D-Link®
Building Networks for People

Product Highlights

10 Gigabit Connectivity

10G physical stacking and/or uplink eliminates the bottleneck of stacking backbone servers, and storage accesses

Comprehensive Management

Intuitive graphical Web UI complete with 10 languages for SMB; Comprehensive Command Line Interface (CLI) and SNMP for Out-of-band console management

Layer 3 Lite Functions

Wired speed inter-VLAN routing helps by reducing the pressure of routers and backbone networks, improving the overall network efficiency

DGS-1510 Series
Gigabit Stackable Smart Managed Switches

Features

Advanced Features
- Physical Stacking via 2 10G ports, stack up to 6 devices
- Single IP Management (Virtual Stacking), stack up to 32 devices
- Static Routing
- Auto Surveillance VLAN
- Auto Voice VLAN
- Loopback Detection
- LLDP/LLDP-MED

Security Features
- Access Control List
- D-Link Safeguard Engine
- BPDU Attack Protection
- ARP Spoofing Prevention
- IP-MAC-Port Binding
- DoS Attack Prevention
- Clientless MAC/Web Access Control

Intuitive Management
- Multi-language Web-based GUI
- Built-in SNMP MIB for remote Network Management Systems
- Comprehensive CLI support
- Manageability in both IPv4/IPv6 environments
- Dual Image
- D-Link Network Assistant (DNA) Utility for Easy Installation
- Console Interface for Out-of-band Management

Green Technology
- IEEE 802.3az Energy Efficient Ethernet
- D-Link Green 3.0 power-saving features

The DGS-1510 Series is D-Link's latest generation of Smart Managed switches with 10G port connectivity, making them ideal for deployment in SME/SMB aggregation environments. The DGS-1510 Series provides a reliable and scalable interconnection between core switches and edge switches with rich capabilities and simplified flexibility. Available in 16, 24 or 48 10/100/1000 Mbps port models, with additional fibre ports for physical stacking and / or uplinks.

The DGS-1510 Series PoE-enabled switches are ideal for businesses looking to power VoIP phones, wireless access points or network cameras. The DGS-1510-28P 24-port PoE Switch supports up to 30W of power output giving you flexibility in power allocation for a variety of powered devices. This enables you to scale your operations to meet business growth and incorporate new technologies all with affordable installation costs.

10G SFP+ Stacking/Uplink Ports

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. 6 units or 288 Gigabit ports can be configured as a stack using optional direct attach cables to provide high bandwidth on the DGS-1510 Series with cost efficiency. Users can mix from any of the DGS-1510 Series in a single stack to allow simultaneous and easy configuration, management and troubleshooting. With 20Gbps full duplex, the DGS-1510 Series offers 10G connectivity to core networks as well as servers with 10G capability while maintaining high performance and minimal impact to the data transfer rates.

Layer 3 Traffic Management

The DGS-1510 Series provides static route, allowing you to segment your network into workgroups and communicate across VLANs without degrading application performance. With these capabilities, you can boost the efficiency of your network by offloading internal traffic-handling tasks from your router and allowing it to manage external traffic and security.

Extensive Layer 2 Features

The DGS-1510 Series switches are equipped with a complete lineup of Layer 2 features including IGMP Snooping, Port Mirroring, Spanning Tree, and Link Layer Discovery Protocol (LLDP). The IEEE 802.3x Flow Control function allows servers to directly connect to the switch for fast, reliable data transfer. Network maintenance features include Loopback Detection and Cable Diagnostics. Loopback Detection is used to detect loops created by a specific port or VLAN and automatically shuts down the affected port or VLAN. The Cable Diagnostics feature, designed primarily for administrators and customer service representatives, can quickly discover the type of error on cables as well as determine cable quality.

Traffic Classification & QoS

The DGS-1510 Series supports Auto Surveillance VLAN (ASV) and Auto Voice VLAN, which are best suited for VoIP and video surveillance deployments. Auto Surveillance VLAN is a new, industry-leading technology built into D-Link Smart Switches. This technology consolidates data and surveillance video transmission through a single Smart Managed switch, sparing businesses the expense of maintaining expensive dedicated hardware and facilities. ASV also ensures the quality of real-time video for monitoring and control without compromising the transmission of conventional network data. The Auto Voice VLAN technology enhances VoIP service by automatically placing voice traffic from an IP phone to an assigned VLAN. With higher priority and an individual VLAN, these features guarantee the quality and security of VoIP traffic. Furthermore, the DSCP markings on Ethernet packets enable different levels of service to be assigned to network traffic. As a result, these voice and video packets take precedence over other packets. In addition, with per flow Bandwidth Control, network administrators can reserve bandwidth for important functions that require more bandwidth or might require high priority.

Securing Your Network

D-Link's innovative Safeguard Engine protects the switches against traffic flooding caused by malicious attacks. The switches also support 802.1X port-based authentication, allowing the network to be authenticated through external RADIUS servers.

The DGS-1510 Series has both MAC & Web-based Access Control supported, these provide a user friendly way to alleviate deployment time, giving customers an effective and efficient authentication choice without the complexity in securing their networks.

Additionally, the Access Control List (ACL) feature enhances network security and helps to protect the internal IT network by screening ingress traffic based on any user defined content. The DGS-1510 Series includes ARP Spoofing Prevention, which protects from attacks on the Ethernet network that may allow an intruder to sniff data frames, modify traffic, or bring traffic to a halt altogether by sending fake ARP messages to the network. For added security, the DHCP Server Screening feature screens rogue DHCP server packets from user ports to prevent unauthorized IP assignment.

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.

IPv6 Ready

The DGS-1510 Series is IPv6 ready and supports various IPv6 functions such as MLD Snooping, IPv6 ACL/QoS, and IP-MAC-Port Binding (IMPB) to ensure seamless integration of next generation networks. The DGS-1510 Series also supports a IPv4/v6 dual stack function that allows the switch to act as a bridge between IPv4 and IPv6 networks.

Versatile Management

The DGS-1510 Series supports virtual stacking via D-Link's Single IP Management (SIM), allowing up to 32 devices to be managed via a single IP. This simplifies management of small workgroups or wiring closets while reducing the number of IP address needed in your network.

The DGS-1510 Series provides a D-Link Network Assistant Utility and a web-based management interface that enables administrators to easily setup and remotely manage their networks respectively. The D-Link Network Assistant Utility allows customers to easily discover and perform initial setup on multiple D-Link products simultaneously. This greatly reduces the deployment time for services required by network administrators such as device firmware upgrades, configuration backup and restoration, setting IP addresses or even solution deployment like ASV.

The DGS-1510 Series also supports fully featured Command Line Interface (CLI) and SNMP MIBs. It provides the capability of central management in a large scale network. CLI management of the switches is also available via console port. With out-of-band manageability (console), accessing the switch is still possible even if its network data plane is overwhelmed by bulk or malicious traffic.

Energy Saving

DGS-1510 Series switches are capable of conserving power without sacrificing operational performance or functionality by using D-Link Green 3.0 technology. Using the 802.3az Energy Efficient Ethernet standard, the network will automatically decrease the power usage when traffic is low with no setup required. For environments not fully supporting the standard, DGS-1510 switches offer advanced power-saving settings including port shutoff, LED shutoff, and system hibernation based on custom scheduling profiles. The profiles can also be applied to the PoE switch so that there is no unnecessary power consumption during off hours.

DGS-1510-20

DGS-1510-28

DGS-1510-28P

DGS-1510-28X

DGS-1510-52

Technical Specifications

General	DGS-1510-20	DGS-1510-28	DGS-1510-28X	DGS-1510-52
Port Standards & Functions	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, 802.3ae 10 GbE, IEEE 802.3x Flow Control for Full-Duplex Mode, Auto-negotiation			
Number of Ports	16 10/100/1000 Mbps, 2 Gigabit SFP, 2 10G SFP+	24 10/100/1000 Mbps, 2 Gigabit SFP, 2 10G SFP+	24 10/100/1000Mbps, 4 10G SFP+	48 10/100/1000 Mbps, 2 Gigabit SFP, 2 10G SFP+
Network Cables	UTP Cat. 5, Cat. 5e (100 m max.) EIA/TIA-568 100-ohm STP (100 m max.)			
Full/Half Duplex	Full/half duplex for 10/100 Mbps and Gigabit speed			
Media Interface Exchange	Auto or configurable MDI/MDIX			
Performance				
Switching Capacity	76 Gbps	92 Gbps	128Gbps	140 Gbps
Transmission Method	Store-and-forward			
MAC Address Table	Up to 16,000 entries per device			
MAC Address Update	Up to 512 static MAC entries Enable/disable auto-learning of MAC addresses			
Maximum 64 bytes Packet Forwarding Rate	56.54 Mpps	68.45 Mpps	95.24Mpps	104.16 Mpps
Packet Buffer Memory	1.5 MB per device			3 MB per device
MTBF	882152.37 hours	516593.25 hours	516593.25 hours	433434.16 hours
Physical & Environment				
AC Input	100 to 240 VAC 50/60 Hz internal universal power supply			
Maximum Power Consumption	20.3 W	24 W	22.3 Watts	38.4 W
Standby Power Consumption	12.2 W	15.2 W	15.2 W	27.6 W
Smart Fan Quantity	1	1	1	2
Acoustics	43.8 dB(A)	43.8 dB(A)	42.7 dB(A)	44.2 dB(A)
Heat Dissipation	41.602 BTU/hr	72.292 BTU/hr	76.043 BTU/hr	130.944 BTU/hr
Operation Temperature	-5 to 50 ˚C (23 to 122 ˚F)			
Storage Temperature	-20 to 70˚C (-4 to 158 ˚F)			
Operation Humidity	0% to 95% non-condensing			
Storage Humidity	0% to 95% non-condensing			
Dimensions	280 x 180 x 44 mm (11 x 7.09 x 1.73 inches) 19" standard rack mounting width, 1U height	440 x 210 x 44 mm (17.36 x 8.26 x 1.73 inches) 19" standard rack mounting width, 1U height	440 x 210 x 44 mm (17.36 x 8.26 x 1.73 inches) 19" standard rack mounting width, 1U height	440 x 250 x 44 mm (17.36 x 9.84 x 1.73 inches) 19" standard rack mounting width, 1U height
Weight	1.24 kg	2.00 kg	2.00 kg	2.40 kg
Diagnostic LEDs	Power/Stacking ID/Fan (per device), Link/Activity/Speed (per 10/100/1000 Mbps port), Link/Activity/Speed (per Gigabit SFP port), Link/Activity/Speed (per 10G SFP+ port)			
Certifications	CE, FCC, C-Tick, VCCI, BSMI, CCC			
Safety	cUL, CB			

Technical Specifications

General	DGS-1510-28P
Port Standards & Functions	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, 802.3ae 10 GbE, IEEE 802.3x Flow Control for Full-Duplex Mode, Auto-negotiation
Number of Ports	24 10/100/1000 Mbps PoE capable, 2 Gigabit SFP, 2 10G SFP+
Network Cables	UTP Cat. 5, Cat. 5e (100 m max.); EIA/TIA-568 100-ohm STP (100 m max.)
Full/Half Duplex	Full/half duplex for 10/100 Mbps and Gigabit speed
Media Interface Exchange	Auto or configurable MDI/MDIX
Performance	
Switching Capacity	92 Gbps
Transmission Method	Store-and-forward
MAC Address Table	Up to 16,000 entries per device
MAC Address Update	Up to 512 static MAC entries, Enable/disable auto-learning of MAC addresses
Maximum 64 bytes Packet Forwarding Rate	68.45 Mpps
Packet Buffer Memory	1.5 MB per device
MTBF	275428.54 hours
PoE	
PoE Standard	IEEE 802.3af, 802.3at
PoE Capable Ports	Ports 1 to 24: Up to 30 W
PoE Power Budget	Max. 193 W
Physical & Environment	
AC Input	100 to 240 VAC 50/60 Hz internal universal power supply
Maximum Power Consumption	238.7 W (PoE on), 29 W (PoE off)
Standby Power Consumption	21 W
Smart Fan Quantity	2
Acoustics	46.4 dB(A)
Heat Dissipation	813.967 BTU/hr
Operation Temperature	-5 to 50 ˚C (23 to 122 ˚F)
Storage Temperature	-20 to 70˚C (-4 to 158 ˚F)
Operation Humidity	0% to 95% non-condensing
Storage Humidity	0% to 95% non-condensing
Dimensions	440 x 210 x 44 mm (17.36 x 8.26 x 1.73 inches) 19” standard rack mounting width, 1U height
Weight	2.54 kg
Diagnostic LEDs	Power/Stacking ID/Fan Error/PoE Push Button (per device), Link/Activity/Speed/PoE Mode (per 10/100/1000 Mbps port), Link/Activity/Speed (per SFP port), Link/Activity/Speed (per 10G SFP+ port)
Certifications	CE, FCC, C-Tick, VCCI, BSMI, CCC
Safety	cUL, CB

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 full duplex
		  • Up to 6 units per stack

L2 Features	• MAC Address Table: Up to 16K
	• Flow Control
	  • 802.3x Flow Control
	  • HOL Blocking Prevention
	• Jumbo Frame up to 9000 Bytes
	• IGMP Snooping
	  • IGMP v1/v2 Snooping
	  • IGMP v3 awareness
	  • Supports 512 IGMP groups
	  • Supports 128 static multicast addresses
	  • IGMP per VLAN
	  • Supports IGMP Snooping Querier
	  • Host-based IGMP Snooping Fast Leave
	• MLD Snooping
	  • Supports MLD v1/v2 awareness
	  • Supports 512 groups
	  • Supports 128 Static Multicast Addresses
	  • Per VLAN MLD Snooping
	  • Host-based MLD Fast Leave
	  • MLD Snooping Querier
		• Spanning Tree Protocol
		  • 802.1D STP
		  • 802.1w RSTP
		  • 802.1s MSTP
		• Loopback Detection
		• 802.3ad Link Aggregation
		  • Max. 32 groups per device/8 ports per group
		• Port Mirroring
		  • Support 4 mirroring groups
		  • One-to-One, Many-to-One
		  • Supports Mirroring for Tx/Rx/Both
		• Multicast Filtering
		  • Forwards all unregistered groups
		  • Filters all unregistered groups

VLAN	• 802.1Q Tagged VLAN • 4K VLAN Groups • Configurable VID: 0~4094 • GVRP	• Asymmetric VLAN • Auto Voice VLAN • Auto Surveillance VLAN

Quality of Service (QoS)	• CoS based on
	  • 802.1p priority
	  • VLAN
	  • MAC address
	  • Ether type
	  • IP address
	  • DSCP
	  • Protocol type
	  • TCP/UDP port number
	  • DSCP of IPv6 Traffic Class
	  • IPv6 flow label
		• 802.1p Quality of Service
		• Queue Handling
		  • Strict Priority Queue (SPQ
		  • Weighted Round Robin (WRR)
		  • Deficit Round Robin (DRR)
		  • SPQ + WRR
		• 8 queues per port
		• Bandwidth Control
		  • Port-based (Ingress/Egress, min. granularity for 10/100/1000 BASE-T ports is 64 Kb/s)

L3 Features	• ARP
	  • 256 Static ARP
	  • Supports Gratuitous ARP
	• IPv6 Neighbour Discovery (ND)
	• 8 IP interfaces
		• Default Routing
		• Static Routing
		  • 64 IPv4 Static Route Entries
		  • 32 IPv6 Static Route Entries

Access Control List (ACL)	• ACL based on
	  • 802.1p priority
	  • VLAN
	  • MAC address
	  • Ether type
	  • IP address
	  • DSCP
	  • Protocol type
	  • TCP/UDP port number
	  • DSCP of IPv6 Traffic Class
	  • IPv6 flow label
		• ACL Actions
		  • Permit
		  • Deny
		• Max. 256 access list
		• Max. 768 rules
		• Single or multiple ports (each rule)
		• Time-based ACL
		• ACL Statistics

Security	• Port Security
	  • Supports up to 128 MAC addresses per port
	• Broadcast/Multicast/Unicast Storm Control
	• Dynamic ARP Inspection
	• Static MAC
	• D-Link Safeguard Engine
	• DHCP Server Screening
	• ARP Spoofing Prevention
	  • Max. 64 entries
	• SSH
	  • Supports v2
	  • Supports IPv4/IPv6
	• BPDU Attack Protection
	• DoS Attack Prevention
		• SSL
		  • Supports v1/v2/v3
		  • Supports IPv4/IPv6
		• Traffic Segmentation
		• IP-MAC-Port Binding
		  • DHCP snooping
		  • IP Source Guard
		  • Dynamic ARP Inspection
		  • DHCPv6 Guard
		  • IPv6 RA Guard
		  • IPv6 Snooping
		  • IPv6 Source Guard
		  • IPv6 ND Inspection

AAA	• Compound Authentication
	• 802.1X Port and MAC-based Authentication
	  • Supports RADIUS and Local Server
	  • Supports EAP, OTP, TLS, TTLS, PEAP
	• Web-based Access Control (WAC)
	  • Port-based Access Control
	  • Host-based Access Control
	  • Dynamic VLAN Assignment
	• Guest VLAN
	• RADIUS and TACACS+ authentication for switch access
	• RADIUS and TACACS+ accounting
		• MAC-based Access Control (MAC)
		  • Port-based Access Control
		  • Host-based Access Control
		  • Dynamic VLAN Assignment
		• Japan Web-based Access Control (JWAC)
		  • Port-based Access Control
		  • Host-based Access Control
		  • Dynamic VLAN Assignment

Software Features		
OAM	• Cable Diagnostics	• Factory Reset

Management	• Command Line Interface (CLI)
	• Telnet Server
	• TFTP Client
	• IPv6 Neighbor Discovery
	• Configurable MDI/MDIX
	• SNMP
	  • Supports v1, v2c, v3
	• SNMP Trap
	• System Log
	  • Max. 10,000 log entries
	• Debug command
	• Dual images
		• DHCP Client
		• D-Link Network Assistant support
		• SNTP
		• ICMPv6
		• IPv4/v6 Dual Stack
		• DHCP Auto Configuration
		• RMON v1
		• LLDP, LLDP-MED
		• DHCP relay
		• Web-based GUI
		• TFTP Client

D-Link Green 3.0 Technology	• Power Saving by:
	  • Link Status
	  • LED or Port Shutoff
		• System Hibernation mode
		• Time-based PoE (PoE model only)

Optional SFP Transceivers	
DEM-310GT	1000BASE-LX, single-mode, 10 km
DEM-311GT	1000BASE-SX, multi-mode, 550 m
DEM-312GT2	1000BASE-SX, multi-mode, 2 km
DEM-314GT	1000BASE-LHX, single-mode, 50 km
DEM-315GT	1000BASE-ZX, single-mode, 80 km

Optional SFP+ Transceivers	
DEM-431XT	10GBASE-SR SFP+ Transceiver (without DDM), 80m: OM1 & OM2 MMF,300m: OM3 MMF
DEM-431XT-DD	10GBASE-SR SFP+ Transceiver (with DDM), 80m: OM1 & OM2 MMF, 300m: OM3 MMF
DEM-432XT	10GBASE-LR SFP+ Transceiver (without DDM), 10km
DEM-432XT-DD	10GBASE-LR SFP+ Transceiver (with DDM), 10km

Optional SFP+ Direct Attach Stacking Cables	
DEM-CB100S	10-GbE SFP+ 1 m Direct Attach Cable
DEM-CB300S	10-GbE SFP+ 3 m Direct Attach Cable

For more information: www.dlink.com

D-Link
Building Networks for People