D-Link®

Limited Lifetime Warranty

DGS-6600 Series

Chassis Based Switches

Features

Designed for Enterprise LAN
• Deployable as an Enterprise Aggregation Switch
• Supports IPv6

Flexible Modular Design
• 4-slot and 8-slot high capacity Chassis
• Scalable expansion to:
   • 288 Gigabit ports[1]
   • 96 10GbE ports[1]
• Convenient "Starter Kits" provide maximum value

Connectivity Options
• 10/100/1000BASE-T ports with and without PoE
• Gigabit SFP ports
• 10GbE SFP+ and XFP ports

Reliability & Resiliency
• Redundant Power Supply (RPS) support
• Redundant Control Module support[1]
• Replaceable fan module
• Spanning Tree 802.1D (STP) / 802.1w (RSTP) / 802.1s (MSTP)
• Link Aggregation 802.1AX and 802.3ad
• VRRP support
• ERPS (Ethernet Ring Protection Switching) G.8032

Security
• L2/L3/L4 multi-layer access control
• SSHv2 support
• External RADIUS/TACACS+ Authentication

Quality of Service (QoS)
• 8 queues per port
• Three Color Marker (trTCM / srTCM)
• Granular Bandwidth Control Down to 64 Kbps per port

Overview

D-Link's DGS-6600 Series chassis based switches are intelligent and high performance multi-layer LAN devices, designed for Enterprise local area networks (LAN), campus, and metropolitan area networks (MAN). Available in 4-slot and 8-slot chassis models, the DGS-6600 switches are ideal for deployment in environments that require uninterrupted running of network applications and a high level of performance, security and control.

Featuring a flexible modular architecture and industry standard compliance, the DGS-6600 switches provide scalability and a high level of investment protection for businesses to deploy Gigabit and 10-Gigabit packet switching and routing for office networking and Ethernet-based Internet services to home offices. The DGS-6600 Series is equipped with high speed switch fabric, and advanced software functions, including complete IPv6 support. These switches provide the performance, high availability and future proof architecture suitable for applications of not just today, but those of the future.

Flexible Modular Design / High Availability

The DGS-6600 Series is available in two chassis models: the DGS-6608 and the DGS-6604.

The 8-slot DGS-6608 chassis reserves two open slots for control modules, and six additional slots for user-selectable I/O port modules. Each control module is equipped with its own switch fabric and management agent, and can be used for redundant backup and sharing of network load and management tasks. In addition, it provides up to 8 redundant load-sharing power supplies and a hot swappable fan module to create a very highly available chassis-based device suitable for mission-critical network applications.

The 4-slot DGS-6604 chassis reserves one open slot for a control module (CPU), and three additional slots for user-selectable I/O port modules. In addition, there are four slots for redundant backup power supplies, and one slot for a replaceable fan module

This modular architecture allows modules to be gradually added to meet network growth, and modules can be easily swapped anytime to fit network requirement changes.

Deployable as an Aggregation Switch

Using a common set of modules for 10/100/1000BASE-T ports, PoE support, SFP, and 10-Gigabit uplinks, IT personnel can fit a DGS-6600 series switch with different port types and deploy it as an aggregation (i.e. distribution) switch which can provide high port density connections to workstations in an office environment.

High Performance

The DGS-6608 8-slot switch provides a switch capacity of up to 1.152 Tbps and system performance of up to 857.14 Mpps. The DGS-6604 4-slot switch provides a switch capacity of up to 576 Gbps and system performance of up to 428.57 Mpps. To make use of this high-performance hardware, these switches utilize a distribution switching method where each line card (the port module that directly connects to the network nodes) intelligently determines the switch path for each data packet. The switches synchronize the switching and routing information between the control cards and the line cards to map out the fastest data transfer path. With each line card capable of performing L2/3/4 on-board packet switching without relying on the control cards, the DGS-6600 Series switches can deliver very fast packet forwarding at almost zero-wait speed.

High Port Densities

Port densities can reach 288 Gigabit / 96 10-Gigabit ports per 8-slot chassis, or 144 Gigabit / 48 10-Gigabit ports per 4-slot chassis. All port modules are hot-swappable without the need to change any hardware or software settings.

Application Convergence

The DGS-6600 series combines high-speed hardware with software functions such as prioritized traffic QoS and multicast routing to deliver the performance needed for real-time applications such as Internet telephony, streaming multimedia, and IPTV. In addition, these switches offer Power over Ethernet (PoE) solutions to provide both electrical power and network connectivity to PoE-capable devices, such as IP phones and wireless APs, and are ideal for large-scale enterprise edge deployment. An example of this application convergence would be VoIP for mobile users via wireless access points connected through the DGS-6600 series switches.

Complete IPv6 Support

The DGS-6600 series provides complete support for IPv6 to accommodate the potential huge increase in number of users and geographical needs of Internet expansion. It addresses the requirements of emerging applications such as Internet-enabled wireless devices, home and industrial appliances, Internet-connected transportation, integrated telephony services, sensor networks, and distributed computing or gaming. The use of globally unique IPv6 addresses simplifies the mechanisms used for reachability and end-to-end security for network devices. This is crucial for the applications and services that are driving the demand for IP addresses.

Enterprise-Wide Security

The DGS-6600 series provides not only network access security but also protection against virus and worm attacks. Access security is provided through comprehensive policy-based ACL, port security, and IP-MAC-Port binding features. Attacks hidden behind control protocols are thwarted, preventing the switch's CPU from being overwhelmed with unnecessary tasks which can cause degradation to a network's performance. The DGS-6600 series extends security to network management via such functions as SSH v2 and SNMP v3 with authentication and encryption of management traffic.

Traffic Management for Triple Play

The DGS-6600 Series implements a rich set of multilayer QoS/CoS features including flow-based bandwidth control and broadcast/multicast storm control to ensure that critical network services such as VoIP, video conferencing, IPTV, and IP surveillance are served with high priority. Bandwidth control guarantees bandwidth of these services when the network is busy. With L2 Multicast support, the DGS-6600 series is capable of handling growing IPTV applications.
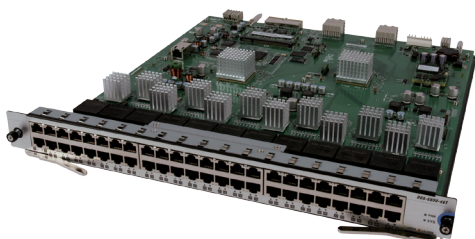
MPLS Functions

The DGS-6600 Series supports advanced Multiprotocol Label Switching (MPLS) functions that enable service providers to build next-generation intelligent networks and deliver a wide variety of advanced, value-added services over a single infrastructure. The DGS-6600 Series MPLS function allow service providers to provide point-to-point VPN service, VPWS (VLL) and point-to-multi-point VPN service, VPLS services to enterprise customers. This solution can be integrated seamlessly over any existing infrastructure, such as IP, Frame Relay, ATM, or Ethernet. Subscribers with differing access links can be aggregated on an MPLS edge without changing their current environments, as MPLS is independent of access technologies.

Green Technology

D-Link is striving to take the lead in developing innovative and power-saving technology that does not sacrifice operational performance or functionality. The DGS-6600 series incorporates D-Link Green Technology, which includes a power saving mode, Smart Fan, and Time-based PoE. The power saving feature automatically powers down ports that have no link or link partner. The Smart Fan feature allows for the built-in fans to automatically adjust their speed if a specified temperature is exceeded, providing continuous, reliable and eco-friendly operation of the switch. Time-based PoE is able to turn PoE on/off per port by a pre-defined time profile to reduce PoE power consumption.

| Technical Specifications	DGS-6604	DGS-6608
Hardware		
Chassis Slots	4	8
Fixed Slots (for Control Modules)	1	2
Open Slots (for Port Modules)	3	6
Max. Switching Capacity	576 Gbps	1.152 Tbps
Max. Packet Forwarding Rate	428.57 Mpps	857.14 Mpps
Max. PoE Power Budget	2,217.6 W	4,435.2 W
Maximum Port Density		
10/100/1000BASE-T Ports	144	288
10/100/1000BASE-T Ports with PoE	144	288
Gigabit SFP Ports	144	288
10 GbE XFP Ports	24	N/A
10 GbE SFP+ Ports	48	96
Physical & Environmental		
Dimensions (WxDxH)	6.3U High 17.51 x 18.5 x 11 in (445 × 470 × 280 mm)	11.25U High 17.51 x 18.5 x 19.68 in (445 × 470 × 500 mm)
Operating Temperature	32 to 122°F (0° to 50℃)	32 to 122°F (0° to 50℃)
Storage Temperature	-40 to 158°F (-40° to 70℃)	-40 to 158°F (-40° to 70℃)
Operating Humidity	10% to 90% RH	10% to 90% RH
Storage Humidity	5% to 90% RH	5% to 90% RH
Emissions (EMI)	FCC Class A VCCI CE ICES-003 C-Tick	FCC Class A VCCI CE ICES-003 C-Tick
Safety	cUL CB	cUL CB

DGS-6600-48T
48 10/100/1000 ports
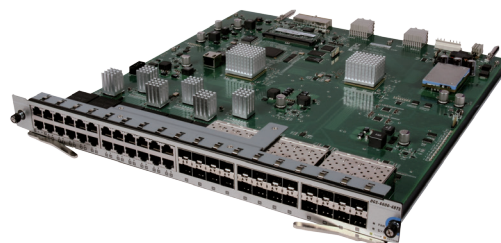
DGS-6600-48TS
24 10/100/1000 ports and 24 GbE SFP ports
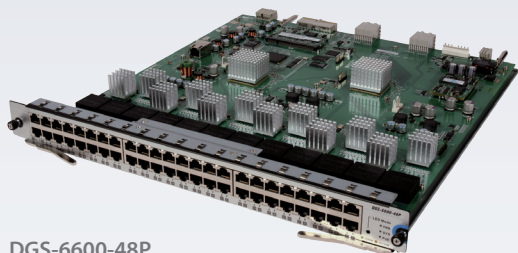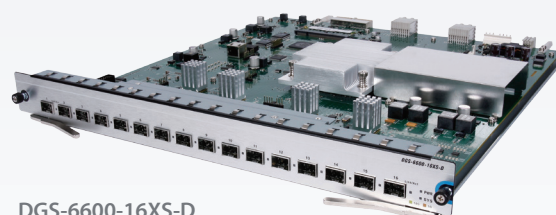
DGS-6600-48P
48 10/100/1000 PoE ports
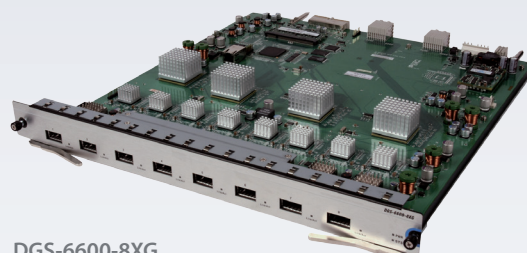
DGS-6600-8XG
8 10GbE XFP ports (DGS-6604 only)
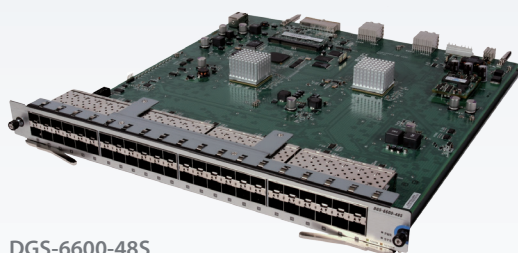
DGS-6600-48S
48 GbE SFP ports

DGS-6600-16XS-D
16 10GbE SFP+ ports

DGS-6600-CM
DGS-6604 Control Module

DGS-6600-CM-ll
DGS-6604/6608 Control Module

DGS-6600-FAN
DGS-6604 Fan Module

DGS-6600-FAN-ll
DGS-6608 Fan Module

DGS-6600-PWR
DGS-6604/6608 Power Supply Module

Module Compatibility Matrix

Module	Number of Ports					Chassis Compatibility	
	10/100/1000 BASE-T	10/100/1000 BASE-T with PoE	Gigabit SFP	10 GbE XFP	10 GbE SFP+	DGS-6604	DGS-6608
Port Modules							
DGS-6600-48T	48					Yes	Yes
DGS-6600-48S			48			Yes	Yes
DGS-6600-48P		48				Yes	Yes
DGS-6600-48TS	24		24			Yes	Yes
DGS-6600-8XG				8		Yes	No
DGS-6600-16XS-D					16	Yes	Yes
CPU Engines							
DGS-6600-CM (Control Module)						Yes	No
DGS-6600-CM-II (Control Module II)						Yes	Yes
Power and Fan Modules							
DGS-6600-PWR (850W AC Power)						Yes	Yes
DGS-6600-FAN (Fan Module)						Yes	No
DGS-6600-FAN-II (Fan Module)						No	Yes

Module Specifications

Module	Max. Power Consumption	Heat Generation	MTBF
Port Modules			
DGS-6600-48T	109.8 W	374.4 BTU/hr	249,309 hr
DGS-6600-48S	118.6 W	404.6 BTU/hr	318,790 hr
DGS-6600-48P	823.2 W	2808.93 BTU/hr	160,609 hr
DGS-6600-48TS	114.2 W	389.5 BTU/hr	295,803 hr
DGS-6600-8XG	200.3 W	683.28 BTU/hr	265,455 hr
DGS-6600-16XS-D	137.6 W	469.2 BTU/hr	299667 hr
CPU Engines			
DGS-6600-CM (Control Module)	53.856 W	183.6 BTU/hr	263,581 hr
DGS-6600-CM-II (Control Module II)	54.86 W	187.1 BTU/hr	317755 hr
Power and Fan Modules			
DGS-6600-PWR (850W AC Power)	850 Watts@110V 850 Watts@220V	2898.5 BTU/hr@110V 2898.5 BTU/hr@220V	734,720 hr
DGS-6600-FAN (Fan Module)	42.3 W	144 BTU/hr	813,122 hr
DGS-6600-FAN-II (Fan Module)	84.6 Watts	288.5 BTU/hr	812,315 hr

Software Features

L2 Features	• MAC Address Table
	  -32K per I/O module
	• Flow Control
	  -802.3x Flow Control
	  -HOL Blocking Prevention
	• Jumbo Frame up to 9,732 bytes
	• IGMP Snooping
	  -IGMP v1/v2/v3 Snooping
	  -Support 2K groups
	• Spanning Tree
	  -802.1D STP
	  -802.1w RSTP
	  -802.1s MSTP
		-Root Restirction
		• 802.3ad Link Aggregation
		  -Compliant with 802.1AX and 802.3ad
		  -Max. 128 groups per device, 8 ports per group
		  -Support cross-module trunk
		• Port Mirroring:
		  -Support 3 mirroring groups
		  -One-to-One, Many-to-One,
		  -Port mirroring for Tx/Rx/Both
		  -Flow-based and RSPAN
		  -G.8032 ERPS (Ethernet Ring Protection Switching)
		• Loopback detection

L3 Features	• Max. 4K IP Interfaces
	• VRRP
	• IPv6 Tunneling
	  -Manual
		-ISATAP
		  -6to4
		• IPv6 Neighbor Discovery (ND)
		• IPv6 Phase 2 Ready

VLAN	• VLAN Group
	• Max. 4K VLAN
	• GVRP
	  -Max. 256 dynamic VLANs
	• 802.1Q Tagged VLAN
	• Port-based VLAN
	• 802.1v Protocol VLAN
	• Super VLAN
		• Double VLAN (Q-in-Q)
		  -Port-based Q-in-Q
		  -Selective Q-in-Q
		• VLAN Translation
		• MAC-based VLAN
		• Subnet-based VLAN
		• VLAN Trunking

L3 Routing	• 12K hardware routing engines shared by IPv4/IPv6
	• 8K hardware L3 forwarding entries shared by IPv4/IPv6
	• 256 static routing entries for IPv4/IPv6
	  -Support for ECMP
	• Policy-Based Routing
	• RIP v1/v2/ng
		• OSPF
		  -Support OSPF v2/v3
		  -OSPF Passive Interface
		  -Stub/NSSA Area
		  -OSPF Equal Cost Route
		• BGP4

L3 Multicasting	• Up to 2K hardware multicast groups • PIM-DM	• PIM-SM • DVMRP v3

QoS	• IEEE 802.1p CoS
	• 8 hardware Queues per Port
	• Queue Handling
	  -Strict Priority
	  -Weighted Round Robin (WRR)
	  -Deficit Round Robin (DRR)
	  -Strict + WRR
	  -WDRR
	• Support Following Actions for Flows
	  -Remark 802.1p Priority Tag
	  -Remark TOS/DSCP Tag
	  -Bandwidth Control
	  -Committed Information Rate (CIR), min. granularity 64 Kbps
	• Three Color Marker
	  -trTCM
	  -srTCM
		• CoS Based on:
		  -Switch Port
		  -VLAN ID
		  -802.1p Priority Queues
		  -MAC Address
		  -IPv4/v6 Address
		  -DSCP
		  -Protocol Type
		  -IPv6 Traffic Class
		  -IPv6 Flow Label
		  -TCP/UDP Port
		• Bandwidth Control
		• Port-based (Ingress/Egress, Min. Granularity 64Kbps)
		• Time-based QoS

ACL	• ACL Based on
	  -802.1p Priority
	  -VLAN ID
	  -MAC Address
	  -Ether Type
	  -LLC
	  -IPv4/v6 Address
		-DSCP
		  -Protocol Type
		  -TCP/UDP Port Number
		  -IPv6 Traffic Class
		  -IPv6 Flow Label
		• Ingress ACL

Security	• SSH v2 • Port Security up to 16 MAC addresses per port • Broadcast/Multicast/Unicast Storm Control • IP-MAC-Port binding	• DoS Attack Prevention • D-Link Safeguard Engine • DHCP Server Screening

MPLS	• LDP • VPWS (VLL)	• VPLS

AAA	• 802.1X
	  -Port-based Access Control
	  -MAC-based Access Control
	  -Dynamic VLAN Assignment
		• TACACS+
		• RADIUS Authentication for Switch Access
		• Guest VLAN

Management	• Web-based GUI
	• Command Line Interface (CLI)
	• Telnet Server (Support IPv4/v6)
	• Telnet Client
	• TFTP Client
	• SNMP v1/v2c/v3
	• SNMP over IPv6
	• SNMP Traps
	• System Log
	• RMON v1
	  -Support 1,2,3,9 Groups
	• Flash File System
	• Multiple Images
		• Multiple Configurations
		• Debug Command
		• Up to 15 levels user account privilege
		• Trusted Host
		• Password Recovery
		• Microsoft® NLB Support
		• DHCP Client
		• DHCP Relay
		  -Option 82
		• DHCP Server
		• SNTP
		• Ping (Support IPv4/v6)
		• Traceroute (Support IPv4/v6)

Green	• Power saving by Link Status	• Power saving by Time-based PoE
MIB/IETF Standard	• DLINK-MSTP MIB • DLINK-TC MIB • Draft-IETF-IDMR-DVMRP MIB-11,DVMR PSTD MIB • IEEE Std 802.1X,IEEE8021-PAE MIB • IEEE Std 802.3ad,IEEE8023-LAG MIB • RFC791 IP MIB • RFC792 ICMPv4 MIB • RFC793 TCP MIB • RFC826 ARP MIB • RFC1212 Concise MIB Definitions • RFC1213 MIBII • RFC1215 MIB Traps Conversion • RFC1338, RFC1519 CIDR MIB • RFC1724 RIPv2 MIB • RFC1886 DNS IPv6 MIB • RFC1981 MTU Discovery IPv6 MIB • RFC2460 IPv6 MIB • RFC2461, RFC4861 ND IPv6 MIB • RFC2462, RFC4862 IPv6 Auto-configuration • RFC2463, RFC4443 ICMPv6 MIB • RFC2464 IPv6 over Ethernet MIB • RFC2474, RFC3168, • RFC2571 SNMP Framework MIB • RFC2572 SNMP Message Processing Dispatching MIB • RFC2573 SNMP Applications MIB • RFC2574 User-based Security Model for SNMP v3 MIB • RFC3260 DS Field Definition MIB • RFC2716, RFC3748 EAP MIB • RFC2737 Entity MIB	• RFC2787 VRRP MIB • RFC2819 RMON MIB • RFC2863 IF MIB • RFC2893, RFC4213 IPv4/v6 Dual Stack Function MIB • RFC2934 PIM MIB for IPv4 • RFC3411 SNMP-FRAMEWORK MIB • RFC3412 SNMP-MPD MIB • RFC3413 SNMP-TARGET MIB • RFC3413 SNMP-NOTIFICATION MIB • RFC3414 SNMP-USER-BASED-SM MIB • RFC3415 SNMP-VIEW-BASED-ACM MIB • RFC3418 SNMP v2 MIB • RFC3513, RFC4291 IPv6 Addressing Architecture MIB • RFC3584 SNMP-COMMUNITY MIB • RFC3635 EtherLike MIB • RFC4133 ENTITY MIB • RFC4188 BRIDGE MIB • RFC4273 BGP4 MIB • RFC4292 IP-FORWARD MIB • RFC4293 IP MIB • RFC4363 P-BRIDGE MIB • RFC4363 Q-BRIDGE MIB • RFC4560 DISMAN-PING MIB • RFC4560 DISMAN-TRACEROUTE MIB • RFC4750 OSPF MIB • RFC5060 PIM-STD MIB • RFC5132 IPMCAST MIB • RFC5240 PIM-BSR MIB • RFC5519 MGMD-STD MIB

Ordering Information

Part Number	Description	Warranty
4-Slot Chassis		
DGS-6604	6600-Series Chassis Switch, 4-Slot Base with fan module and no power supply	Limited Lifetime
DGS-6604-SK	6600-Series Chassis Switch Starter Kit (DGS-6604 + DGS-6600-CM + DGS-6600-PWR)	Limited Lifetime
DGS-6604-SK-48T	6600-Series Chassis Switch Starter Kit (DGS-6604 + DGS-6600-CM + DGS-6600-48T + DGS-6600-PWR)	Limited Lifetime
DGS-6604-SK-48P	6600-Series Chassis Switch Starter Kit (DGS-6604 + DGS-6600-CM + DGS-6600-48P + DGS-6600-PWR)	Limited Lifetime

8-Slot Chassis		
DGS-6608	6600-Series Chassis Switch, 8-Slot Base with fan module and no power supply	Limited Lifetime
DGS-6608-SK	6600-Series Chassis Switch Starter Kit (DGS-6608 + DGS-6600-CM-II + DGS-6600-PWR)	Limited Lifetime
DGS-6608-SK-48T	6600-Series Chassis Switch Starter Kit (DGS-6608 + DGS-6600-CM-II + DGS-6600-48T + DGS-6600-PWR)	Limited Lifetime
DGS-6608-SK-48P	6600-Series Chassis Switch Starter Kit (DGS-6608 + DGS-6600-CM-II + DGS-6600-48P + DGS-6600-PWR)	Limited Lifetime
Modules		
DGS-6600-48P	48-port Gigabit PoE Module for DGS-6600 Series Chassis Switch	Limited Lifetime
DGS-6600-48S	48-port SFP Module for DGS-6600 Series Chassis Switch	Limited Lifetime
DGS-6600-48T	48-port Gigabit Module for DGS-6600 Series Chassis Switch	Limited Lifetime
DGS-6600-48TS	24-port Gigabit Module and 24-port SFP for DGS-6600 Series Chassis Switch	Limited Lifetime
DGS-6600-8XG	8-port 10G XFP Module for DGS-6600 Series Chassis Switch	Limited Lifetime
DGS-6600-16XS-D	16-port 10GbE SFP+ Module for DGS-6600 Chassis Switch	Limited Lifetime
DGS-6600-CM	Control Module for DGS-6600 Series Chassis Switch	Limited Lifetime
DGS-6600-CM-II	Control Module for DGS-6608 Chassis Switch	Limited Lifetime
DGS-6600-PWR	850W AC Power Module for DGS-6600 Series Chassis Switch	5 Year
DGS-6600-FAN	Fan Module for DGS-6604	5 Year
DGS-6600-FAN-II	Fan Module for DGS-6608	5 Year
Optional Optical Transceivers		
DEM-310GT	1000BASE-LX SFP Module, up to 10Km	2 Year
DEM-311GT	1000BASE-SX SFP Module, up to 550m	2 Year
DEM-421XT	10GBASE-SR Multimode XFP, up to 300m	2 Year
DEM-422XT	10GBASE-LR Singlemode XFP, up to 10Km	2 Year
DEM-431XT-DD	10GBase-SR Transceiver, DDM, 80/300M	2 Year
DEM-432XT-DD	10GBase-LA Transceiver, DDM, 10K	2 Year
DEM-435XT-DD	10GBase-LRM Transceiver, DDM, 220M	2 Year
DGS-712	1000BASE-T SFP Transceiver	2 Year
Optional 10GbE Direct Attach Cables		
DEM-CB100S	1M (40") 10G Direct Attach Cable for Data/Stacking DGS-3420/3620 Series Switch, SFP+	2 Year
DEM-CB300S	3M (118") 10G Direct Attach Cable for Data/Stacking DGS-3420/3620 Series Switch, SFP+	2 Year
DEM-CB700S	7M (275") 10G Direct Attach Cable for Data/Stacking DGS-3420/3620 Series Switch, SFP+	2 Year
Optional Management Software		
DV-600S	D-View 6.0 Network Management Software Standard Edition	1 Year
DV-600P	D-View 6.0 Network Management Software Professional Edition	1 Year

[1] DGS-6608 only
[2] Future feature
[3] Limited Lifetime Warranty available only in the U.S.A.
Product specifications, size, and shape are subject to change without notice, and actual product appearance may differ from that depicted herein.

D-Link
Building Networks for People