Flexible Choices

- 24, 48 10/100/1000Mbps
- 4 Gigabit copper/SFP uplinks
- Selectable software images provide sophisticated feature set for your environment.
- 802.3af and 802.3at Power Over Ethernet support¹

High Bandwidth Physical/ Virtual Stacking

- 2 dedicated stacking ports per switch
- Up to 40 Gbps Full-Duplex Stacking Bandwidth
- Up to 6 units (288 Gigabit ports) per stack
- Linear or Fault Tolerant Ring Stacking Topology
- Virtual Stacking of up to 32 units
- Embedded D-Link SIM for integration of all xStack switches

Reliability

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

Security

- Multi-Layer Access Control List (ACL)
- IP-MAC-Port Binding (IMPB)
- D-Link Safeguard Engine
- DHCP Server Screening
- BPDU Attack Protection
- ARP Spoofing Prevention

AAA

- 802.1X
- Web-based Access Control (WAC)
- MAC-based Access Control (MAC)
- Compound Authentication
- Identity-driven Policies
- Microsoft[®] NAP support
- RADIUS Accounting

business

xStack L2 Managed Stackable Gigabit Switches

The DGS-3120 xStack Series are enhanced L2 access stackable switches designed to connect end-users in a secure SMB or enterprise network. These switches support physical stacking, multicast and enhanced security, making them an ideal Gigabit access layer solution. The DGS-3120-24TC/48TC provides 20 or 44 10/100/1000 Mbps Gigabit Ethernet ports and 4 combo 1000BASE-T/SFP Gigabit Ethernet ports. The DGS-3120-24PC/48PC provides 24 or 48 10/100/1000 Mbps PoE Gigabit Ethernet ports and 4 combo 1000BASE-T/SFP Gigabit Ethernet ports. Each 10/100/1000 Mbps port of DGS-3120-24PC/48PC supports 802.3af and 802.3at Power over Ethernet standard. The default power budget is 370 Watts and can be expanded to 740 Watts with the DPS-700 RPS. The switches are also equipped with an SD Card slot, allowing the user to boot images and upload configuration files directly from an SD Card. Furthermore, syslog files can also be conveniently saved to a card.

Standard and Enhanced Images

The DGS-3120 Series is available with two different software images - Standard Image (SI) and Enhanced Image (EI). The Standard Image provides sophisticated features for campus, or enterprise. It includes advanced Quality of Service (QoS), traffic shaping, L2 multicasting, and robust security features. The Enhanced Image supports ERPS, Double VLAN (Q-in-Q), Ethernet OAM, Static Route, IMPB, sFlow, IPv6 features which are suitable for the next generation IPv6 networks or triple play applications in Metro Ethernet.

Enhanced Network Reliability

The DGS-3120 Series targets enterprise/campus and customers who require a high level of network security and maximum uptime. All the models in DGS-3120 Series support an external redundant power supply so that continued operation can be assured. They also include other features, such as 802.1D Spanning Tree (STP), 802.1w Rapid Spanning Tree (RSTP) and 802.1s Multiple Spanning Tree (MSTP), Loopback Detection (LBD), and Broadcast Storm Control, that enhance network resilience. The G.8032 Ethernet Ring Protection Switching (ERPS) function minimizes the recovery time to 50 ms. For load sharing and redundancy backup in switch cascading/server attachment configuration, the DGS-3120 Series provides dynamic 802.3ad Link Aggregation Port Trunking.

Comprehensive Security

The DGS-3120 Series provides users with the latest security features such as Multi-layer and Packet Content Access Control Lists (ACL), Storm Control, and IP-MAC-Port Binding (IMPB) with DHCP Snooping. The IP-MAC-Port Binding feature allows administrators to bind a source IP address with an associated MAC and also define the port number to enhance user access control. With the DHCP Snooping feature, the switch automatically learns IP/MAC pairs by snooping DHCP packets and saving them to the IMPB white list. In addition, the D-Link Safeguard Engine identifies and prioritizes "CPU interested" packets to prevent malicious traffic from interrupting normal network flows, and to protect switch operation.



Identity Driven Network Policies

The DGS-3120 Series supports authentication mechanisms such as 802.1X, Web-based Access Control (WAC), and MAC-based Access Control (MAC) for strict access control and easy deployment. After authentication, individual policies such as VLAN membership, QoS policies, and ACL rules can be assigned to each host. In addition, the switch also supports Microsoft® NAP (Network Access Protection). NAP is a policy enforcement technology that allows customers to protect network assets from unhealthy computers by enforcing compliance with network health policies.

Traffic Management for Triple Play

The DGS-3120 Series implements a rich set of multilayer QoS/CoS features to ensure that critical network services like VoIP, video conference, IPTV and IP surveillance are served with high priority. The Traffic Shaping features guarantee bandwidth of these services when the network is busy. With L2 Multicast support, the DGS-3120 shows its ability to handle growing IPTV applications. Host-based IGMP/MLD Snooping allows multiple multicast subscribers per physical interface and ISM VLAN sends multicast streams in a multicast VI AN to save bandwidth and to provide better security to the backbone network. The ISM VLAN profiles allow users to bind/replace the pre-defined multicast registration information to subscriber ports guickly and easily.

Proactive, Effective Network Management

To uphold enterprise customers' Service Level Agreements (SLA), service providers must reduce the Mean Time to Repair (MTTR) and increase service availability. Ethernet OAM features address these challenges and enable service providers to offer carrier-grade services. The DGS-3120 Series supports industry-standard OAM tools, including IEEE 802.3ah, IEEE802.1ag, and ITU-T Y.1731. Connectivity Fault Management (CFM) provides tools to monitor and troubleshoot end-to-end Ethernet networks, allowing service providers to check connectivity, isolate network issues, and identify customers affected by network issues.

IPv6 Technology

The DGS-3120 Series is fully compliant with the future IPv6 networks. It supports remote IPv6 manageability from telnet, HTTP, or SNMP. To create secure IPv6 networks, the DGS-3120 Series uses IPv6 ACL, DHCPv6 Snooping and Neighbor Discovery (ND) Snooping functions to protect the network from illegal IPv6 clients. The DGS-3120 Series has been certified with IPv6 Ready Logo Phase 2 from the IPv6 forum, a worldwide IPv6 advocacy consortium. The IPv6 Ready Logo Program provides conformance and interoperability of IPv6 products.

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-3120 Series implements the D-Link Green Technology, which includes a power saving mode, smart fan, reduced heat dissipation, and cable length detection. 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 at a certain temperature, providing continuous, reliable and eco-friendly operation of the switch.

Manageability

D-Link's Single IP Management (SIM) simplifies and speeds up management tasks, allowing multiple switches to be configured, monitored and maintained from any workstation running a web browser through one unique IP address. This virtual stack is managed as a single object, having all units maintained by one IP address. The DGS-3120 Series also supports standard-based management protocols such as SNMP, RMON, Telnet, Console, Web-based GUI and SSH/SSL security authentication.

Triple Play

- IGMP/MLD Snooping
- IGMP Snooping Multicast (ISM) VLAN
- Port/Flow- based bandwidth control
- Granular Bandwidth Control Down to 64 Kbps

OAM

- 802.3ah Link OAM
- 802.1ag, ITU-T Y.1731 Service OAM
- Port/Flow Mirroring, RSPAN
- DHCP Auto Configuration
- sFlow

IPv6 Features

- IPv6 Neighbor Discovery (ND)
- IPv6 Management
- IPv4/v6 Dual Stack
- IPv6 Ready Logo Phase 2

Configuration/Management

- Web-based GUI (IPv4/v6)
- Command Line Interface (CLI)
- Telnet (IPv4/v6)
- SNMP v1/v2c/v3 (IPv4/v6)
- RADIUS/TACACS+ Authentication for Management Access
- Multiple Images/Configurations





Technical Specifications				
General	DGS-3120-24TC	DGS-3120-48TC	DGS-3120-24PC ²	DGS-3120-48PC ²
Interface	• 20 10/100/1000BASE-T, 4 Combo 10/100/1000BASE-T/SFP	• 44 10/100/1000BASE-T, 4 Combo 10/100/1000BASE-T/SFP	• 20 10/100/1000BASE-T, 4 Combo 10/100/1000BASE-T/SFP	• 44 10/100/1000BASE-T, 4 Combo 10/100/1000BASE-T/SFP
Optional Redundant Power Supply	• DPS-200	• DPS-500	• DPS-700	• DPS-700
Console Port	• RJ-45	• RJ-45	• RJ-45	• RJ-45
Stacking Port	• 2	• 2	• 2	• 2
SD Card Slot	• 1	• 1	• 1	• 1
Perfomance				
Switching Capacity	• 88 Gbps	• 136 Gbps	• 88 Gbps	• 136 Gps
64-Byte Packet Forwarding Rate	• 65.48 Mpps	• 101.19 Mpps	• 65.48 Mpps	• 101.19 Mbps
Packet Buffer Memory	• 2 MB	• 2 MB	• 2 MB	• 2 MB
Flash Memory	• 32 MB	• 32 MB	• 32 MB	• 32 MB
РоЕ	1			
Features	-	-	• 802.3af and 802.3at	802.3af and 802.3at
Networking	-	-	• 370 watts • 740 watts (with DPS-700 RPS)	• 370 watts • 740 watts (with DPS-700 RPS)
Physical & Environment	'			
MTBF (Hours)	• 561,829.573 Hours	• 292,201.572 Hours	• 282,541.698 Hours	• 223,006.071 Hours
Acoustics	• Max: 49.8 db; Min: 37.7 db	• Max: 44.6 db; Min: 36.4 db	• Max: 50.8db; Min: 48.1	• Max: 48.6db; Min: 41.6db
Heat Dissipation	• 138.105 BTU/h	• 228.811 BTU/h	• 1646.007 BTU/h (with 370W PoE load), 3188.691 BTU/h (with 740W PoE load)	• 1761.265 BTU/h (with 370 W PoE load), 3310.428 BTU/h (with 740W PoE load)
Power Input	• 100 to 240 VAC, 50 to 60 Hz Internal Universal Power Supply	• 100 to 240 VAC, 50 to 60 Hz Internal Universal Power Supply	• 100 to 240 VAC, 50 to 60 Hz Internal Universal Power Supply	• 100 to 240 VAC, 50 to 60 Hz Internal Universal Power Supply
Max Power Consumption	• 40.5 Watts	• 67.1 Watts	• 482.7 Watts (with 370W PoE load): 935.1 Watts (with 740W PoE load)	• 516.5 Watts (with 370W PoE load), 970.8 Watts (with 740W PoE load)
Dimensions (W x D x H)	• 17.3" x 8.27" x 1.73" (440 x 210 x 44 mm)	• 17.3″ x 12.2″ x 1.73″ (440 x 310 x 44 mm)	• 17.3" x 12.2" x 1.73" (440 x 310 x 44 mm)	• 17.3″x 14.96″x 1.73″ (440 x 380 x 44mm)
Weight	• 5.64lbs (2559 g)	• 10.17lbs (4615g)	• 11.95lbs (5423g)	• 13.96lbs (6331g)
Ventilation	• Smart Fan ³ (> 40° C: High Speed; < 35° C: Low Speed)	• Smart Fan ³ (> 40° C: High Speed; < 35° C: Low Speed)	• Smart Fan ³ (> 40° C: High Speed; < 35° C: Low Speed)	• Smart Fan ³ (> 40° C: High Speed; < 35° C: Low Speed)
Operating Temperature	• 32° to 122°F (0 to 50 °C)	• 32° to 122°F (0 to 50 °C)	•32° to 122°F (0 to 50 °C)	• 32° to 122°F (0 to 50 °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)	• v-40° to 158° F (-40 to 70 °C)
Operating Humidity	• 10% to 90% RH	• 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	• 5% to 90% RH
Emission (EMI)	• FCC Class A, CE Class A, VCCI Class A, IC, C-Tick	• FCC Class A, CE Class A, VCCI Class A, IC, C-Tick	• FCC Class A, CE Class A, VCCI Class A, IC, C-Tick	• FCC Class A, CE Class A, VCCI Class A, IC, C-Tick
Safety	• CB, cUL, LVD	• CB, cUL, LVD	• CB, cUL, LVD	• CB, cUL, LVD



• IPv6 Ready Logo Phase 2	• IPv6 Ready Logo Phase 2	• IPv6 Ready Logo Phase 2	• IPv6 Ready Logo Phase 2
Physical Stacking Up to 40G Stacking Bandwice Up to 6 units per Stack	dth	• Virtual Stacking - D-Link Single IP Managemer - Up to 32 units per Virtual Sta	
MAC Address Table: 16K Flow Control - 802.3x Flow Control - HOL Blocking Prevention Jumbo Frame up to 13K Bytes	 Spanning Tree Protocols 802.1D STP 802.1w RSTP 802.1s MSTP BPDU Filtering Root Restriction 	 Loopback Detection 802.3ad Link Aggregation Max. 32 groups per device/ 8 Gigabit ports per group 	• Port Mirroring - One-to-One - Many-to-One - Flow-based - RSPAN Mirroring
IGMP Snooping IGMP V1/v2/v3 Snooping IGMP v1/v2/v3 Snooping Supports 1024 IGMP groups Port/Host-based IGMP Snooping Fast Leave Limited IP Multicast Up to 24 IGMP filtering profiles, 32 ranges per profile		ast Leave	
• VLAN Group - Max. 4K VLAN Groups • GVRP - Max. 255 Dynamic VLAN Groups	 802.1Q Tagged VLAN Port-based VLAN 802.1v Protocol VLAN 	• Voice VLAN • MAC-based VLAN • ISM VLAN	• Asymmetric VLAN • Private VLAN • VLAN Trunking
 802.1p 8 queues per port Queue Handling Strict Priority Weighted Round Robin (WRR) Strict + WRR 	 CoS based on Switch Port VLAN ID 802.1p Priority Queues MAC Address IPv4 Address DSCP Protocol Type 	- TCP/UDP Port - User-Defined Packet Content - IPv6 Address - IPv6 Traffic Class - IPv6 Flow Label • Supports following actions for flows	 Remark 802.1 p Priority Ta Remark TOS/DSCP Tag Bandwidth Control Bandwidth Control Port-based (Ingress/Egree Min. Granularity 64 Kbps) Flow-based (Ingress/Egree Min. Granularity 64 Kbps)
Supports up to 1.5K Ingress access rules ACL based on - 802.1p Priority - VLAN ID	- MAC Address - Ether Type - IPv4 Address - DSCP - Protocol Type	- TCP/UDP Port Number - User-Defined Packet Content - IPv6 Address	 - IPv6 Flow Label - IPv6 Traffic Class • Time-based ACL • CPU Interface Filtering
• SSH v2 • SSL v1/v2/v3	Port Security Up to 64 MAC addresses per port/VLAN	 Broadcast/Multicast/Unicast Storm Control Traffic Segmentation D-Link Safeguard Engine 	NetBIOS/NetBEUI Filtering DHCP Server Screening ARP Spoofing Prevention BPDU Attack Protection
Port-based Access Control Host-based Access Control Identity-driven Policy (VLAN, ACL or QoS) Assignment Authentication Database Failover	(WAC): - Port-based Access Control	Access Control	
	 Up to 40G Stacking Bandwide Up to 6 units per Stack MAC Address Table: 16K Flow Control 802.3x Flow Control HOL Blocking Prevention Jumbo Frame up to 13K Bytes IGMP Snooping IGMP v1/v2/v3 Snooping Supports 1024 IGMP groups Port/Host-based IGMP Snood Limited IP Multicast Up to 24 IGMP filtering profitering profitering VLAN Group Max. 4K VLAN Groups GVRP Max. 255 Dynamic VLAN Groups 802.1p 8 queues per port Queue Handling Strict Priority Weighted Round Robin (WRR) Strict + WRR Supports up to 1.5K Ingress access rules ACL based on 802.1p Priority VLAN ID SSH v2 SSL v1/v2/v3 	 Physical Stacking Up to 40G Stacking Bandwidth Up to 6 units per Stack MAC Address Table: 16K Flow Control 802.3x Flow Control 802.3x Flow Control 802.3x Flow Control 802.1 w RSTP HOL Blocking Prevention 802.1 w RSTP Jumbo Frame up to 13K BPDU Filtering Bytes Root Restriction IGMP Snooping Supports 1024 IGMP groups Port/Host-based IGMP Snooping Fast Leave Limited IP Multicast Up to 24 IGMP filtering profiles, 32 ranges per profile VLAN Group Max. 4KVLAN Groups GVRP 802.1 p CoS based on Switch Port Switch Port Switch Port Strict Priority Strict Priority Strict + WRR DSCP Strict + WRR Strict + WRR SUpports up to 1.5K Ingress access rules Strict + WRR SUSP - Protocol Type SUpports up to 1.5K Ingress access rules Strict - WRR SSH v2 Port-based Access Control Host-based Access Control Host-based Access Control Host-based Access Control Charter Cop Solution (WAC): Port-based Access Control Act hentication Database 	Physical Stacking - Up to 40G Stacking Bandwidth - Up to 6 units per Stack MAC Address Table: 16K - Spanning Tree Protocols - Bo2.3x Flow Control - B02.3x Flow Control - Strict Priority - Strict



Management	 Web-based GUI (Supports IPv4) Command Line Interface (CLI) Telnet Server(Supports IPv4) Telnet Client(Supports IPv4) TFTP Client(Supports IPv4) ZModem SNMP v1/v2c/v3 	 SNMP v1/v2c/v3 SNMP Traps System Log (Supports IPv4 Log Server) RMON v1: Supports 1,2,3,9 groups RMON v2: Supports ProbeConfig group 	 LLDP BootP/DHCP Client DHCP Auto-Configuration DHCP Relay DHCP Relay Option 12 DHCP Relay Option 82 Flash File System Multiple Images Multiple Configurations 	 CPU Monitoring Debug Command SNTP Password Recovery Password Encryption Trusted Host Microsoft[®] NLB (Network Load Balancing) Support
MIB	RFC 1213 MIB II RFC 4188 Bridge MIB RFC 1157, 2571-2576 SNMP MIB RFC 1907 SNMPv2 MIB	• RFC 1757, 2819 RMON MIB • RFC 2021 RMONv2 MIB • RFC 1398, 1643, 1650, 2358, 2665 Ether-like MIB • RFC 2674 802.1p MIB	 RFC 2233, 2863 IF MIB RFC 2618 RADIUS Authentication Client MIB RFC 2620 RADIUS Accounting Client MIB 	 RFC 2925 PING & TRACEROUTE MIB RFC 2674, 4363 802.1p MIE RFC 1215 MIB Traps Convention
RFC Standard Compliance	 RFC 768 UDP RFC 791 IP RFC 792, 2463, 4443 ICMP RFC 793 TCP RFC 826 ARP RFC 3513, 4291, IPv6 Addressing Architecture RFC 2893, 4213 IPv4/IPv6 dual stack function 	 RFC 2463, 4443 ICMPv6 RFC 2462, 4862 IPv6 Stateless Address Auto Configuration RFC 2464 IPv6 Ethernet and definition RFC 1981 Path MTU Discovery for IPv6 RFC 2460 IPv6 	 RFC 2461, 4861 Neighbor Discovery for IPv6 RFC 783 TFTP RFC 854 Telnet RFC 951, 1542 BootP RFC 2068 HTTP RFC 1492 TACACS RFC 2866 RADIUS Accounting 	 RFC 2474, 3260 DiffServ RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP) RFC 2571, 2572, 2573, 2574 SNMP IPv6 Ready Logo Phase 2
Enhanced Image (EI) Features				
L2 Features	• Double VLAN (Q-in-Q) - Port-based Q-in-Q			
VLAN	• Double VLAN (Q-in-Q) - Port-based Q-in-Q			
L3 Features	Max. 16 IP Interfaces	• ARP Proxy ⁶	• IPv6 Neighbour Discovery (NI	D)
L3 Routing	Static Route - 512 static routing entries for	IPv4/IPv6		
Access Control List (ACL)	Supports up to 512 Egress acc	tess rules		
Security	• IP-MAC-Port Binding - ARP Packet Inspection - IP Packet Inspection		- DHCP Snooping - IPv6 ND Snooping - Support up to 510 Address Binding Entries per Device	
AAA	Compound Authentication			
Operation, Administration & Management (OAM)	• 802.3ah Ethernet Link OAM • 802.3ah D-Link Extension: D-link Unidirectional Link Detection (DULD) ⁶ • 802.1ag Connectivity Fault Management (CFM) • ITU-T Y.17316		anagement (CFM)	
Management	SNMP v1/v2c/v3 SNMP over IPv6	• ICMPv6 • Web-based GUI (Supports	• Telnet Server(Supports IPv6) ⁶	• TFTP Client(Supports IPv6

Part Number	Description
DGS-3120-24TC/SI	• xStack Managed 24-Port Gigabit Stackable L2+ Switch, 4 Combo SFP, 40-Gigabit Stacking, Standard Image
DGS-3120-24TC/EI	• xStack Managed 24-Port Gigabit Stackable L2+ Switch, 4 Combo SFP, 40-Gigabit Stacking, Enhanced Image
DGS-3120-48TC/SI	• xStack Managed 48-Port Gigabit Stackable L2+ Switch, 4 Combo SFP, 40-Gigabit Stacking, Standard Image
DGS-3120-48TC/EI	• xStack Managed 48-Port Gigabit Stackable L2+ Switch, 4 Combo SFP, 40-Gigabit Stacking, Enhanced Image
DGS-3120-24PC/SI ²	• xStack Managed 24-Port Gigabit Stackable L2+ PoE+ Switch, 4 Combo SFP, 40-Gigabit Stacking, Standard Image
DGS-3120-24PC/El ²	• xStack Managed 24-Port Gigabit Stackable L2+ PoE+ Switch, 4 Combo SFP, 40-Gigabit Stacking, Enhanced Image
DGS-3120-48PC/SI ²	• xStack Managed 48-Port Gigabit Stackable L2+ PoE+ Switch, 4 Combo SFP, 40-Gigabit Stacking, Standard Image
DGS-3120-48PC/El ²	• xStack Managed 48-Port Gigabit Stackable L2+ PoE+ Switch, 4 Combo SFP, 40-Gigabit Stacking, Enhanced Image

business



Optional Products

Optional Management S	ioftware
DV-600S	D-View 6.0 Network Management System (Standard Edition)
DV-600P	D-View 6.0 Network Management System (Professional Edition)
Optional Accessory	
DEM-CB50	• 50cm Stacking Cable (20")
DEM-CB100	• 100cm Stacking Cable (40")
Optional Redundant Pov	ver Supply
DPS-200	60 Watts Redundant Power Supply
DPS-500	• 140 Watts Redundant Power Supply
DPS-700	589 Watts Redundant Power Supply
DPS-800	• 2-slot redundant power supply chassis for DPS-200/300/500 Power Supplies
DPS-900	8-slot redundant power supply chassis for DPS-200/300/500 Power Supplies
Optional SFP Transceiver	2
DEM-310GT	• 1000BASE-LX, Single-mode, 10 km
DEM-311GT	• 1000BASE-SX, Multi-mode, 500 m
DEM-211	• 100BASE-FX, Multi-mode, 2 km

¹ For DGS-3120-24PC/48PC models only. ² This model will be available in the future.

³ By default, the fan speed is low. When over 40 °C, the fan switches to high speed and remains high until the temperature is down to 35 °C.
 ⁴ Supported from firmware R2.0 SI and above
 ⁵ Supported from GS-3120-24PC and DGS-3120-48PC only.
 ⁶ Supported from firmware R2.0 EI and above.

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