D-Link®
Building Networks for People

XSTACK ™

DGS-3420 Series
xStack L2+ Managed Stackable Gigabit Switches

Features

Flexible Choices
- 20/48 10/100/1000BASE-T ports or 20 SFP slots
- 4 Combo 10/100/1000BASE-T/SFP ports[1]
- 4 10-Gigabit SFP+ uplink ports
- 802.3af and 802.3at Power Over Ethernet support[2]

High Bandwidth Stacking
- Physical stack of up to 12 units, 576 Gigabit ports
- Stackable through 2 10-Gigabit SFP+ ports
- Up to 40 Gbps Full-Duplex Stacking Bandwidth
- Virtual Stack of up to 32 units using single IP Management

Reliability
- Redundant Power Supply (RPS) support
- 802.1D/802.1w/802.1s Spanning Tree
- Loopback Detection (LBD)
- Ethernet Ring Protection Switching (ERPS)

Security Features
- L2/L3/L4 Multi-Layer Access Control
- External RADIUS/TACACS+ Authentication
- SSH/SSL support
- Web-based Access Control (WAC)
- MAC-based Access Control (MAC)
- D-Link Safeguard Engine
- Supports Microsoft® NAP

The DGS-3420 Series xStack L2+ Managed Stackable Gigabit Switches are next generation switches that deliver performance, flexibility, security, multi-layer QoS, and accessibility, along with redundant power solutions for SMBs and enterprises. With high Gigabit port densities, Gigabit SFP, 10-Gigabit SFP+ support, and advanced software solutions, these switches can act as either departmental access layer devices or aggregation switches to form a multilevel network structured with backbone and centralized high-speed servers. Service providers can take advantage of the high SFP density switches (such as DGS-3420-28SC/26SC) to structure the aggregation of Fiber to the Building (FTTB) networks that extend to subscribers' sites.

Unparalleled Flexibility

Easily deployed and simple to manage, the DGS-3420 Series switches can be stacked with any switch that supports D-Link's Single IP Management to form a multi-level network structured with backbone and centralized high-speed servers. The virtual stack can include units located anywhere on the same network domain, and uses optional 10-Gigabit uplinks to move intra-stack traffic at 20 Gbps full duplex speeds.

D-Link 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-3420 Series implements D-Link Green technology, which includes power saving through link status, smart fan design, increased heat dissipation, and cable length detection. The power-saving feature automatically powers down ports that have no link or link partner. The Smart Fan design allows the built-in fans to automatically turn on only at a certain temperature, providing continuous, reliable, and eco-friendly operation.

Redundant Ring Stacking

Alternatively, depending on whether linear or fault-tolerant ring stacking is implemented, users can use one or two 10-Gigabit SFP+ ports to create a physical stack.[3] 12 units or 576 Gigabit ports can be configured for a stack using directly attached cables to provide high bandwidth on the DGS-3420 Series with cost efficiency. Support for virtual stacking provides further convenience by allowing centralized management of ports across different locations for simplifying large-scale deployments.

IPv6 Technology

The DGS-3420 Series also features comprehensive IPv6 support, including IPv6 Tunnel, ICMPv6, DHCPv6, RIPng, IPv4/IPv6 dual stack, and more. With 10-Gigabit connectivity and IPv6 support, the series enables you to future-proof your network for cost efficiency and longevity while meeting the requirements of IPv6-capable network devices.

Security, Performance & Availability

The DGS-3420 Series provides a complete set of security features including L2/L3/L4 multi-layer Access Control Lists and 802.1X user authentication via TACACS+ and RADIUS servers. The DGS-3420 Series offers extensive VLAN support including GVRP and 802.1Q VLAN to enhance security and performance. A robust set of L2/L3/L4 QoS/CoS solutions help ensure that critical network services such as VoIP, ERP, Intranet, and video conferencing are served with proper priority. The series also provides D-Link's Safeguard Engine to increase reliability, serviceability, and availability by preventing malicious flooding of traffic caused by worms or virus infections. Bandwidth Control can be flexibly set for each port using pre-defined thresholds to assure a committed level of service for end-users. For advanced applications, flow-based bandwidth control allows easy fine-tuning of service types based on specific IP addresses or protocols.

Comprehensive Management

The DGS-3420 Series provides a breadth of features to let network administrators manage and troubleshoot the network with ease. Provision for a centralized web-based GUI, Command Line Interface (CLI), Telnet, Flash File System, multiple images/configurations, and CPU monitoring help reduce the time spent on network configuration considerably. Support for device-based and flow-based monitoring such as SNMP, Syslog, RMON, and sFlow ensure smooth performance throughout the network. Lastly, features such as Cable Diagnostics and Connectivity Fault Management (CFM) round out the switch's OAM capabilities to help administrators save time during troubleshooting scenarios.

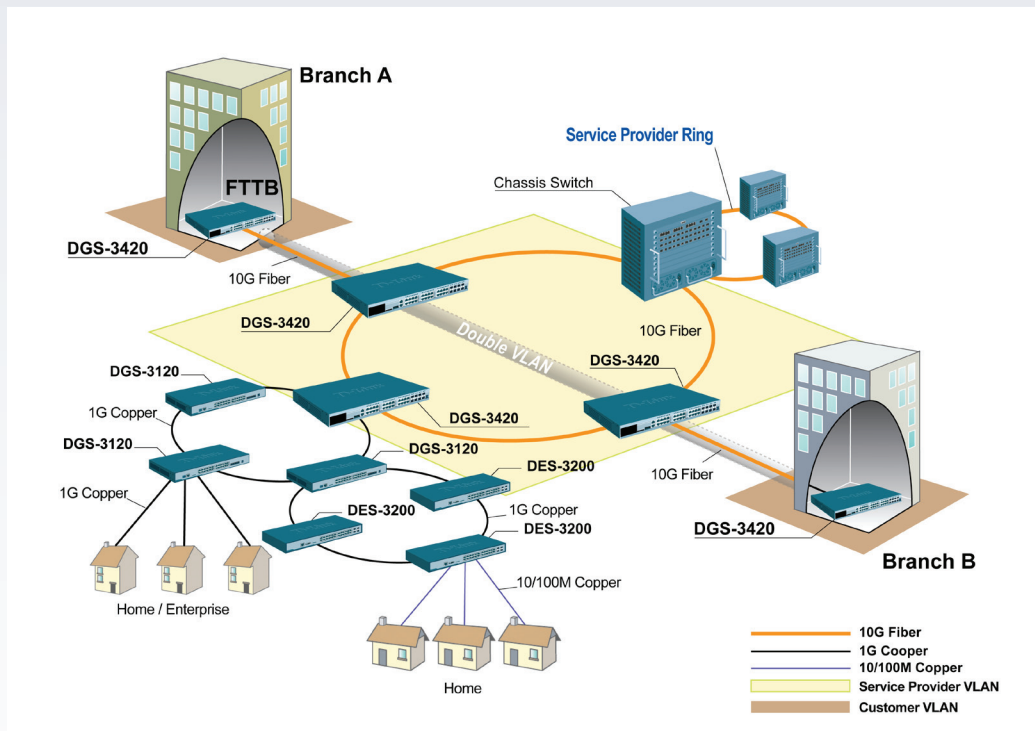DGS-3420-28TC

DGS-3420-28SC

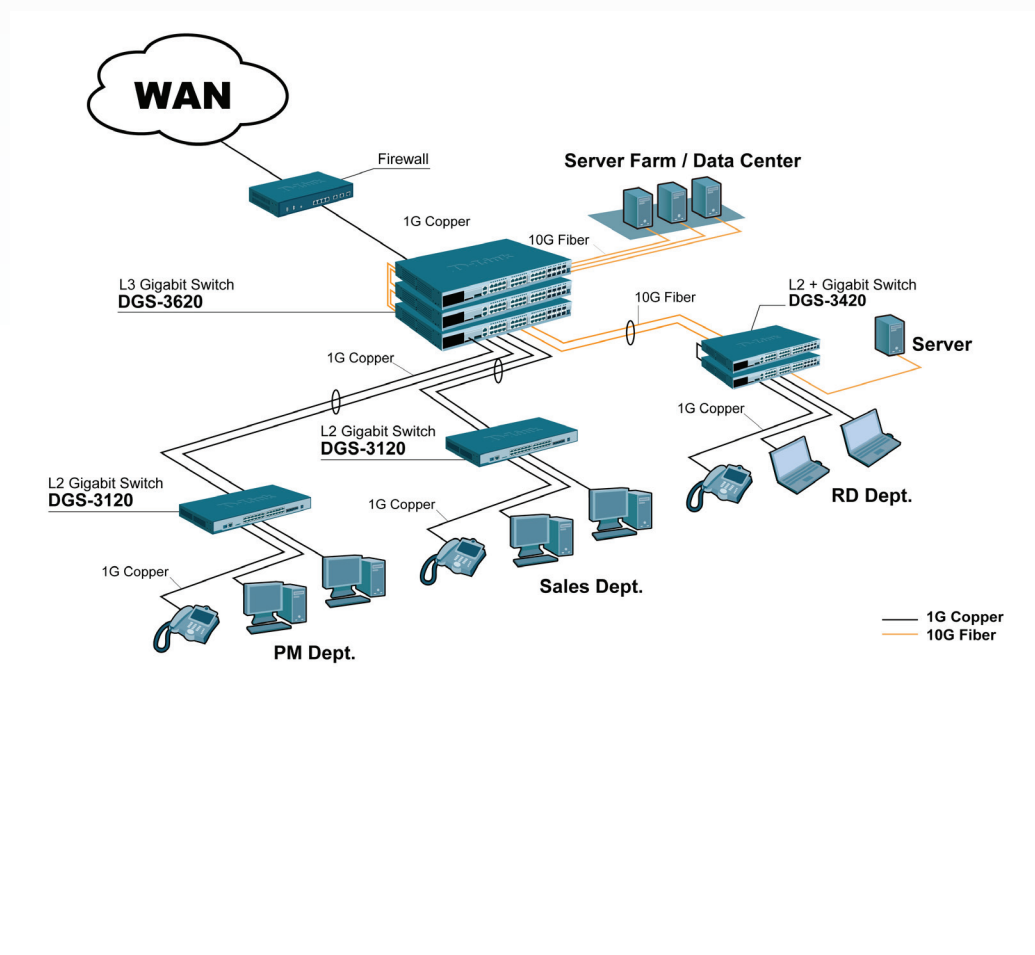
DGS-3420-52T

DGS-3420-26SC
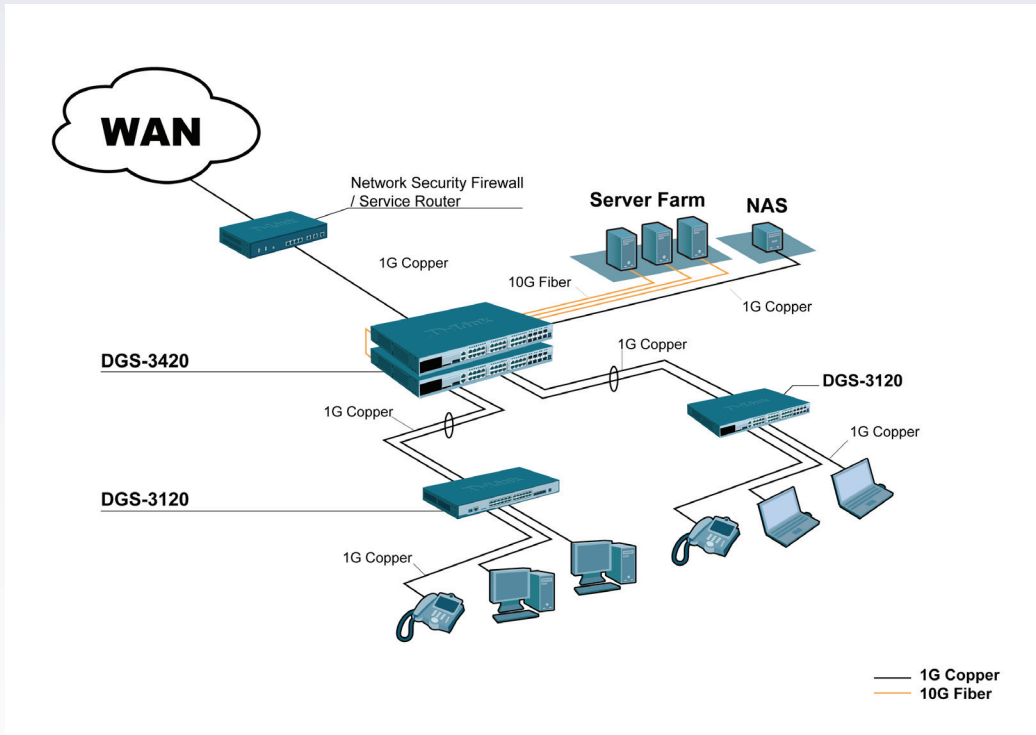

DGS-3420-28PC

DGS-3420-52P

DGS-3420 Series in Service Provider Networks

DGS-3420 Series in Large Enterprise Networks

SMB Network Deployment

Technical Specifications

General	DGS-3420-28TC	DGS-3420-26SC	DGS-3420-28SC
Interfaces	20 10/100/1000BASE-T ports 4 Combo 10/100/1000BASE-T/SFP ports 4 SFP+ ports	20 SFP ports 4 Combo 10/100/1000BASE-T/SFP ports 2 SFP+ ports	20 SFP ports 4 Combo 10/100/1000BASE-T/SFP ports 4 SFP+ ports
Optional Redundant Power Supply	DPS-500	DPS-500	DPS-500
Console Port	RJ-45		
Management Port	10/100BASE-T		
Alarm Port	1		
SD Card Slot	1		

Performance			
Switch Fabric	128 Gbps	88 Gbps	128 Gbps
Packet Forwarding Rate	95.24 Mpps	65.47 Mpps	95.24 Mpps
Packet Buffer	2 MB		
MAC Address Table	16K Entries		
IPv4 Routing Table	1K Entries		
IPv6 Routing Table	512 Entries		
IPv4 Forwarding Table	2K Entries		
IPv6 Forwarding Table	1K Entries		
Jumbo Frame Size	13000 bytes		

Physical & Environment			
MTBF (Hours)	293,446 hours	300,018 hours	298,747 hours
Acoustics	Max: 48.9 dB	Max: 47.3 dB	Max: 47.4 dB
Heat Dissipation	155.8 BTU/hr	137 BTU/hr	145.2 BTU/hr
Power Input	100 to 240 V AC, 50/60 Hz	100 to 240 V AC, 50/60 Hz	100 to 240 V AC, 50/60 Hz
Max Power Consumption	44.9 watts	40.2 watts	42.6 watts
Dimensions (W x D x H)	441 x 310 x 44 mm (17.36 x 12..2 x 1.73 inches)	441 x 310 x 44 mm (17.36 x 12.2 x 1.73 inches)	441 x 310 x 44 mm (17.36 x 12.2 x 1.73 inches)
Weight	4.12 kg (9.08 lbs)	4.04 kg (8.90 lbs)	4.06 kg (8.95 lbs)
Ventilation	via Temperature Controlled Smart Fan (>39 °C: High Speed; < 36 °C: Low Speed)[4]		
Operating 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, C-Tick		
Safety	CB, cUL, LVD		
Certification	IPv6 Ready Logo Phase 2		

General	DGS-3420-28PC	DGS-3420-52T	DGS-3420-52P
Interfaces	20 10/100/1000BASE-T PoE ports 4 Combo 10/100/1000BASE-T PoE/SFP ports 4 SFP+ ports	48 10/100/1000BASE-T ports 4 SFP+ ports	48 10/100/1000BASE-T PoE ports 4 SFP+ ports
Optional Redundant Power Supply	DPS-700	DPS-500	DPS-700
Console Port	RJ-45		
Management Port	10/100BASE-T		
Alarm Port	1		
SD Card Slot	1		
Performance			
Switch Fabric	128 Gbps	176 Gbps	176 Gbps
Packet Forwarding Rate	95.24 Mpps	130.95 Mpps	130.95 Mpps
Packet Buffer	2 MB		
MAC Address Table	16K Entries		
IPv4 Routing Table	1K Entries		
IPv6 Routing Table	512 Entries		
IPv4 Forwarding Table	2K Entries		
IPv6 Forwarding Table	1K Entries		
Jumbo Frame Size	13,000 bytes		
PoE			
PoE Standard	802.3af and 802.3at	-	802.3af and 802.3at
PoE Power Budget	370 watts (740 watts with DPS-700 RPS)	-	370 watts (740 watts with DPS-700 RPS)
Physical & Environment			
MTBF (Hours)	237,115 hours	248,607 hours	226,203 hours
Acoustics	Max: 52.7 dB	Max: 53.3 dB	Max: 55 dB
Heat Dissipation	1712.5 BTU/hr	259.1 BTU/hr	1763.3 BTU/hr
Power Input	100 to 240 V AC, 50/60 Hz	100 to 240 V AC, 50/60 Hz	100 to 240 V AC, 50/60 Hz
Max Power Consumption	502.2 watts	76.0 watts	517.1 watts
Dimensions (W x D x H)	441 x 380 x 44 mm (17.36 x 14.96 x 1.73 inches)	441 x 380 x 44 mm (17.36 x 14.96 x 1.73 inches)	441 x 380 x 44 mm (17.36 x 14.96 x 1.73 inches)
Weight	5.75 kg (12.67 lbs)	5.07 kg (11.17 lbs)	6.24 kg (13.75 lbs)
Ventilation	via Temperature Controlled Smart Fan (>39 °C: High Speed; < 36 °C: Low Speed)[4]		
Operating 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, C-Tick
Safety	CB, cUL, LVD
Certification	IPv6 Ready Logo Phase 2

Software Features

Stackability	• Virtual Stacking Support • D-Link Single IP Management • Up to 32 devices per virtual stack • Up to 20G stacking bandwidth	• Physical Stacking • Supports Duplex Chain/Ring topology • Up to 40G stacking bandwidth • Up to 12 units per stack
L2 Features	• MAC Address Table: 16K • Flow Control • 802.3x Flow Control • HOL Blocking Prevention • Jumbo Frame up to 13,000 Bytes • IGMP Snooping • IGMP v1/v2/v3 Snooping • Supports 960 groups • Port/Host-based • IGMP Snooping Fast Leave • MLD Snooping • Supports MLD v1/v2 Snooping • Supports 480 groups • Host-based MLD Snooping Fast Leave • Loopback Detection	• Spanning Tree Protocol • 802.1D-2004 STP • 802.1w RSTP • 802.1Q-2005 MSTP • BPDU filtering • Root Restriction • 802.3ad Link Aggregation • Max. 32 groups per device • 8 Gigabit ports or 2 10-Gigabit ports per group • Port Mirroring • Supports 4 Mirroring Groups • Supports One-to-One, Many-to-One, Flow-based, and RSPAN mirroring • L2 Protocol Tunneling • ERPS (Ethernet Ring Protection Switching)
VLAN	• VLAN Group • Max. 4K Static VLAN Groups • Max. 255 Dynamic VLAN Groups • 802.1Q Tagged VLAN • 802.1v Protocol VLAN • GVRP	• Double VLAN (Q-in-Q) • Port-based Q-in-Q • MAC-based VLAN • VLAN Trunking
L3 Features	• 256 IP interfaces • Loopback interface • IPv6 Tunneling	• Proxy ARP • Gratuitous ARP • VRRP[5]
L3 Routing	• 1K routing entries shared by IPv4/v6 • Max. 1K IPv4 routes • Max. 512 IPv6 routes • 2K L3 forwarding entries shared by IPv4/v6 • Max. 2K IPv4 entries • Max. 1K IPv6 entries	• 256 static routing entries for IPv4, 128 entries for IPv6 • RIP v1/v2 • RIPng • Policy-based Routing • Route Redistribution

Quality of Service (QoS)	• 802.1p Quality of Service (CoS)
	• 8 queues per port
	• Queue Handling
	  • Strict
	  • Weighted Round Robin (WRR)
	  • Strict + WRR
	• CoS based on
	  • Switch Port
	  • VLAN
	  • 802.1p Priority Queues
	  • MAC Address
	  • IPv4/v6 Address
	  • DSCP
	  • Protocol Type
	  • IPv6 Traffic Class
	  • IPv6 Flow Label
	  • TCP/UDP Port
	  • User-defined Packet Content
		• Supports following actions for flows:
		  • Remark 802.1p Priority Tag
		  • Remark TOS/DSCP Tag
		  • Bandwidth Control
		  • Flow Statistics
		  • Committed Information Rate (CIR), min. granularity 1 Kbps
		  • Bandwidth Control
		  • Port-based (Ingress/Egress, min. granularity 8 Kbps)
		  • Flow-based (Ingress, min. granularity 8 Kbps)
		• Time-based QoS
		• Congestion Control - WRED[5]

Access Control List (ACL)	• Ingress ACL: support up to 6 profiles and 256 rules per profile
	• Egress ACL: support up to 4 profiles and 128 rules per profile
	• ACL based on
	  • 802.1p Priority
	  • VLAN ID
	  • MAC Address
	  • Ether Type
	  • IPv4/v6 Address
	  • DSCP
	  • Protocol Type
	  • TCP/UDP Port Number
	  • IPv6 Traffic Class
	  • IPv6 Flow Label
	  • User-defined Packet Content
		• ACL Statistics
		• Time-based ACL

Security	• SSH v2
	• SSL v1/v2/v3
	• Port Security for up to 3328 MAC addresses for port/system/ VLAN
	• Broadcast/Multicast/Unicast Storm Control
	• Traffic Segmentation
	• IP-MAC-Port Binding
	  • ARP Packet Inspection
	  • IP Packet Inspection
	  • DHCP Snooping
	  • DHCPv6 and NDP Snooping
	  • Supports up to 500 Address Binding Entries per device
		• D-Link Safeguard Engine
		• DHCP Server Screening
		• CPU Interface Filtering
		• ARP Spoofing Prevention
		• BPDU Attack Protection
		• Secure FTP[5]
		• NetBIOS/NetBEUI Filtering

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
		• Japan Web-based Access Control (JWAC)
		  • Host-based Access Control
		• Microsoft® NAP
		  • Supports 802.1X NAP
		  • Supports DHCP NAP
		• Guest VLAN
		• RADIUS and TACACS+ authentication for switch access
		• 4-Level user account

Management	• Web-based GUI
	• Command Line Interface (CLI)
	• Telnet Server
	• Telnet Client
	• TFTP Client
	• ZModem
	• SNMP v1/v2c/v3
	• SNMP Trap
	• System Log
	• RMON v1
	  • Supports 1,2,3,9 Groups
	• RMON v2
	  • Supports ProbeConfig Group
	• sFlow
	• LLDP/LLDP-MED
	• BootP/DHCP Client
	• DHCP Auto-Configuration
	• DHCP Relay
		• DHCP Relay Option 60; 61
		• DHCP Relay Option 82
		• DHCP Server
		• Flash File System
		• Multiple Images
		• Multiple Configurations
		• CPU Monitoring
		• Debug Command
		• SNTP
		• ICMPv6
		• DHCPv6 Client
		• DHCPv6 Relay
		• DHCPv6 Server
		• Trusted Host
		• MTU Setting
		• Microsoft˚ NLB Support
		• UDP helper

OAM	• 802.3ah Ethernet Link OAM • 802.3ah D-Link Extension: D-Link Unidirectional Link Detection (DULD) • IEEE1588 Precision Time Protocol (PTP)	• Cable Diagnostics • Connectivity Fault Management (CFM) • ITU-T Y.1731

D-Link Green 3.0 Technology	• Power Saving by:
	  • Link Status
	  • Cable Length detection
	  • LED Shutoff[5]
	  • Port Shutoff[5]
	  • System Hibernation mode[5]
	  • Time-based PoE (PoE models only)
		• 802.3az Energy Efficient Ethernet (EEE)[8]

MIB/IETF Standards	• RFC1213 MIB-II • RFC1493, 4188 Bridge MIB • RFC1907 SNMPv2 MIB • RFC2571-2576 SNMP MIB • RFC1271, 2819 RMON MIB • RFC2021 RMON v2 MIB • RFC1398, 1643, 1650, 2358, 2665 Ether-like MIB • RFC2668 MAU MIB • RFC2674, 4363 802.1p MIB • RFC2233, 2863 IF MIB • RFC2618 RADIUS Authentication Client MIB • RFC1724 RIP v2 MIB • RFC2096 IP Forwarding Table MIB (CIDR) • RFC2620 RADIUS Accounting Client MIB • RFC2925 Ping MIB • RFC2925 Traceroute MIB • D-Link Private MIB	• RFC 2787 VRRP MIB[5] • RFC768 UDP • RFC783 TFTP • RFC791 IP • RFC793 TCP • RFC826 ARP • RFC854 Telnet • RFC951, 1542, 2131 BootP • RFC2068, 2618 HTTP • RFC3056, 5214 IPv6 Tunnel • RFC2138 RADIUS • RFC2139 RADIUS Accounting • RFC1492 TACACS • RFC3176 sFlow • RFC2598 DiffServ Expedited Forwarding • RFC4213 IPv4/IPv6 Dual Stack

Optional Products

Optional Management Software

DV-600S	D-View 6.0 Network Management Software Standard Edition
DV-600P	D-View 6.0 Network Management Software Professional Edition

Optional 10 Gbps SFP+ Transceivers

DEM-431XT	10GBASE-SR SFP+ Transceiver (w/o DDM), 80 m: OM1 & OM2 MMF, 300 m: OM3 MMF
DEM-431XT-DD	10GBASE-SR SFP+ Transceiver (with DDM), 80 m: OM1 & OM2 MMF, 300 m: OM3 MMF
DEM-432XT	10GBASE-LR SFP+ Transceiver (w/o DDM), 10 km
DEM-432XT-DD	10GBASE-LR SFP+ Transceiver (with DDM), 10 km
DEM-433XT	10GBASE-ER SFP+ Transceiver (w/o DDM), 40 km
DEM-433XT-DD	10GBASE-ER SFP+ Transceiver (with DDM), 40 km
DEM-434XT	10GBASE-ZR SFP+ Transceiver (w/o DDM), 80 km
DEM-435XT	10GBASE-LRM SFP+ Transceiver (w/o DDM), 220 m: OM1 & OM2 MMF, 300 m: OM3 MMF
DEM-435XT-DD	10GBASE-LRM SFP+ Transceiver (with DDM), 220m: OM1 & OM2 MMF, 300 m: OM3 MMF
DEM-436XT-BXU	10GBASE-LR BiDi SFP+ Transceiver (w/o DDM) 20 km, TX: 1270 nm, RX: 1330 nm
DEM-436XT-BXD	10GBASE-LR BiDi SFP+ Transceiver (w/o DDM) 20 km, TX: 1330 nm, RX: 1270 nm

Optional 1 Gbps 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 550 m, 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-LX standard, single-mode fiber, max. distance 10 km, 3.3 V operating voltage, Tx wavelength 1550 nm, Rx wavelength 1310 nm
DEM-330R	WDM SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3 V operating voltage, Tx wavelength 1310 nm, Rx wavelength 1550 nm
DEM-331T	WDM SFP transceiver, 1000BASE-LX 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-LX standard, single-mode fiber, max. distance 40 km, 3.3 V operating voltage, Tx wavelength 1310 nm, Rx wavelength 1550 nm
DEM-211	SFP transceiver, 100BASE-FX multi-mode fiber, max. distance 2 km, 3.3 V operating voltage
DEM-210	SFP transceiver, 100BASE-FX single-mode fiber, max. distance 15 km, 3.3 V operating voltage
DEM-220T	100Base-BX, Wavelength Tx:1550 nm, Rx:1310 nm,Single-mode, 20 km
DEM-220R	100Base-BX, Wavelength Tx:1310 nm, Rx:1550 nm,Single-mode, 20 km
DGS-712	1000BASE-TX

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Optional 10 Gbps SFP+ Direct Attach Cables	
DEM-CB100S	10-GbE SFP+ 1 m Direct Attach Cable
DEM-CB300S	10-GbE SFP+ 3 m Direct Attach Cable
DEM-CB700S	10-GbE SFP+ 7 m Direct Attach Cable
Optional Redundant Power Supplies	
DPS-500	140-watt redundant power supply
DPS-500DC	140-watt DC redundant power supply
DPS-700[7]	589-watt redundant power supply
Order Information	
DGS-3420-28TC	20 10/100/1000BASE-T and 4 Combo 10/100/1000BASE-T/SFP and 4 SFP+[6]
DGS-3420-26SC	20 SFP and 4 Combo 10/100/1000BASE-T/SFP and 2 SFP+[6]
DGS-3420-28SC	20 SFP and 4 Combo 10/100/1000BASE-T/SFP and 4 SFP+[6]
DGS-3420-28PC	20 10/100/1000BASE-T PoE and 4 Combo 10/100/1000BASE-T PoE/SFP and 4 SFP+[6]
DGS-3420-52T	48 10/100/1000BASE-T and 4 SFP+[6]
DGS-3420-52P	48 10/100/1000BASE-T PoE and 4 SFP+[6]

[1] For DGS-3420-28TC/28SC/26SC/28PC models
[2] For DGS-3420-28PC/52P models
[3] When switch is used in a stack, the last 2 ports are dedicated stacking ports and cannot be used as uplink ports.
[4] By default, the fan speed is set to low. When the temperature inside the chassis exceeds 39 °C, the fan switches to high speed until the temperature drops below 36 °C.
[5] Supported by R1.5 firmware.
[6] Stacking cable and SD card are not included.
[7] Supported in DGS-3420-28PC and DGS-3420-52P only
[8] Supported by hardware version B1

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