D-Link®
Building Networks for People

Product Highlights

Multiple Firmware Options

Versatility with a feature sets designed for the campus or enterprise environment. Multiple security technologies enhance network integrity.

High Availability and Expansion

Virtual Stacking provides agile expansion or redundancy. Reliability through fault tolerant topologies ensures rock-solid connectivity.

Comprehensive Security Solution

Support for Access Control List(ACL) and multiple user authentication methods as well as IP-MAC-Port Binding to help secure the network environment.

DGS-3120 Series
xStack L2+ Managed Gigabit Switches

Features

Flexible choices
- 24 or 48 10/100/1000 Mbps ports and 16 SFP ports (model-specific)
- 4 or 8 combo Gigabit copper/SFP uplinks for connections in enterprise or metropolitan areas
- 802.3af and 802.3at Power Over Ethernet support[4]

High Bandwidth Physical Stacking
- 2 dedicated stacking ports per switch
- Up to 40 Gbps full-duplex stacking bandwidth
- Up to 6 units (288 Gigabit ports) per stack

L2 Features
- 802.1D/802.1w/802.1s Spanning Tree
- Ethernet Ring Protection Switching (ERPS)[1]
- IGMP/MLD Snooping

OAM
- 802.3ah Link OAM
- 802.1ag, ITU-T Y.1731 Service OAM

The DGS-3120 Series xStack switches are enhanced L2+ Gigabit switches designed to connect end-users in a secure campus or enterprise network. These switches support physical stacking[1], 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. The DGS-3120-24SC provides 16 SFP Gigabit Ethernet ports and 8 combo 1000BASE-T/SFP Gigabit ports. Each 10/100/1000 Mbps port on the DGS-3120-24PC/48PC supports the 802.3af and 802.3at Power over Ethernet standards. The default power budget for these models is 370 watts and can be expanded to 760 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 as well as conveniently save syslog files onto the SD Card.

Standard and Enhanced Images

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

Enhanced Network Reliability

The DGS-3120 Series targets enterprises, campuses, and customers who require a high level of network security and maximum uptime. All the models in the 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 enhances network resilience. G.8032 Ethernet Ring Protection Switching (ERPS)[2] minimizes the recovery time to 50 ms. For load sharing and redundancy backup in a 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)[1] 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 compromised 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 such as VoIP, video conferencing, IPTV, and IP surveillance are given high priority. Traffic Shaping features guarantee bandwidth for these services when the network is busy. L2 Multicast support enables the DGS-3120 to handle growing IPTV applications. Host-based IGMP/MLD Snooping allows multiple multicast subscribers per physical interface and ISM VLAN to send multicast streams in a multicast VLAN 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 quickly and easily.

D-LinkAssist
Rapid Response Support

If the worst should happen to your network you need the very best support and fast. Downtime costs your business money. D-Link Assist maximises your uptime by solving technical problems quickly and effectively. Our highly trained technicians are on standby around the clock, ensuring that award-winning support is only a phone call away.

With a choice of three affordable service offerings covering all D-Link business products, you can select the package that suits you best:

D-Link Assist Gold - for comprehensive 24-hour support

D-Link Assist Gold is perfect for mission-critical environments where maximum uptime is a high priority. It guarantees four hour around-the-clock response. Cover applies 24/7 for every day of the year including holidays.

D-Link Assist Silver - for prompt same-day assistance

D-Link Assist Silver is designed for 'high availability' businesses that require rapid response within regular working hours. It provides a four hour response service Monday to Friday from 8am to 5pm, excluding holidays.

D-Link Assist Bronze - for guaranteed response on the next business day

D-Link Assist Bronze is a highly cost-effective support solution for less critical environments. Response is guaranteed within eight business hours Monday to Friday from 8am to 5pm, excluding holidays.

D-Link Assist can be purchased together with any D-Link business product. So whether you're buying switching, wireless, storage, security or IP Surveillance equipment from D-Link, your peace of mind is guaranteed. D-Link Assist also offers installation and configuration services to get your new hardware working quickly and correctly.

Proactive, Effective Network Management

To uphold enterprise customers' Service Level Agreements (SLA), service providers must reduce their 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 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 ensures the conformance and interoperability of IPv6 products.

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, and cable length detection. The power-saving feature automatically powers down ports that have no link or link partner. The Smart Fan feature enables the built-in fans to automatically turn on at a certain temperature, providing continuous, reliable, and ecofriendly operation of the switch. Energy Efficient Ethernet (EEE) standard is also supported, which helps to reduce the operating cost of the DGS-3120 Series.

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.

Technical Specifications

Interfaces	DGS-3120-24TC	DGS-3120-48TC	DGS-3120-24PC
Ports	• 20 10/100/1000BASE-T ports • 4 Combo 10/100/1000BASE-T/SFP ports	• 44 10/100/1000BASE-T ports • 4 Combo 10/100/1000BASE-T/SFP ports	• 20 10/100/1000BASE-T ports • 4 Combo 10/100/1000BASE-T/SFP ports
Optional Redundant Power Supply	• DPS-200	• DPS-500/DPS-500DC	• DPS-700
Console Port	• RJ-45		
Stacking Port[1]	• 2		
SD Card Slots	• 1		
Performance			
Switching Capacity	• 88 Gbps	• 136 Gps	• 88 Gps
64-Byte Packet Forwarding Rate	• 65.48 Mbps	• 101.19 Mbps	• 65.48 Mbps
Packet Buffer Memory	• 2 MB		
Flash Memory	• 32 MB		
PoE			
PoE Standards	-	-	• 802.3af and 802.3at
PoE Power Budget	-	-	• 370 watts • 760 watts (with DPS-700 RPS)
Physical			
MTBF (Hours)	• 344511.586 hours	• 275755.660 hours	• 272292.426 hours
Acoustics	• Max: 44.2 dB; Min: 28.1 dB	• Max: 49.6 dB; Min: 37.7 dB	• Max: 52.5 dB; Min: 38.1 dB
Heat Dissipation	• 121.055 BTU/h	• 209.715 BTU/h	• 1665.10 BTU/h (with 370 W PoE load) • 3227.9 BTU/h (with 760 W PoE load)
Power Input	• 100 to 240 VAC, 50 to 60 Hz		
Max Power Consumption	• 35.5 watts	• 61.5 watts	• 488.3 watts (with 370 W PoE load) • 946.6 watts (with 760 W PoE load)
Dimensions (W xD x H)	• 440 x 210 x 44 mm (17.32 x 8.27 x 1.73 inches)	• 440 x 310 x 44 mm (17.32 x 12.20 x 1.73 inches)	• 440 x 310 x 44 mm (17.32 x 12.20 x 1.73 inches)
Weight	• 2568 g (5.66 pounds)	• 4537 g (10 pounds)	• 5312 g (11.71 pounds)
Ventilation	• Smart Fan[2] (High Speed at > 40 ˚C; Low Speed at < 35 ˚C)		
Operation 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, BSMI		
Safety	• CB, cUL, LVD, BSMI		
Certification	• IPv6 Ready Logo Phase 2		

Technical Specifications

Interfaces	DGS-3120-48PC	DGS-3120-24SC
Ports	• 44 10/100/1000BASE-T Ports • 4 Combo 10/100/1000BASE-T/SFP Ports	• 16 SFP Ports • 8 Combo 10/100/1000Base-T/SFP Ports
Optional Redundant Power Supply	• DPS-700	• DPS-200
Console Port	• RJ-45	
Stacking Port[1]	• 2	
SD Card Slots	• 1	

Performance		
Switching Capacity	• 136 Gps	• 88 Gps
64-Byte Packet Forwarding Rate	• 101.19 Mbps	• 65.48 Mbps
Packet Buffer Memory	• 2 MB	
Flash Memory	• 32 MB	

PoE		
PoE Standards	• 802.3af and 802.3at	-
PoE Power Budget	• 370 watts • 760 watts (with DPS-700 RPS)	-

Physical		
MTBF (Hours)	• 213575.316 hours	• 433404.414 hours
Acoustics	• Max: 50.2 dB; Min: 37.3 dB	• Max: 46.7 dB; Min: 30.2 dB
Heat Dissipation	• 1838 BTU/h (with 370 W PoE load) • 3283.83 BTU/h (with 760 W PoE load)	• 114.235 BTU/h
Power Input	• 100 to 240 V AC, 50 to 60 Hz	
Max Power Consumption	• 539 watts (with 370 W PoE load) • 963 watts (with 760 W PoE load)	• 33.5 watts
Dimensions (W xD x H)	• 440 x 380 x 44 mm (17.32 x 14.96 x 1.73 inches)	• 440 x 210 x 44 mm (17.32 x 8.27 x 1.73 inches)
Weight	• 6420 g (14.15 pounds)	• 2643 g (5.83 pounds)
Ventilation	• Smart Fan[2] (High Speed at > 40 ˚C; Low Speed at < 35 ˚C)	
Operation 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, BSMI	• FCC Class A, CE Class A, VCCI Class A, IC, C-Tick
Safety	• CB, cUL, LVD, BSMI	• CB, cUL, LVD
Certification	• IPv6 Ready Logo Phase 2	

Software Features - Standard Image (SI) Features		
Stackability	• Physical Stacking • Up to 40G Stacking Bandwidth • Up to 6 units per Stack	• Virtual Stacking • D-Link Single IP Management (SIM) • Up to 32 units per Virtual Stack	
L2 Features	• MAC Address Table: 16K entries • Flow Control • 802.3x Flow Control • HOL Blocking Prevention • Jumbo Frames up to 13 Kbytes • 802.3ad Link Aggregation • Max. 32 groups per device, 8 Gigabit ports per group	• Spanning Tree Protocols • 802.1D STP • 802.1w RSTP • 802.1s MSTP • BPDU Filtering • Root Restriction • Loopback Detection	• Port Mirroring • One-to-One • Many-to-One • Flow-based • RSPAN Mirroring
L2 Multicasting	• IGMP 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	• MLD Snooping • MLD v1/v2 Snooping • Support 1024 MLD Groups • Host-based MLD Snooping Fast Leave
VLAN	• 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
QoS (Quality of Service)	• 802.1p • 8 queues per port • Queue Handling • Strict Priority • Weighted Round Robin (WRR) • Strict + WRR • Supports following actions for flows • Remark 802.1p Priority Tag • Remark TOS/DSCP Tag • Bandwidth Control	• 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	• Bandwidth Control • Port-based (Ingress/Egress, Min. Granularity 8 Kbps) • Flow-based (Ingress/Egress, Min. Granularity 8 Kbps) • Three Color Marker • CIR/PIR minimum granularity: 8 kbps • Two Rate Three Color Marker (trTCM), CBS/PBS • Single Rate Three Color Marker (srTCM), CBS/EBS
Access Control List (ACL)	• 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	• Supports up to 1.5K Ingress access rules • Time-based ACL • CPU Interface Filtering	
Security	• 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 • DoS Attack Prevention • BPDU Attack Protection
AAA	• 802.1X: • Port-based Access Control • Host-based Access Control • Identity-driven Policy (VLAN, ACL or QoS) Assignment • Authentication Database Failover • Web-based Access Control (WAC): • Port-based Access Control • Host-based Access Control • Identity-driven Policy (VLAN, ACL or QoS) Assignment • Authentication Database Failover	• MAC-based Access Control (MAC): • Port-based Access Control • Host-based Access Control • Identity-driven Policy (VLAN, ACL or QoS) Assignment • Authentication Database Failover • Japan Web-based Access Control (Host-based JWAC) • Guest VLAN	• Microsoft® NAP • Support 802.1X NAP • Support DHCP NAP • RADIUS Accounting • TACACS+ Accounting • RADIUS and TACACS authentication for switch access • Four levels of User Account control

Green Features	• Compliant with RoHS • Power Saving by Link Status	• Power Saving by Cable Length • Time-based PoE[3]	• IEEE 802.3az Energy Efficient Ethernet (EEE)
Operation, Administration & Management (OAM)	• Cable Diagnostics		

Management	• Web-based GUI
	• Command Line Interface (CLI)
	• Telnet Server
	• Telnet Client
	• TFTP Client
	• ZModem
	• SNMP v1/v2c/v3
	• SNMP Traps
	• System Log
	• RMON v1:
	  • Supports 1,2,3,9 groups
		• RMON v2:
		  • Supports ProbeConfig group
		• LLDP
		• BootP/DHCP Client
		• DHCP Auto-Configuration
		• DHCP Relay
		• DHCP Client 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
			• ICMPv6

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 MIB • RFC1065, 1066, 1155, 1156, 2578 MIB Structure	• RFC 1215 MIB Traps Convention • RFC1212 Concise MIB Definitions • RFC1215 MIB Traps Convention • RFC1157, 2571-2576 SNMP MIB • RFC4022 MIB for TCP • RFC4113 MIB for UDP • RFC4293 IPv6 SNMP Mgmt Interface MIB
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 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 • RFC 854 Telnet • RFC 951, 1542 BootP

Software Features - Enhanced Image (EI) Features

L2 Features	• Ethernet Ring Protection Switching (ERPS)		
VLAN	• Double VLAN (Q-in-Q) • Port-based Q-in-Q		
L3 Features	• Max. 16 IP Interfaces	• IPv6 Neighbour Discovery (ND)	• ARP Proxy
L3 Routing	• Static Route • 512 static routing entries for IPv4/IPv6		
Access Control List (ACL)	• Supports up to 512 egress access 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)	• 802.1ag Connectivity Fault Management (CFM)	• ITU-T Y.1731
Management	• sFlow	• PPPoE Circuit-ID Tag Insertion	

Optional Products - Accessories	
DEM-CB50	50 cm Stacking Cable
DEM-CB100	100 cm Stacking Cable
DEM-CB300	300 cm Stacking Cable
DEM-CB50ICX	50 cm Cable for connecting with CX4 devices
Optional Products - Redundant Power Supply	
DPS-200	60 watt Redundant Power Supply
DPS-500	140 watt Redundant Power Supply
DPS-700	589 watt Redundant Power Supply
DPS-800	2-slot Redundant Power Supply Chassis
Optional Products - SFP Transceivers	
DEM-310GT	1000BASE-LX, Single-mode, 10 km
DEM-311GT	1000BASE-SX, Multi-mode, 500 m
DEM-314GT	1000BASE-LHX, Single-mode, 50 km
DEM-210	100BASE-FX, Single-mode, 15 km
DEM-211	100BASE-FX, Multi-mode, 2 km
Optional Management Software	
DV-700	D-View 7 Network Management Software (downloadable from **http://dview.dlink.com**)
DV-700-N25-LIC	D-View 7 License for 25 Nodes
DV-700-N250-LIC	D-View 7 License for 250 Nodes
DV-700-P10-LIC	D-View 7 License for 10 Probes

[1] Only supported in EI mode
[2] By default, the fan speed is low. When over 40 ˚C, the fan switches to high speed and remains high until the temperature drops below 35 ˚C.
[3] Supported in DGS-3120-24PC and DGS-3120-48PC only.
[4] Stacking cable and SD card are not included

For more information: www.dlink.com

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