The xStack DGS-3400 series of next generation switches delivers performance, flexibility, security, multi-layer Quality of Service (QoS), and redundant power options for SMBs 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 a high-speed backbone and centralized servers.

Unparalleled Flexibility
Any switch in the DGS-3400 series can operate as a stand-alone device or as part of a scalable stack. Embedded with Single IP Management capability, a standalone switch can form part of a virtual stack, where intra-stack traffic flows through the usual network wires, doing away with 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, minimizing the impact of any single point of failure.

Intelligent Layer 2 Switches
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 and Layer 3 IPv4/IPv6 Static Routing to increase network performance and security. Built-in D-Link ZoneDefense technology allows businesses to integrate the switch stack with D-Link NetDefend firewalls to implement a full-coverage, proactive security architecture.

Security, Performance & Availability
The DGS-3400 Series provides extensive VLAN support, including GARP/GVRP and 802.1Q VLAN to enhance security and performance. To support converged applications including VoIP, ERP, Intranet and video conferencing, a robust set of L2/L3/L4 QoS/CoS features ensures that critical network services are served with proper priority. To prevent malicious traffic flooding caused by worms or virus infections, the DGS-3400 series utilizes the D-Link Safeguard Engine to increase the switch’s reliability, serviceability, and availability. Bandwidth Control can be flexibly set for each port using pre-defined thresholds to ensure a committed level of service for end users. For advanced applications, per-flow bandwidth control allows for easy fine-tuning of service types based on specific IP addresses or protocols.

Flexible Choices
- 24 or 48 10/100/1000BASE-T ports
- 4 combo SFP ports for Gigabit Fiber Connection
- 2 or 3 open slots for optional 10 Gigabit uplinks
- Stackable through optional 10 Gigabit coaxial ports
- Optional external redundant power supply
- Available with or without 802.3af Power Over Ethernet (PoE)

xStack Integration
- Virtual stack of up to 32 units
- Single IP Management for integration with L3 core switches
- Physical stack of up to 12 units, 576 Gigabit ports

Enhanced L2+ Features
- IP v4/v6 Static Routing
- Routing Information Protocol (RIP)

Security
- L2/L3/L4 Multi-Layer Access Control List
- D-Link Safeguard Engine
- IP-MAC-Port Binding
- ZoneDefense Technology
- Supports Microsoft® NAP
- DHCP Server Screening
- Web-based Access Control (WAC)
- Compound authentication

Quality of Service
- 802.1p Priority Queues/Multi-Layer CoS
- 8 Hardware Queues per port

Traffic Monitoring/Bandwidth Control
- Traffic Segmentation
- Granular Bandwidth Control down to 64 kbps per port
- Granular Bandwidth Storm Control down to 1 pps per port
- 802.3ad Link Aggregation (Port Trunks)

Configuration/Management
- Web-Based GUI
- Command Line Interface (CLI)
- SNMP v1/v2c/v3
- Multiple Images/Configuration
- DHCP Server
- sFlow

1Calculation based on 12 stacked DGS-3450 units
## Technical Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>DGS-3426</th>
<th>DGS-3426P</th>
<th>DGS-3427</th>
<th>DGS-3450</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical &amp; Hardware</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>19-inch Standard Rack-Mount Width, 1U Height</td>
<td>19-inch Standard Rack-Mount Width, 1U Height</td>
<td>19-inch Standard Rack-Mount Width, 1U Height</td>
<td>19-inch Standard Rack-Mount Width, 1U Height</td>
</tr>
<tr>
<td>Interfaces</td>
<td>24 10/100/1000BASE-T 4 Combo 10/100/1000BASE-T/SFP</td>
<td>24 10/100/1000BASE-T 4 Combo 10/100/1000BASE-T/SFP</td>
<td>24 10/100/1000BASE-T 4 Combo 10/100/1000BASE-T/SFP</td>
<td>48 10/100/1000BASE-T 4 Combo 10/100/1000BASE-T/SFP</td>
</tr>
<tr>
<td>Console Port</td>
<td>RS-232 Console Port</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open Slots for 10-Gigabit Uplink Modules</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

| **Physical Stacking**            |                           |                           |                           |                           |
| Installable Modules for Stacking| Single-Port DEM-410CX Module or Single-Slot DEM-410X Module |                           |                           |                           |
| Max. Number of Stacking Ports    | 2                         | 2                         | 2                         | 2                         |
| Stacking Speed (per port)        | 20 Gbps (Full-Duplex)     |                           |                           |                           |
| No. of Units per Stack           | 12                        | 12                        | 12                        | 12                        |

| **Optional 10 Gigabit Uplinks**  |                           |                           |                           |                           |
| Single XFP Slot Module (DEM-410X)| ✓                         | ✓                         | ✓                         | ✓                         |
| Single CX4 Port Module (DEM-410CX)| ✓                       | ✓                         | ✓                         | ✓                         |
| Max. Number of 10-Gigabit Uplinks Installable | 2                      | 2                        | 3                        | 2                        |

| **Performance**                  |                           |                           |                           |                           |
| Switching Fabric                 | 88 Gbps                   | 88 Gbps                   | 108 Gbps                  | 136 Gbps                  |
| Packet Forwarding Rate           | 65.47 Mpps                 | 65.47 Mpps                 | 80.36 Mpps                | 101.19 Mpps               |
| MAC Address Table Size           | 8K                         | 8K                         | 8K                         | 8K                         |
| Packet Buffer                    | 750 KB                     | 750 KB                     | 750 KB                     | 750 KB                     |
| IP v.4/v.6 Static Routing Table Size | 128                    | 128                        | 128                        | 128                        |
| IP v.4 Host Table Size           | 2K                         | 2K                         | 2K                         | 2K                         |
| IP v.6 Host Table Size           | 1K                         | 1K                         | 1K                         | 1K                         |

| **MTBF**                         | 477,404 hours              | 373,693 hours              | 474,795 hours              | 402,096 hours              |
| Acoustic                         | < 52.4 dB                  | < 52.4 dB                  | < 52.3 dB                  | < 48.7 dB                  |
| Heat Dissipation                 | 241.58 BTU/hr              | 1477.48 BTU/hr             | 244.65 BTU/hr              | 448.02 BTU/hr              |

| **Power Input**                  | 100 to 240VAC, 50 to 60Hz, Internal Universal Power Supply |                           |                           |                           |
| Power Consumption (Max)          | 85.8 watts                 | 542.3 watts                | 95.4 watts                 | 148.9 watts                |
| Optional Redundant Power Supply  | DPS-500                    | DPS-600                    | DPS-500                    | DPS-500                    |
| Dimensions                       | 441 x 389 x 44 mm          |                           |                           |                           |
## Technical Specifications

<table>
<thead>
<tr>
<th></th>
<th>DGS-3426</th>
<th>DGS-3426P</th>
<th>DGS-3427</th>
<th>DGS-3450</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (without optional module)</td>
<td>5.42 kg</td>
<td>5.82 kg</td>
<td>5.51 kg</td>
<td>5.74 kg</td>
</tr>
<tr>
<td>Ventilation</td>
<td>2 DC Fans (40 x 40 mm)</td>
<td>2 DC Fans (40 x 40 mm)</td>
<td>2 DC Fans (40 x 40 mm)</td>
<td>2 DC Fans (40 x 40 mm)</td>
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<tr>
<td>Operating Temperature</td>
<td>0 to 40˚C (32 to 104˚ F)</td>
<td>0 to 40˚C (32 to 104˚ F)</td>
<td>0 to 40˚C (32 to 104˚ F)</td>
<td>0 to 40˚C (32 to 104˚ F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40 to 70˚C (-40 to 158˚ F)</td>
<td>-40 to 70˚C (-40 to 158˚ F)</td>
<td>-40 to 70˚C (-40 to 158˚ F)</td>
<td>-40 to 70˚C (-40 to 158˚ F)</td>
</tr>
<tr>
<td>Operating Humidity</td>
<td>10% to 90% RH</td>
<td>10% to 90% RH</td>
<td>10% to 90% RH</td>
<td>10% to 90% RH</td>
</tr>
<tr>
<td>Storage Humidity</td>
<td>5% to 90% RH</td>
<td>5% to 90% RH</td>
<td>5% to 90% RH</td>
<td>5% to 90% RH</td>
</tr>
<tr>
<td>EMI</td>
<td>FCC Class A, CE, C-Tick, VCCI Class A</td>
<td>FCC Class A, CE, C-Tick, VCCI Class A</td>
<td>FCC Class A, CE, C-Tick, VCCI Class A</td>
<td>FCC Class A, CE, C-Tick, VCCI Class A</td>
</tr>
</tbody>
</table>

## Software Features

### Stackability
- Physical Stacking
  - Up to 40G Stacking Bandwidth
  - Up to 12 units per Stack
- Support Duplex Chain / Duplex Ring Topology
- Support backup master
- Allows trunking or mirroring to span multiple units of the stack
- Virtual Stacking
  - D-Link Single IP Management (SIM)
  - Up to 32 units per Virtual Stack

### L2 Features
- MAC Address Table: 8K
- Flow Control
  - 802.3x Flow Control
  - HOL Blocking Prevention
- Jumbo Frame up to 9,216Bytes
- IGMP Snooping
  - IGMP v1/v2/v3 Snooping
  - Support 1K groups
  - IGMP Snooping Fast Leave
  - Host-based IGMP Snooping Fast Leave
- MLD Snooping
  - MLD v1/v2 Snooping
  - Supports 1K groups
  - Host-based MLD Snooping Fast Leave
- Multicast VLAN Replication
- Limited IP Multicast (IGMP Filtering)
- Spanning Tree Protocol
  - 802.1D-2004 Edition STP
  - 802.1v RSTP
  - 802.1s MSTP
  - BPDU Filtering
  - STP Root Restriction
- 802.1Q-2005
- Loopback Detection
- Link Aggregation
  - Compliant with 802.1AX and 802.3ad
  - Max. 32 groups per device/8 ports per group
  - Supports cross stack/module trunk
- Port Mirroring
  - One-to-One
  - Many-to-One
  - Flow-based Mirroring
  - RSPAN
- L2 Protocol Tunneling
- ERPS (Ethernet Ring Protection Switching)
- 802.1Q Tagged VLAN
- Subnet-based VLAN
- Max. 4K Static VLAN Group
- GVRP
- 802.1v Protocol VLAN
- Double VLAN (Q-in-Q):
  - Port-based Q-in-Q
  - Selective Q-in-Q
- VLAN Translation
- ISM VLAN
- MAC-based VLAN
- Voice VLAN
- Private VLAN

### L3 Features
- 64 IP Interfaces
- 2K hardware routing entries shared by IPv4/IPv6
  - Max. 2K IPv4 routes
  - Max. 1K IPv6 routes
- 128 static routes shared by IPv4/IPv6
- RIP v1/v2
- RIPng
- IPv6 Tunneling
  - Static
  - ISATAP
  - 6 to 4
- Gratuitous ARP
- ARP Proxy
- CoS based on
  - Switch Port
  - VLAN ID
  - 802.1p Priority Queues
  - MAC Address
  - IPv4/IPv6 Address
  - DSCP
  - TCP/UDP port number
  - Protocol Type
  - IPv6 Traffic Class
  - IPv6 Flow Label
  - User-defined Packet Content
- QoS Flow Actions
  - Remark 802.1p Priority Tag
  - Remark TOS/DSCP Tag
  - Bandwidth Control
  - Flow Statistics
  - Committed Information Rate (CIR)
- QoS Statistics
  - Port-based (Ingress/Egress, min. granularity 1Kb/s)
  - Flow-based (Ingress, min. granularity 64Kb/s)
- Time-based QoS
- Access Control List (ACL)
  - Up to 768 Access Rules
  - ACL based on
    - 802.1p Priority
    - VLAN ID
    - MAC Address
    - Ether Type
    - IPv4/IPv6 Address
    - DSCP
    - Protocol Type
    - TCP/UDP Port Number
    - IPv6 Traffic Class
    - IPv6 Flow Label
    - User-defined Packet Content
    - Time-based ACL
- ACL Statistics
- Security
  - SSH v1/v2
  - SSL v1/v2/v3
  - Port Security up to 16 MAC address per port
  - Broadcast/Multicast/Unicast Storm Control
  - Traffic Segmentation
  - IP-MAC-Port Binding
    - ARP Packet Inspection
    - IP Packet Inspection
    - DHCP Snooping
    - DHCPv6 and ND Snooping
- Supports up to 511 Address Binding Entries per Device
- IMPB 3.8
- D-Link Safeguard Engine
- DHCP Server Screening
- CPU Interface Filtering
- ARP Spoofing Prevention
- BPDU Attack Protection

**AAA**
- 802.1X
  - Port-based Access Control
  - Host-based Access Control
  - Dynamic VLAN Assignment
- Web-based Access Control (WAC)
  - Port-based Access Control
  - Host-based Access Control
  - Dynamic VLAN Assignment
- MAC-based Access Control (MAC)
  - Port-based Access Control
  - Host-based Access Control
  - Dynamic VLAN Assignment
- Compound Authentication
- Guest VLAN
- Supports Microsoft® NAP
  - 802.1X NAP
  - DHCP NAP
- RADIUS Accounting
- RADIUS and TACACS+ Authentication for Switch Access
- 3-Level User Account

**Management**
- Web-based GUI (Supports IPv4/IPv6)
- Command Line Interface (CLI)
- Telnet (Supports IPv4/IPv6)
- TFTP Client (Supports IPv4/IPv6)
- SNMP v1/v2c/v3 (Supports IPv4 / IPv6)
- SNMP Trap
- System Log
- RMON v1
  - Supports 1,2,3,9 groups
- RMON v2
  - Supports ProbeConfig group
- sFlow (Support IPv4 / IPv6)
- LLDP
- Microsoft® NAP (Network Load Balancing) Support
- DNS Relay
- LLDP-MED
- BOOTP/DHCP Client
- DHCP Auto-Configuration
- DHCP Relay
- DHCP Relay Option 60, 61, 82
- DHCP Server
- Flash File System
- Multiple Images/Configuration
- CPU Monitoring
- SNTP
- Password Encryption
- Password Recovery
- ICMPv6
- IPv6 Neighbor Discovery (ND)
- DHCPv6 Client
- DHCPv6 Relay
- DHCPv6 Server
- Trusted Host
- MTU Setting

**OAM**
- Cable Diagnostics
- 802.3ah Ethernet Link OAM
- Factory Reset

**MIB**
- RFC1212 Concise MIB
- RFC1213 MIB-II
- RFC1516 MIB Traps
- RFC1493, 4188 Bridge MIB
- RFC1907 SNMPv2 MIB
- RFC1757, 2819 RMON MIB
- RFC2021 RMONv2 MIB
- RFC2618 RADIUS Authentication Client MIB
- RFC2737 Entity MIB
- RFC2925 Ping & Traceroute MIB
- D-Link Private MIB

**Standard Compliance**
- RFC768 UDP
- RFC791 IP
- RFC792 ICMPv4
- RFC793 TCP
- RFC826 ARP
- RFC854 Telnet
- RFC2463,4443 ICMPv6
- RFC1338, 1519 CIDR
- RFC2068, 2616 HTTP
- RFC2460 IPv6
- RFC1157,1901,1908, 2273, 2570–2575 IPv6v1/v2c/v3
- RFC2598 DiffServ Expedited Forwarding
- RFC4861 IPv6 Neighbor Discovery (ND)
- RFC4862 IPv6 Stateless Address Autoconfiguration
- RFC1981 IPv6 Path MTU Discovery
- RFC3176 sFlow
- RFC951, 1542, 2131 BootP / DHCP Client
- ITU-T G. 8032 ERPS
- RFC2046 DHCP Relay
- RFC2131 DHCP Server
- RFC1072 DHCP ARP Proxy

1 Functions will be added in a future firmware upgrade.
### Optional Products

#### Optional Management Software
- **DV-600S**: D-View 6.0 Network Management System (Standard Edition)
- **DV-800P**: D-View 6.0

#### Optional 10-Gigabit Uplink Modules
- **DEM-410X**: 1-slot 10-Gigabit XFP uplink module
- **DEM-410CX**: 1-port 10-Gigabit CX4 uplink module

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

#### Optional SFP Transceivers
- **DEM-310GT**: SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3 V operating voltage
- **DEM-311GT**: SFP transceiver, 1000BASE-SX standard, multi-mode fiber, max. distance 550m, 3.3 V operating voltage
- **DEM-312GT2**: SFP transceiver 1000BASE-SX standard, multi-mode fiber, max. distance 2 km, 3.3 V operating voltage
- **DEM-314GT**: SFP transceiver, 1000BASE-LHX standard, single-mode fiber, max. distance 50 km, 3.3 V operating voltage
- **DEM-315GT**: SFP transceiver, 1000BASE-ZX standard, single-mode fiber, max. distance 80 km, 3.3 V operating voltage
- **DEM-330T**: WDM SFP transceiver, 1000BASE-BX standard, single-mode fiber, max. distance 10 km, 3.3 V operating voltage, Tx wavelength 1550 nm, Rx wavelength 1310 nm
- **DEM-331T**: WDM SFP transceiver, 1000BASE-BX standard, single-mode fiber, max. distance 40 km, 3.3 V operating voltage, Tx wavelength 1550 nm, Rx wavelength 1310 nm
- **DEM-331R**: WDM SFP transceiver 1000BASE-BX standard, single-mode fiber, max. distance 40 km, 3.3 V operating voltage, Tx wavelength 1310 nm, Rx wavelength 1550 nm

#### Optional Redundant Power Supply
- **DPS-500**: 140-watt redundant power supply
- **DPS-500DC**: 140-watt DC redundant power supply
- **DPS-600**: 900-watt redundant power supply
- **DPS-800**: 2-slot redundant power supply chassis
- **DPS-900**: 6-slot redundant power supply chassis