/L4 bandwidth control and D-Link Safeguard Engine, DGS-3400 series can set limits to traffic flows from the edge of the network while automatically prevents broadcast packets and bulk traffic generated by Internet DoS-related activities from utilizing the switch's CPU resources. This prevention of unnecessary and harmful traffic can increase the overall network serviceability, reliability and availability of the stack.




### DGS-3400 Series

**Product Specifications**

**DGS-3426**

**DGS-3427**

**DGS-3450**



<b>Interface</b>	10/100/1000BASE-T Ports	24	24	48
	Auto-Negotiation of Network Speed	✓	✓	✓
	Auto-MDI/MDIX	✓	✓	✓
	802.3x Flow Control	✓	✓	✓
	SFP	4	4	4
	Open Slot for 10Gigabit Uplink Modules	2	3	2
	RS-232 Console Port	1	1	1
<b>Physical Stacking</b>	Installable Module for Stacking	Single-Port DEM-410CX	Single-Port DEM-410CX	Single-Port DEM-410CX
	Max Number of Stacking Ports Installable	2 CX4 Ports	2 CX4 Ports	2 CX4 Ports
	Stacking Speed (Per Port)	20Gbps (Full-Duplex)	20Gbps (Full-Duplex)	20Gbps (Full-Duplex)
	No. of Units Per Stack (Star Topology)	8 *	8 *	8 *
	No. of Units Per Stack (Ring Topology)	12	12	12
<b>Optional 10-Gigabit Uplink</b>	Single XFP Slot Module (DEM-410X)	✓	✓	✓
	Single CX4 Port Module (DEM-410CX)	✓	✓	✓
	10GBASE-SR (300 m Multi-Mode Fiber) Support	✓	✓	✓
	10GBASE-LR (10 km Single-Mode Fiber) Support	✓	✓	✓
	10GBASE-ER (40 km Single-Mode Fiber) Support	✓	✓	✓
	Max. Number of 10-Gigabit Uplinks Installable	2	3	2
<b>Performance</b>	Switch Fabric	88Gbps	108Gbps	136Gbps
	Packet Forwarding Rate	65.47Mpps	80.36Mpps	101.19Mpps
	Packet Buffer	750KB	750KB	750KB
	MAC Address Table	8K Entries	8K Entries	8K Entries
	IP v.4/v.6 Static Routing Table	128 Entries	128 Entries	128 Entries
	IP v.4 Host Table	2K Entries	2K Entries	2K Entries
	IP v.6 Host Table	1K Entries	1K Entries	1K Entries
<b>Power</b>	Power Supply	100 to 120VAC, 200 to 240VAC, 50/60Hz, Internal Power Supply		
	Power Consumption (Max.)	70.8 Watts	71.6 Watts	131.34 Watts
	Optional Redundant Power Supply	DPS-500	DPS-500	DPS-500
<b>Physical/Environmental</b>	BTU/Hr.	241.58	244	448
	Ventilation	2 40 x 40 mm DC Fans	2 40 x 40 mm DC Fans	2 40 x 40 mm DC Fans
	Dimensions	441 x 389 x 44 mm	441 x 389 x 44 mm	441 x 389 x 44 mm
	Size	19-Inch Rack-Mount Width, 1U Height		
	Weight (Without Optional Module)	5.42 kg	5.51 kg	5.74 kg
	Operating Temperature	0° to 40°C	0° to 40°C	0° to 40°C
	Storage Temperature	-10° to 70°C	-10° to 70°C	-10° to 70°C
	Operating Humidity	10% to 90% RH	10% to 90% RH	10% to 90% RH
	Storage Humidity	5% to 90% RH	5% to 90% RH	5% to 90% RH
	EMI	FCC Class A, CE, C-Tick	FCC Class A, CE, C-Tick	FCC Class A, CE, C-Tick
	Safety	CSA International, CB	CSA Internationa, CB	CSA International, CB

\* Functions available in future.

## Software Functions

### L2 Features

- IGMP snooping
- Spanning Tree: 802.1D STP, 802.1W RSTP, 802.1S MSTP
- STP loop back detection
- 8 802.3ad Link Aggregation groups
- Back Pressure Flow Control
- Port mirroring: one-to-one, multiple-to-one, ACL modes \*
- Trunking/mirroring across stack \*
- Head-of-line blocking prevention

### VLAN

- 802.1Q
- Double VLAN \*
- 4K VLAN groups
- GVRP
- Guest VLAN \*

### L3 Features

- 128 IP v.4/v.6 Static Routing
- IPv.6 Tunneling \*

### QoS

- Per flow bandwidth control
- 802.1p support
- 8 queues per port
- Queue handling methods: WRR, Strict
- CoS based on:
  - Switch port
  - MAC address
  - 802.1p priority
  - VLAN
  - Protocol type
  - TOS
  - DSCP
  - IP v.4/v.6 address
  - IP v.6 traffic class
  - IP v.6 flow label
  - TCP/UDP port



### ACL (Access Control List)

- Maximum 768 rules based on:
  - Switch port
  - MAC address
  - 802.1p priority
  - VLAN
  - Protocol type
  - TOS
  - DSCP
  - IP address
  - IP v.4/v.6 address
  - IP v.6 traffic class
  - IP v.6 flow label
  - TCP/UDP port
- Time-based ACL \*
- CPU interface filtering

### Security

- RADIUS/TACACS/TACACS+
- SSH v.2
- SSL v.3
- Port security
- 802.1x port-based/MAC-based access control
- Web-based access control \*
- Broadcast storm control
- Traffic segmentation
- MAC-IP binding
- D-Link Safeguard Engine

### Management

- D-Link Single IP Management v.1.5
- Web-based GUI
- CLI
- Web GUI traffic monitoring
- Web MAC address browsing
- Telnet server
- TFTP client
- SNMP v.1, v.2c, v.3
- SNMP trap on MAC notification
- RMON v.1
- BootP/DHCP client
- DHCP auto-configuration
- DHCP relay option 82 \*
- System log
- Trap/alarm/log severity control
- Dual Images
- Dual Configurations
- CPU Monitoring
- Virtual Interface \*

\* Functions available in future firmware upgrade.

## Optional Products

### Optional Management Software

- DS-510S** D-View 5.1 SNMP Network Management Program (standard version)  
**DS-510P** D-View 5.1 SNMP Network Management Program (professional version)

### Optional 10Gigabit Uplink Modules

- DEM-410X** 1-slot 10Gigabit XFP uplink module  
**DEM-410CX** 1-port 10Gigabit CX4 uplink module

### Optional 10Gigabit XFP Transceivers

- DEM-421XT** XFP transceiver for 10GBASE-SR, multi-mode fiber, max. distance 300 m, 3.3/5V  
**DEM-422XT** XFP transceiver for 10GBASE-LR, single-mode fiber, max. distance 10 km, 3.3/5V  
**DEM-423XT** XFP transceiver for 10GBASE-ER, single-mode fiber, max. distance 40 km, 3.3/5V

### Optional SFP Transceivers

- DEM-310GT** SFP transceiver for 1000BASE-LX, single-mode fiber, max. distance 10 km, 3.3V  
**DEM-311GT** SFP transceiver for 1000BASE-SX, multi-mode fiber, max. distance 550 m, 3.3V  
**DEM-312GT2** SFP transceiver for 1000BASE-SX, multi-mode fiber, max. distance 2 km, 3.3V  
**DEM-314GT** SFP transceiver for 1000BASE-LHX, single-mode fiber, max. distance 50 km, 3.3V  
**DEM-315GT** SFP transceiver for 1000BASE-LX, single-mode fiber, max. distance 80 km, 3.3V  
**DEM-330T** SFP transceiver for 1000BASE-LX, single-mode fiber, max. 10 km, 3.3V, WDM (Tx: 1550 nm, Rx: 1310 nm)  
**DEM-330R** SFP transceiver for 1000BASE-LX, single-mode fiber, max. 10 km, 3.3V, WDM (Tx: 1310 nm, Rx:1550 nm)  
**DEM-331T** SFP transceiver for 1000BASE-LX, single-mode fiber, max. 40 km, 3.3V, WDM (Tx: 1550 nm, Rx: 1310 nm)

- DEM-331R** SFP transceiver for 1000BASE-LX, single-mode fiber, max. 40 km, 3.3V, WDM (Tx: 1310 nm, Rx:1550 nm)

### Optional Redundant Power Supply

- DPS-500** 140-watt redundant power supply  
**DPS-800** 2-slot redundant power supply chassis  
**DPS-900** 8-slot redundant power supply chassis

## D-Link Worldwide Offices

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