



### High Performance Switching

- + D-Link® Single IP Management up to 32 Units
- + Physical Stacking up to 12 Units
- + Jumbo Frames up to 9216Bytes
- + Stacking Backplane 40Gbps
- + Switching Backplane of 88/108/136Gbps
- + Static IPv4/IPv6 Routing up to 128 Routes

### Security

- + D-Link Safeguard Engine™
- + Microsoft® NAP Support
- + SSHv2, SSLv3
- + TACACS+, RADIUS
- + IP-MAC-Port Binding
- + Traffic Segmentation
- + L2/3/4 Access Control List
- + MAC-based Access Control<sup>1</sup>
- + Guest VLAN
- + Loopback Detection (v4.0<sup>1</sup>)

### Network Management

- + SNMPv1/v2c/v3 Support
- + RMON (4 Groups)
- + Web GUI or CLI
- + Cross Stack Port Mirroring
- + sFlow<sup>1</sup>

### Advanced Standards-based Enterprise Features

- + 802.1p Priority (8 Queues)
- + L2/L3/L4 QoS
- + 802.1X (Port/MAC-based)
- + 802.1Q VLANs (port-based, up to 4K groups)
- + MAC-based VLAN
- + Q-in-Q
- + IGMP Snooping v1/2/3
- + MLD Snooping v1/2
- + 802.3ad Link Aggregation
- + Cross Stack Trunking
- + 802.1w Rapid Spanning Tree
- + 802.1s Multiple Spanning Group
- + 802.1v Protocol Based VLAN
- + ISM-VLAN



## Managed 24/48-Port Gigabit L2+ Switch with 4 Combo SFP Slots and Optional 10-Gig Uplinks

### Overview

The xStack® DGS-3400 Series by D-Link® comes with high-performance, managed, stackable Layer 2+ switches that provide ideal network solutions for workgroups and edge deployments. D-Link Single IP Management (SIM) allows network administrators to cluster a virtual stack of up to 32 DGS-3400 Series dispersed switches through a single IP address. The clustering environment spans buildings, making it perfect for businesses that require multiple building deployment. The DGS-3400 Series also supports physical stacking of up to 12 units in a stack, so that the entire stack can act as a single logical unit with up to 40Gbps of stacking backplane. Furthermore, the xStack switches provide comprehensive security for edge access such as Access Control List, DHCP server screening and DoS attack prevention.

### Non-Blocking Switching

The xStack DGS-3400 Series provides non-blocking switching solutions for gigabit connection. There are three models in the series: DGS-3427, which supports 24 gigabit ports with optional three 10-Gigabit uplinks; DGS-3450, which supports 48 gigabit ports with two optional 10-Gigabit uplinks; and DGS-3426P, which supports 24 Gigabit IEEE 802.3af Power over Ethernet ports with two optional 10-Gigabit uplinks. All three models support four combo SFP ports, which means that when these ports are enabled, four of the copper gigabit ports will be disabled. When stacked, the xStack DGS-3400 Series has a stacking backplane of 40Gbps.

### Advanced Network Security

For edge network security, the DGS-3400 Series supports features such as IP-MAC-Port Binding to prevent security breaches such as rogue DHCP server, man-in-the-middle attacks or IP spoofing. For clients with Windows® XP SP3, Windows Vista®, or servers with Windows Server® 2008, the xStack DGS-3400 Series works in conjunction with Microsoft's Network Access Protection (NAP) as part of

an ecosystem that enforces compliance with network health policies. The xStack switches grant network hosts access only when compliant with IT security policies, such as up-to-date anti-virus signatures and operating system patches. This prevents a virus-infested client or server from gaining access and furthering contamination.

The xStack switch family also supports loopback detection, which detects a loop in the network even though the end device causing the loop is without spanning tree. When the switch detects a loop is in the connected node, the xStack DGS-3400 family shuts down the port with the loop so that the entire system will continue to function normally. This feature can also be VLAN-based.

The DGS-3400 Series incorporates advanced mechanisms to detect an attack against a switch's central processing unit and to take corrective action on an attacking interface. When a Denial of Service attack is waged against the xStack switches, the D-Link Safeguard Engine™ detects the threat and prevents overload of the central processor, ensuring network integrity and helping to maintain open network bandwidth channels.

In addition, these D-Link switches support 802.1x authentication, which allows users to securely log on to your network. When used in conjunction with a RADIUS server, 802.1x requires each user workstation attached to the xStack switches to provide a username and password before gaining access to the network. Other security features include Access Control List, allowing an administrator to restrict network access through a variety of means including MAC address, IP, UDP/TCP, and even VLAN ID.

### IP Clustering Stackable

The xStack DGS-3400 Series provides Single IP Management Technology (SIM), which allows a set of switches to be managed by a single IP address, regardless of geographical locations. Your stack can

be comprised of units that are located anywhere on the network, minimizing the impact of any single point of failure. Furthermore, multiple xStack switches can be configured, monitored and maintained from any workstation running a web browser through one unique IP address. The stack is managed as a single object, with all units identified by a single IP address. Using Tree View, you can obtain an overview of the members of the stack and a network topology showing the locations of the units and their link information. This simple yet powerful web-based management eliminates the need for you to install expensive SNMP network management software. You can add units to up to 32 switches per stack and are not limited to any specific D-Link SIM model.

### Voice and Video Applications

For today's business, having voice, data and video on the same network is common practice. This challenge is met by the DGS-3400 Series, which supports 802.1p with eight queues. The administrator can designate the priority of the traffic based on a variety of means including IP or MAC address, so that voice data is always clear and jitter-free. Video traffic can also be assigned with the same priority. In addition, the xStack switches provide IGMP Snooping or MLD snooping, which allows the forwarding of multicast packets such as streaming audio and video, without increasing network broadcast congestion. By snooping IGMP registration information within a frame, a list of workstations who have joined the multicast group is created. This list allows a switch to intelligently forward

packets to only the appropriate member workstations. In conjunction with the 802.1Q VLANs the switches support, Quality of Service and security can be achieved on a network infused with data traffic.

For other multimedia-on-demand applications, such as IPTV deployments, the xStack DGS-3400 Series provides advanced features for easy video streaming management. For example, the xStack family supports per port multicast stream control, which allows a service provider to assign limited multicast addresses per port. This means it can act as a security control that pre-configures channels for each subscriber on a port level to prevent unauthorized hosts from receiving traffic for a multicast group they have not joined. The xStack DGS-3400 Series also supports IGMP multicast VLAN, which eliminates duplicate multicast traffic being sent to clients in different VLANs, thus removing bottlenecks in the uplink port.

### Ease of Management

The xStack DGS-3400 Series supports SNMP v1/2c/3 so traps can be set on abnormal events and information can be polled to maximize the productivity of the network. Other standard management features also include RMON and IEEE 802.1D/w/s Spanning Tree. The user interface options include an intuitive web-based browser graphic interface or industry-standard CLI; either administration traffic can be protected through SSL or SSH encryptions.



## Technical Specifications

Model	DGS-3426P	DGS-3427	DGS-3450
Interface			
Ports	24 10/100/1000BASE-TX Auto-Negotiating, Auto-MDI/MDI-X Ports with 802.3x Flow Control	24 10/100/1000BASE-TX Auto-Negotiating, Auto-MDI/MDI-X Ports with 802.3x Flow Control	48 10/100/1000BASE-TX Auto-Negotiating, Auto-MDI/MDI-X Ports with 802.3x Flow Control
Combo Ports	4 Combo SFP Slots, Media Support Dependent On GBIC Transceiver	4 Combo SFP Slots, Media Support Dependent On GBIC Transceiver	4 Combo SFP Slots, Media Support Dependent On GBIC Transceiver
Open Slot for 10-Gigabit Uplink Modules	2 Open Slots for 10-Gigabit Uplink Modules	3 Open Slots for 10-Gigabit Uplink Modules	2 Open Slots for 10-Gigabit Uplink Modules
Diagnostic LEDs	Per Device: Power, Console, RPS Per Gigabit Port: Link/Activity, 10/100Mbps or 1000Mbps Speed Per Ethernet Port: Link/Activity, 10Mbps or 100Mbps Speed	Per Device: Power, Console, RPS Per Gigabit Port: Link/Activity, 10/100Mbps or 1000Mbps Speed Per Ethernet Port: Link/Activity, 10Mbps or 100Mbps Speed	Per Device: Power, Console, RPS Per Gigabit Port: Link/Activity, 10/100Mbps or 1000Mbps Speed Per Ethernet Port: Link/Activity, 10Mbps or 100Mbps Speed
RS-232 Console Port	1	1	1

Model	DGS-3426P	DGS-3427	DGS-3450
<b>Optional 10-Gigabit Uplink (Transceivers sold separately)</b>			
Single XFP Slot Module (DEM-410X)	Yes	Yes	Yes
Single CX4 Port Module (DEM-410CX)	Yes	Yes	Yes
10GBASE-SR (300 m Multi-Mode Fiber) Support	Yes	Yes	Yes
10GBASE-LR (10 km Single-Mode Fiber) Support	Yes	Yes	Yes
Maximum 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 v4 Routing Table	128 Entries	128 Entries	128 Entries
IP v6 Routing Table	128 Entries	128 Entries	128 Entries
IP v4 Host Table	2K Entries	2K Entries	2K Entries
IP v6 Host Table	1K Entries	1K Entries	1K Entries
Jumbo Frame Size	9,216 Bytes	9,216 Bytes	9,216 Bytes
<b>Power</b>			
Internal Power Supply	100 to 120VAC, 200 to 240VAC, 50/60Hz	100 to 120VAC, 200 to 240VAC, 50/60Hz	100 to 120VAC, 200 to 240VAC, 50/60Hz
Maximum Power Consumption	433 Watts	71.6 Watts	131.3 Watts
Optional Redundant Power Supply	DPS-600	DPS-500	DPS-500
<b>Physical/Environmental</b>			
Ventilation	2 40x40mm DC Fans	2 40x40mm DC Fans	2 40x40mm DC Fans
Heat Dissipation	1477.48 BTU/Hr.	244.65 BTU/Hr.	448.02 BTU/Hr.
MTBF	98,704 hours	93,885 hours	78,517 hours
Acoustic	< 52.4dB	< 52.3dB	< 48.7dB
Operating Temperature	32° to 104°F (0° to 40°C)	32° to 104°F (0° to 40°C)	32° to 104°F (0° to 40°C)
Storage Temperature	-40° to 158°F (-40° to 70°C)	-40° to 158°F (-40° to 70°C)	-40° to 158°F (-40° to 70°C)
Operating Humidity	10% ~ 90% Non-condensing	10% ~ 90% Non-condensing	10% ~ 90% Non-condensing
Storage Humidity	5% ~ 90% Non-condensing	5% ~ 90% Non-condensing	5% ~ 90% Non-condensing
Dimensions	17.3 x 15.3 x 1.7 inches (441 x 389 x 44 mm) 19-inch Standard Equipment Rack Mount Width, 1U Height	17.3 x 15.3 x 1.7 inches (441 x 389 x 44 mm) 19-inch Standard Equipment Rack Mount Width, 1U Height	17.3 x 15.3 x 1.7 inches (441 x 389 x 44 mm) 19-inch Standard Equipment Rack Mount Width, 1U Height
Weight	12.8 lbs (5.82 kg)	12.1 lbs (5.51 kg)	11.6 lbs (5.27 kg)
Emissions	FCC Class A, CE, C-Tick, VCCI	FCC Class A, CE, C-Tick, VCCI	FCC Class A, CE, C-Tick, VCCI
Safety Compliance	CSA International, CB	CSA International, CB	CSA International, CB

### Technical Specifications

L2 Features	+ IGMP Snooping Supports		+ Spanning Tree	
	- IGMP Snooping v1, v2, v3		- 802.1D STP	
	- 1K IGMP Snooping Groups		- 802.1w RSTP	
	- IGMP Fast Leave		- 802.1s MSTP	
	- Host-based IGMP Fast Leave <sup>1</sup>			
	+ MLD Snooping Supporting 511 MLD Snooping Groups		+ Loopback Detection v4.0 <sup>1</sup>	
	+ 32 802.3ad Link Aggregation Groups		+ Back Pressure Flow Control	
	+ Trunking Across Stack		+ Head-of-line Blocking Prevention	
	+ Port Mirroring - One-to-one, Multiple-to-one, ACL Modes			
VLAN	+ 802.1Q		+ Double VLAN (Q-in-Q)	
	+ Maximum 4K Static VLAN Groups		+ GVRP	
	+ Guest VLAN		+ 802.1v Protocol-based VLAN	
	+ MAC-based VLAN <sup>1</sup>			
L3 Features	128 IP v.4/v.6 Static Routing			
QoS (Quality of Service)	+ Per Flow Bandwidth Control		+ 802.1p Support	
	+ 8 Queues per Port		+ Queue Handling	
			- Strict - Weighted Round Robin (WRR)	
	+ 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	- User Defined Packet Content <sup>2</sup>
Access Control Lists (ACL)	+ Up to 768 Access Rules:			
	- 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
	- User Defined Packet Content <sup>2</sup>			
	+ Time-based ACL		+ CPU Interface Filtering	
	+ ACL Statistic <sup>2</sup>			
Security	+ RADIUS/TACACS/TACACS+		+ SSH v.2	
	+ SSL v.3		+ Port Security	
	+ 802.1x Port-based/MAC-based Access Control		+ Web-based Access Control <sup>2</sup>	
	+ MAC-based Access Control <sup>2</sup>		+ Broadcast Storm Control	
	+ Traffic Segmentation		+ IP-MAC-Port Binding (500 entries per device)	
	+ D-Link Safeguard Engine™		+ Support Microsoft® NAP	
Management	+ D-Link Single IP Management v. 1.6		+ Web-based GUI	
	+ CLI		+ Web GUI Traffic Monitoring	
	+ Cable Diagnostic <sup>1</sup>		+ Telnet Server	
	+ Telnet Client <sup>1</sup>		+ 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	
	+ Flash File System		+ Dual Images	
	+ Dual Configuration		+ CPU Monitoring	
	+ LLDP <sup>2</sup>			

MIBs	+ MIB-II (RFC 1213)	+ Bridge MIB (RFC 1493)
	+ SNMP v2 MIB (RFC 1907)	+ RMON MIB (RFC 1757, 2819)
	+ RMON v2 MIB (RFC 2021)	+ Ether-like MIB (RFC 1643, 2358, 2665)
	+ 802.1p MIB (RFC 2674)	+ IF MIB (RFC2233, 2863)
	+ RADIUS Authentication Client MIB (RFC 2618)	+ RADIUS Accounting Client MIB (RFC 2620)
	+ Ping/Traceroute MIB (RFC 2925) <sup>2</sup>	+ D-Link Enterprise MIB
Warranty	Lifetime <sup>3</sup>	

### Ordering Information

<i>Part Number</i>	<i>Description</i>
DGS-3426P	xStack Managed 24-Port Gigabit L2+ PoE Switch, 4 Combo SFP, 2 10-Gig Slots, IPv6
DGS-3427	xStack Managed 24-Port Gigabit L2+ Switch, 4 Combo SFP, 3 10-Gig Slots, IPv6
DGS-3450	xStack Managed 48-Port Gigabit L2+ Switch, 4 Combo SFP, 2 10-Gig Slots, IPv6
DEM-310GT	1000BASE-LX SFP Module, up to 10Km
DEM-311GT	1000BASE-SX SFP Module, up to 550m
DEM-410CX	1-Port 10-Gigabit CX4 Module for DGS-3400/DGS-3600 Series
DEM-410X	1-Port 10-Gigabit XFP Module for DGS-3400/DGS-3600 Series
DEM-421XT	10GBASE-SR Multimode XFP, up to 300m
DEM-422XT	10GBASE-LR Singlemode XFP, up to 10Km
DPS-500	Redundant Power Supply Unit, 140 Watt RPSU (for DGS-3427/DGS-3450)
DPS-600	Redundant Power Supply Unit, 500 Watt RPSU (for DGS-3426P)
DPS-800	2-Slot RPSU Open Chassis for DPS-200/DPS-500
DPS-900	8-Slot RPSU Open Chassis for DPS-200/DPS-500
DV-600S	D-View 6.0 Network Management Software, Standard Version
DV-600P	D-View 6.0 Network Management Software, Professional Version

<sup>1</sup> Feature only available with firmware v.2.3.5.B09. Available for download at <http://support.dlink.com>.

<sup>2</sup> Available in future firmware upgrade.

<sup>3</sup> Lifetime warranty available only in the USA and Canada if purchased on or after March 30, 2009. Visit [www.dlink.com](http://www.dlink.com) for warranty details.

All references to speed are for comparison purposes only. Product specifications, size and shape are subject to change without notice, and actual product appearance may differ from that depicted.