D-Link

Lifetime Warranty

Product Highlights

10 Gigabit Connectivity

High bandwidth uplinks eliminate network bottlenecks and provide low-latency connections for network servers and storage

Comprehensive Management

An intuitive web interface, SNMP support, and a powerful Command Line Interface provide a complete set of management features

Layer 3 Functions

Wire-speed inter-VLAN routing reduces the load on routers and backbone networks, improving overall network efficiency

DGS-1510 Series

Gigabit Stackable Smart Managed Switches with 10G Uplinks

Features

Advanced Features

- Physical Stacking of up to 6 devices via 2 10G ports
- Ethernet Ring Protection Switching (ERPS)
- Static Routing
- Auto Surveillance VLAN
- Auto Voice VLAN
- Loopback Detection
- LLDP/LLDP-MED

Security Features

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

Intuitive Management

- Web-based Graphical User Interface - Standard Mode or Surveillance Mode
- Built-in SNMP MIB for remote network management systems
- Comprehensive CLI support
- Manageability for both IPv4/IPv6 environments
- Dual image support
- D-Link Network Assistant (DNA) utility for easy installation and maintenance
- Console interface for out-of-band managment

Green Technology

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

Overview

The DGS-1510 Series is D-Link's latest generation of stackable Gigabit switches with 10G port connectivity, suitable for business networks of all sizes. The DGS-1510 Series provides a reliable, scalable, and modular interconnection between core switches and edge switches with rich capabilities and simplified flexibility. Available in 16, 24 and 48 10/100/1000 Mbps port models, these switches also include four optical ports – including two or four 10G SFP+ ports.

Power over Ethernet

All 10/100/1000 Mbps ports on the DGS-1510-28P, DGS-1510-28XMP and DGS-1510-52XMP are PoE-enabled, for powering devices such as IP cameras, VoIP phones and wireless access points. Compliant with IEEE 802.3af and IEEE 802.3at, these models support up to 30W of power output on any particular PoE port. The total PoE power budgets are 193W for the DGS-1510-28P, and 370W for the DGS-1510-28XMP and DGS-1510-52XMP. Additionally, the power budget for the DGS-1510-52XMP can be increased to 740W when utilized with the DPS-700 redundant power supply, allowing the switch to power even more devices.

Time-based PoE enables power to a port to be shut off at a scheduled time, reducing power usage and helping to increase security by powering off devices that should not be in use during non-business hours. A unique "PD-alive" feature, ideal for surveillance networks, pings attached PDs (IP Cameras, wireless access points) and resets the PoE power when inactivity is detected.

10G SFP+ Stacking/Uplink Ports

The last two SFP+ ports of the DGS-1510 Series switches allow users to create a physical stack of up to 6 units in a fault-tolerant ring or linear topology using Direct Attach Copper (DAC) cables or any compatible SFP+ transceiver[1]. This creates a total of 288

Gigabit ports, ensuring high bandwidth while staying cost-efficient. Meanwhile, the remaining uplink ports can be used for other functions, such as connecting to a larger network. Network administrators can also easily configure and manage any of the DGS-1510 Series Smart Managed switches in a single stack. With 20 Gbps full-duplex capabilities, the DGS-1510 Series offers 10G connectivity to core networks and servers while still maintaining fast data transfer rates.

Layer 3 Traffic Management

The DGS-1510 Series provides static routing, allowing network segmentation into workgroups that communicate between VLANs and increase application performance. With these capabilities, network administrators can reduce the load on core devices, creating a scalable and efficient network.

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 automatically detects and shuts down loops created by a specific port or VLAN. The Cable Diagnostics feature, designed primarily for administrators and customer service representatives, can determine cable quality and can quickly discover sections of cabling that need to be replaced.

Traffic Classification and Quality of Service

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 technology consolidates data and surveillance video transmissions through a single DGS-1510 Series Smart Managed switch, saving businesses the costs of maintaining expensive dedicated hardware and infrastructure. ASV also helps ensure the quality of real-time video for monitoring and control without compromising the transmission of conventional network data by giving ASV traffic priority over other packets.

Network Security Features

D-Link's innovative Safeguard Engine helps to protect the DGS-1510 Series against traffic flooding caused by malicious attacks. The DGS-1510 Series supports both MAC and web-based access control. This gives network administrators multiple authentication options, reducing deployment times and removing the need for client software. The DGS-1510 Series supports IEEE 802.1X port-based authentication, allowing network users to be authenticated through external RADIUS servers. The Address Resolution Protocol (ARP) Spoofing Prevention feature helps to prevent attacks that may allow an intruder to intercept users' traffic while the DHCP Server Screening feature helps to screen rogue DHCP server packets from user ports to help prevent unauthorized IP assignment.

IPv6 Ready

The DGS-1510 Series is IPv6 ready and supports various IPv6 functions such as MLD Snooping, IPv6 security features, and IPv6 Quality of Service (QoS), ensuring seamless integration with next generation networks. The DGS-1510 Series also supports IPv4/v6 dual stack functionality, which allows the switches to act as a bridge between IPv4 and IPv6 networks.

Versatile Management

The DGS-1510 Series supports a variety of management options. A web-based Graphical User Interface (GUI) enables administrators to easily set up and remotely manage their networks, greatly reducing switch deployment time. Two modes of GUI are supported - Standard Mode and Surveillance Mode. Surveillance Mode detects compatible ONVIF cameras and places them in a surveillance VLAN, allowing a single switch to be used for voice, video, and data, removing the need for dedicated hardware and reducing maintenance costs.

The DGS-1510 Series also comes with the D-Link Network Assistant (DNA) utility that enables administrators to remotely control their network down to the port level. The DNA utility furthermore allows customers to easily discover multiple D-Link Smart Managed Switches within the same L2 network segment and display them onscreen for instant access. This allows for simultaneous configuration and basic setup of all discovered devices, including password changes and firmware upgrades.

The DGS-1510 Series also features an extensive Command Line Interface (CLI) and SNMP support, allowing centralized management of a large number of devices. Out-of-band management of the switches is also available via a designated console port. This provides access to devices in the event that there is a loss of connectivity or that the switch is overloaded with bulk or malicious traffic.

Energy Efficient

All of the DGS-1510 Series switches are capable of conserving power without sacrificing operational performance or functionality thanks to D-Link Green 3.0 technology. Using the IEEE 802.3az Energy Efficient Ethernet (EEE) standard, the switches will automatically decrease power usage when traffic is low. For environments that do not fully support this standard, these switches offer advanced power-saving settings including port shut-off, LED shut-off, and system hibernation based on custom profiles. These profiles can also be applied to the PoE switches so that there is no unnecessary power consumption during off-hours.

Lifetime Warranty and NBD Replacement

D-Link offers a Lifetime Warranty and Next Business Day (NBD) hardware replacement on the DGS-1510 Series Stackable Gigabit switches to further its commitment to product quality and long-term customer confidence.[2]

D-Link®

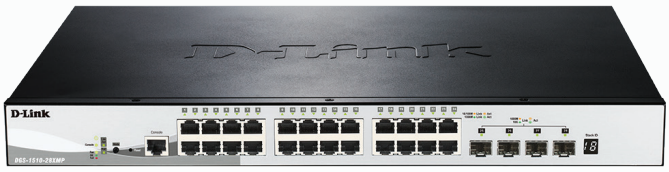
DGS-1510 Series
Gigabit Stackable Smart Managed Switches

DGS-1510-20

DGS-1510-28

DGS-1510-28X

DGS-1510-28P



DGS-1510-28XMP

DGS-1510-52X

DGS-1510-52XMP

D-Link®

DGS-1510 Series
Gigabit Stackable Smart Managed Switches

Technical Specifications - non-PoE Models				
General	**DGS-1510-20**	**DGS-1510-28**	**DGS-1510-28X**	**DGS-1510-52X**
Hardware version	A1	A1	A1	A2
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: 10/100/1000 Mbps Gigabit SFP 10G SFP+	 16 2 2	 24 2 2	 24 - 4	 48 - 4
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	128 Gbps	176 Gbps
Transmission Method	Store-and-forward			
MAC Address Table	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	95.24 Mpps	130.95 Mpps
Packet Buffer Memory	1.5 MB per device	1.5 MB per device	1.5 MB per device	3 MB per device
MTBF	882,152 hr.	516,593 hr.	516,593 hr.	416,789 hr.
Physical & Environmental				
AC Input	100 to 240 VAC 50/60 Hz internal universal power supply			
Max. Power Consumption	20.3 W	24 W	22.3 W	44.2 W
Standby Power Consumption	12.2 W	15.2 W	15.2 W	28.9 W
Smart Fan Quantity	1	1	1	2
Acoustics	43.8 dB(A)	43.8 dB(A)	42.7 dB(A)	45.8 dB(A)
Heat Dissipation	41.6 BTU/hr	72.3 BTU/hr	76.0 BTU/hr	138.8 BTU/hr
Operation Temperature	23 to 122 ˚F (-5 to 50 ˚C)			
Storage Temperature	-4 to 158 ˚F (-20 to 70˚C)			
Operation Humidity	0% to 95% non-condensing			
Storage Humidity	0% to 95% non-condensing			
Dimensions	11 x 7.09 x 1.73 in. (280 x 180 x 44 mm) 19" standard rack mounting width; 1U	17.36 x 8.26 x 1.73 in. (440 x 210 x 44 mm) 19" standard rack mounting width; 1U		17.36 x 9.84 x 1.73 in. (440 x 250 x 44 mm) 19" standard rack mounting width; 1U
Weight	2.7 lbs (1.24 kg)	4.4 lbs (2.00 kg)	4.4 lbs (2.00 kg)	5.3 lbs (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, IPv6 Ready Logo Phase 2	CE, FCC, C-Tick, VCCI, BSMI, CCC, IPv6 Ready Logo Phase 2	CE, FCC, C-Tick, VCCI, BSMI, CCC, IPv6 Ready Logo Phase 2	CE, FCC, C-Tick, VCCI, BSMI, CCC
Safety	cUL, CB	cUL, CB	cUL, CB	cUL, CB

D-Link®

DGS-1510 Series
Gigabit Stackable Smart Managed Switches

Technical Specifications - PoE Models			
General	**DGS-1510-28P**	**DGS-1510-28XMP**	**DGS-1510-52XMP**
Hardware version	A1	A1	A1
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: 10/100/1000 Mbps Gigabit SFP 10G SFP+	 24 2 2	 24 - 4	 48 - 4
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	128 Gbps	176 Gbps
Transmission Method	Store-and-forward		
MAC Address Table	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	95.24 Mpp	130.95 Mpps
Packet Buffer Memory	1.5 MB per device	1.5 MB per device	3 MB per device
MTBF	275,428 hr.	274,796 hr.	303,027 hr
PoE			
PoE Standard	IEEE 802.3af, 802.3at	IEEE 802.3af, 802.3at	IEEE 802.3af, 802.3at
PoE Capable Ports	Ports 1 to 24: up to 30W	Ports 1 to 24: up to 30 W	Ports 1 to 48: up to 30 W
PoE Power Budget	Max. 193 W	Max. 370 W	Max. 370 W (without DPS-700) Max. 740W (with DPS-700)
Physical & Environmental			
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)	436.3 W (PoE on) 38.4 W (PoE off)	486.9 W (PoE on) 58.8 W (PoE off)
Standby Power Consumption	21.0 W	28.2 W	40.1 W
Smart Fan Quantity	2	2	4
Acoustics	46.4 dB(A)	56.9 dB(A)	55.4 dB(A)
Heat Dissipation	814.0 BTU/hr	1487.8 BTU/hr	1660.33 BTU/hr
Operation Temperature	23 to 122 ˚F (-5 to 50 ˚C)		
Storage Temperature	-4 to 158 ˚F (-20 to 70˚C)		
Operation Humidity	0% to 95% non-condensing		
Storage Humidity	0% to 95% non-condensing		
Dimensions	17.36 x 8.26 x 1.73 in. (440 x 210 x 44 mm) 19" standard rack mounting width; 1U	17.36 x 12.1 x 1.73 in. (440 x 308.5 x 44 mm) 19" standard rack mounting width; 1U	17.36 x 12.1 x 1.73 in. (440 x 308.5 x 44 mm) 19" standard rack mounting width; 1U
Weight	5.6 lbs (2.54 kg)	9.37 lbs (4.25 kg)	11.93 lbs (5.41 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, IPv6 Ready Logo Phase 2	CE, FCC, C-Tick, VCCI, BSMI, CCC, IPv6 Ready Logo Phase 2	CE, FCC, C-Tick, VCCI, BSMI, CCC
Safety	cUL, CB	cUL, CB	cUL, CB

D-Link®

DGS-1510 Series
Gigabit Stackable Smart Managed Switches

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 16,384
	• Flow Control
	  • 802.3x Flow Control
	  • HOL Blocking Prevention
	• Jumbo Frame up to 9,216 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, flow-based (ACL) mirroring
		• Multicast Filtering
		  • Forwards all unregistered groups
		  • Filters all unregistered groups
		• ERPS (Ethernet Ring Protection Switching)

VLAN	• 802.1Q Tagged VLAN • 4K VLAN Groups • Configurable VID: 0~4094 • GVRP	• Asymmetric VLAN • Auto Voice VLAN • Auto Surveillance VLAN 2.1 • MAC-based VLAN • Protocol-based 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 Neighbor Discovery (ND)
	• 16 IP Interfaces
		• Default Routing
		• Static Routing
		  • 64 IPv4 Static Route Entries
		  • 32 IPv6 Static Route Entries
		• UDP helper

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
	• 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
		  • IPv6 DHCP 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

OAM	• Cable Diagnostics • sFlow	• Factory Reset

Management	• Command Line Interface
	• 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
	• Multiple Images
	• Surveillance mode
		• 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
		• NTP
		• Telnet client (supports CLI only)
		• PD-Alive (PoE models only)

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

DGS-1510 Series
Gigabit Stackable Smart Managed Switches

Ordering Information		
Model number	*Description*	*Warranty*
DGS-1510-20	20-port Stackable Gigabit Switch including 2 SFP ports & 2 10GbE SFP+ ports	Lifetime [2]
DGS-1510-28	28-port Stackable Gigabit Switch including 2 SFP ports & 2 10GbE SFP+ ports	Lifetime [2]
DGS-1510-28P	28-port Stackable Gigabit PoE Switch incl. 2 SFP ports & 2 10GbE SFP+ ports, 193W PoE budget	Lifetime [2]
DGS-1510-28X	28-port Stackable Gigabit Switch including 4 10GbE SFP+ ports	Lifetime [2]
DGS-1510-28XMP	28-port Stackable Gigabit PoE Switch including 4 10GbE SFP+ port, 370W PoE budget	Lifetime [2]
DGS-1510-52X	52-port Stackable Gigabit Switch including 4 10GbE SFP+ ports	Lifetime [2]
DGS-1510-52XMP	52-port Stackable Gigabit PoE Switch including 4 10GbE SFP+ ports, 370W PoE budget	Lifetime [2]
Optional Gigabit SFP Transceivers		
DEM-310GT	1000BASE-LX Single-mode SFP Optical Transceiver, 0 to 70C	
DEM-311GT	1000BASE-SX Multimode SFP Optical Transceiver, 0 to 70C	
DGS-712	1000BASE-T to SFP Transceiver	
Optional 10GbE SFP+ Transceivers		
DEM-431XT	10GBASE-SR Multimode SFP+ Optical Transceiver, 0 to 70C	
DEM-431XT-DD	10GBASE-SR Multimode SFP+ Optical Transceiver with DDM, 0 to 70C	
DEM-432XT	10GBASE-LR Single-mode SFP+ Optical Transceiver, 0 to 70C	
DEM-432XT-DD	10GBASE-LR Single-mode SFP+ Optical Transceiver with DDM, 0 to 70C	
Optional 10GbE SFP+ Direct Attach Copper Stacking Cables		
DEM-CB100S	10GbE SFP+ 1 m Direct Attach Cable	
DEM-CB300S	10GbE SFP+ 3 m Direct Attach Cable	
Optional Redundant Power Supplies		
DPS-700	AC Redundant Power Supply for DGS-1510-52XMP only	

[1] When stacking in a linear topology, the remaining unused SFP+ ports in the stacking port pair of the top and bottom switches will also be considered occupied by the switch and cannot be used for any other purpose.

[2] Lifetime Warranty available in U.S.A. only. Lifetime Warranty is effective for products purchased on or after Aug 1, 2017. Products purchased prior to Aug 1, 2017 are covered by Limited Lifetime Warranty. Lifetime Warranty void when not purchased from Authorized US D-Link Reseller. Please visit us.dlink.com for list of Authorized US Resellers.

UPDATED 05-SEP-2018 (SMO)
HARDWARE REV A
DGS-1510-SERIES_REVA_DATASHEET_2.02_EN_US.PDF

FOR MORE INFORMATION

U.S.A. | 17595 MT. HERRMANN STREET | FOUNTAIN VALLEY, CA 92708 | 800.326.1688 | DLINK.COM

D-Link®
Building Networks for People