



Green Technology

- IEEE 802.3az EEE
- Power saving via LED and Port shutoff
- Power saving via Port Standby
- Power saving via System Hibernation
- Power saving via Cable Length detection
- Power saving via Link Status detection
- Time-based PoE (DGS-1500-28P¹ only)

Security Features

- Access Control List secures network
- D-Link Safeguard Engine protects CPU from Broadcast/Multicast/Unicast Flooding
- Port Security supports 64 MACs per port
- ARP Spoofing Prevention
- SSL

Intuitive Management

- SmartConsole utility or Web-based GUI
- Single IP Management (Virtual Stacking)
- Built-in SNMP MIB for remote NMS (D-View 6.0)

VoIP Deployment

- Highest priority for VoIP services
- Auto Voice VLAN

QoS

- Supports IEEE 802.1p QoS, up to four Priority Queues per port
- Bandwidth Control
- DSCP

Advanced Features

- Layer 3 Static Routing
- IPv6 support²
- Auto Surveillance VLAN
- Loopback Detection automatically disables a port or VLAN when a loop is detected
- Cable Diagnostics allows administrators to determine cable status
- Configurable MDI/MDIX
- LLDP/LLDP-MED

Trap & Logs

- SNMP Trap
- Trap for SmartConsole Utility

Online Help

- Link to local support website
- Online User Guide

¹DGS-1500-28P will be released in early 2012.
²IPv6 Ready Logo Phase II will be obtained in the future. IPv6 support will be available in a future release.

SmartPro Switch



D-Link's DGS-1500 Series SmartPro switches are designed for SMBs which need functions such as L3 Static Routing and Single IP Management (Virtual Stacking) without upgrading to a managed switch. This series integrates advanced management and security functions that are similar to those of a managed switch, but less complex. The switches feature D-Link Green™ 3.0 technology which enable significant power savings. Additionally, the DGS-1500-28P¹'s 10/100/1000 Mbps ports are PoE-enabled, offering ease-of-use and green features like Time-based PoE, which enables the power to the port to be shut off at a predetermined time. Compliant with 802.3af and 802.3at, these switches are capable of feeding power to devices of up to 30 Watts. Management options include SNMP, Web Management, SmartConsole Utility, and Compact CLI. The series also supports ACL filtering and D-Link's Safeguard Engine. The DGS-1500-20 and DGS-1500-28 both feature a fanless design. The fanless design allows them to emit less heat and noise than a standard switch, making them suitable for office environments. The DGS-1500-28P¹ and DGS-1500-52 both feature smart fans. Using a thermal sensor that can detect temperature change, the smart fans can react accordingly by utilizing different fan speeds for different temperatures.

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-1500 Series implements D-Link Green Technology, which includes a power saving mode, smart fan, reduced heat dissipation, and cable length detection. The power-saving features include being able to schedule when to turn off LEDs and ports when not in use, and when to make the switch enter hibernation mode. The switches can also detect the length of connected cables to automatically adjust power usage by saving energy on shorter cable connections of up to 20 meters. The switches can also support power-saving by link status, which drastically reduces power consumption by automatically toggling ports without a link to sleep

mode. The DGS-1500-28P¹ and DGS-1500-52 both feature built-in smart fans. Using a thermal sensor that can detect temperature change, the fans can react accordingly by utilizing different fan speeds for different temperatures. The Smart Fan feature enables the built-in fans to automatically turn on at a certain temperature, providing continuous, reliable and eco-friendly operation of the switch.

Advanced Features

The DGS-1500 Series features advanced features such as Virtual Stacking and Layer 3 features like Static Routing. Virtual Stacking reduces the number of IP addresses needed on a network by configuring up to 32 devices to appear as a single unit with one IP address. This simplifies network management for small workgroups and allows for switches to be added without special cabling.

Extensive Layer 2 Features

These 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. At 2000 Mbps Full Duplex, the Gigabit ports provide high-speed data pipes to servers with minimum data transfer loss. 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 shut 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 and determine the cable quality.

QoS, Bandwidth Control

The DGS-1500 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 SmartPro switch, thus sparing businesses the expense of maintaining

SmartPro Switch

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 Bandwidth Control, network administrators can reserve bandwidth for important functions that require more bandwidth or might require high priority.

Secure your Network

D-Link's innovative Safeguard Engine protects the switches against traffic flooding caused by virus attacks. The switches also support 802.1X port-based authentication, allowing the network to be authenticated through external RADIUS servers. In addition, the Access Control List (ACL) feature enhances network security and helps to protect the internal IT network by screening traffic based on MAC or IP addresses. The DGS-1500 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. To prevent ARP Spoofing attacks, the switch uses Packet Control ACLs to block invalid packets that contain fake ARP messages. For added security, the DHCP Server Screening feature screens rogue DHCP server packets from user ports to prevent unauthorized IP assignment.

Versatile Management

The DGS-1500 series provides a SmartConsole utility and a web-based management interface that enables administrators to remotely control their network down to the port level. The SmartConsole easily allows customers to discover multiple D-Link Web Smart Switches within the same L2 network segment. With this utility, users do not need to change the IP address of their PC. It also simplifies the initial setup of the Smart Switches. Switches within the same L2 network segment that are connected to the user's PC are displayed on screen for instant access. This allows extensive switch configuration and basic setup of discovered devices including password changes and firmware upgrades. The DGS-1500 Series also supports D-View 6.0 and Compact Command Line Interface (CLI) through Telnet. D-View 6.0 is a Network Management System that allows for the central management of critical network characteristics such as availability, reliability, resilience, and security. CLI management of the switches is possible via Telnet. This makes it possible to adjust basic settings, passwords, configuration files, and firmware with ease.





SmartPro Switch

Technical Specifications

DGS-1500-20

DGS-1500-28

DGS-1500-28P³

DGS-1500-52



General		DGS-1500-20	DGS-1500-28	DGS-1500-28P ³	DGS-1500-52
General	Port Standard & Functions	IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper) Auto-negotiation IEEE 802.3x Flow Control support for Full-Duplex Mode	IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper) Auto-negotiation IEEE 802.3x Flow Control support for Full-Duplex Mode	IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper) IEEE 802.3af compliance IEEE 802.3at compliance Auto-negotiation IEEE 802.3x Flow Control support for Full-Duplex Mode Legacy Mode support	IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper) Auto-negotiation IEEE 802.3x Flow Control support for Full-Duplex Mode
	Number of Ports	16 10/100/1000 Mbps, 4 SFP 1000 SX/LX	24 10/100/1000 Mbps, 4 SFP 1000 SX/LX	24 10/100/1000 Mbps, PoE capable, 4 SFP 1000 SX/LX	48 10/100/1000 Mbps, 4 SFP 100 FX, 1000 SX/LX
	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 speeds Full duplex for Gigabit speed			
	Media Interface Exchange	Auto MDI/MDIX adjustment			
Performance	Switching Capacity	40 Gbps	56 Gbps	56 Gbps	104 Gbps
	Transmission Method	Store-and-forward			
	MAC Address Table	16K entries per device			
	MAC Address Update	Up to 256 static MAC entries Enable/disable auto-learning of MAC addresses			
	Maximum 64 bytes packet forwarding rate	29.8 Mpps	41.7 Mpps	41.7 Mpps	77.4 Mpps
	Packet Buffer Memory	1 MB per device			
PoE ⁴	PoE Standard	—	—	802.3af & 802.3at	—
	PoE Capable Ports	—	—	15.4 W per port, 30 W per port with external RPS	—
	PoE Power Budget	—	—	Max.: 370 W, 740 W with external RPS-700	—
Physical & Environmental	AC Input	100 to 240 VAC, 50/60 Hz internal universal power supply			
	Maximum Power Consumption	14.06 W	16.81 W	TBD W (PoE on) TBD W (PoE off)	43.5 W
	Standby Power Consumption	6.7 W/100 V, 7.2 W/240 V	5.9 W/100 V, 6.42 W/240 V	TBD W/100 V, TBD W/240 V	20.68 W/100 V, 22.05 W/240 V
	Fan Quantity	0	0	TBD	2 smart fans
	Acoustics	0 dBA	0 dBA	TBD	47.1 dBA (Max.)

³ DGS-1500-28P will be released in early 2012.

⁴ PoE features available on DGS-1500-28P only

Technical Specifications	DGS-1500-20	DGS-1500-28	DGS-1500-28P ⁵	DGS-1500-52
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Physical & Environment	Heat Dissipation	47.97 BTU/hr	57.36 BTU/hr	TBD BTU/hr	148.42 BTU/hr	
	Operating Temperature	-5 to 50 °C (41 to 122 °F)				
	Storage Temperature	-20 to 70 °C (-4 to 158 °F)				
	Operating Humidity	0% to 95% non-condensing				
	Storage Humidity	0% to 95% non-condensing				
	Dimensions	440 x 140 x 44 mm (17.32 x 5.51 x 1.73 inches) (19" standard rack mounting width, 1U height)	440 x 210 x 44 mm (17.32 x 8.27 x 1.73 inches) (19" standard rack mounting width, 1U height)	440 x 310 x 44 mm (17.32 x 12.20 x 1.73 inches) (19" standard rack mounting width, 1U height)	DGS-1500-52: 440 x 250 x 44 mm (17.32 x 9.84 x 1.73 inches) (19" standard rack mounting width, 1U height)	
	Weight	2.2 kg (4.85 lbs)	2.9 kg (6.39 lbs)	TBD	4.1 kg (9.04 lbs)	
	Diagnostic LEDs	Power (Per device) Link/Activity/Speed (Per 10/100/1000 Mbps port) Link/Activity/Speed (Per SFP port)	Power (Per device) Link/Activity/Speed (Per 10/100/1000 Mbps port) Link/Activity/Speed (Per SFP port)	Power (Per device) Link/Activity/Speed (Per 10/100/1000 Mbps port) Link/Activity/Speed (Per SFP port) PoE (Per 10/100/1000 Mbps port) PoE Max RPS LED Select Indicator button	Power (Per device) Fan (Per device) Link/Activity/Speed (Per 10/100/1000 Mbps port) Link/Activity/Speed (Per SFP port)	
	Certifications	FCC Class A CE Class A ICES-003 VCCI Class A C-Tick BSMI				
	MTBF	253,460 hours	236,739 hours	TBD	201,517 hours	
Safety	cUL, LVD					

⁵ DGS-1500-28P will be released in early 2012.



SmartPro Switch

Software Features

- Stackability**
 - Virtual Stacking/Clustering of up to 32 units
 - Supports D-Link Single IP Management
 - L2 Features**
 - MAC Address Table
 - 16 K entries
 - Flow Control
 - 802.3x Flow Control
 - HOL Blocking Prevention
 - IGMP Snooping
 - IGMP v1/v2 Snooping
 - Supports 256 IGMP groups
 - Supports at least 64 static multicast addresses
 - IGMP per VLAN
 - Supports IGMP Snooping Querier
 - Spanning Tree Protocol
 - 802.1D STP
 - 802.1w RSTP
 - Loopback Detection
 - 802.3ad Link Aggregation
 - DGS-1500-20: Max. 10 groups per device, 8 ports per group
 - DGS-1500-28/DGS-1500-28P⁶: Max. 14 groups per device, 8 ports per group
 - DGS-1500-52: Max. 26 groups per device, 8 ports per group
 - Port Mirroring
 - One-to-One
 - Many-to-One
 - Supports Mirroring for Tx/Rx/Both
 - Cable Diagnostics
 - Configurable MDI/MDIX
 - Multicast Filtering
 - Forwards all unregistered groups
 - Filters all unregistered groups
 - Jumbo Frame
 - Up to 10,000 bytes
 - LLDP
 - LLDP-MED
 - L2 Multicast Filtering
 - VLAN**
 - 802.1Q
 - VLAN Group
 - Max. 4K static VLAN groups
 - Max. 4094 VIDs
 - GVRP
 - Up to 256 dynamic VLANs
 - Asymmetric VLAN
 - Auto Voice VLAN
 - Max. 10 user defined OUI
 - Max. 8 default OUI
 - Auto Surveillance VLAN
 - QoS (Quality of Service)**
 - 802.1p Quality of Service
 - 4 queues per port
 - Queue Handling
 - Strict
 - Weighted Round Robin (WRR)
 - CoS based on
 - 802.1p Priority Queues
 - DSCP
 - ToS⁷
 - IPv6 Traffic Class⁷
 - IPv6 flow label⁷
 - TCP/UDP port⁷
 - Bandwidth Control
 - Port-based (Ingress/Egress, min. granularity 10/100/1000 is 64 Kb/s)
 - L3 Features**
 - ARP
 - 64 Static ARP
 - Supports Gratuitous ARP
 - IPv6 Neighbor Discovery (ND)⁷
 - IP Interface
 - Supports 4 interfaces
 - L3 Routing**
 - Default Routing
 - Static Routing
 - 32 IPv4 Static Route Entries
 - Max. 128 IPv4 Host Routes
 - Access Control List (ACL)**
 - DGS-1500-20/28/28P⁶:
 - Max. 50 profiles
 - Max. 200 rules shared by profiles
 - Each rule can be associated with a single port or multiple ports
 - DGS-1500-52:
 - Max. 50 profiles
 - Max. 450 rules shared by profiles
 - Each rule can only be associated with a single port
 - ACL based on
 - MAC Address
 - IPv4 Address (ICMP/IGMP/TCP/UDP)
 - 802.1p
 - DSCP Ethernet type
 - Security**
 - 802.1X Port-based Access Control
 - Port Security
 - Supports up to 64 MAC addresses per port
 - Broadcast/Multicast/Unicast Storm Control
 - D-Link Safeguard Engine
 - DHCP Server Screening
 - IP-MAC-Port Binding⁷
 - Supports 512 address binding entries
 - ARP mode
 - Supports DHCP Snooping
 - ARP Spoofing Prevention
 - Max. 64 entries
 - Traffic Segmentation
 - SSL
 - Supports v1/v2/v3
 - Supports IPv6⁷
 - AAA**
 - 802.1X Authentication
 - Supports local/RADIUS database
 - Supports Port-based access control
 - Supports EAP, OTP, TLS, TTLS, PEAP
 - IPv6 RADIUS Server⁷
 - MIB**
 - 1213 MIB II
 - 1493 Bridge MIB
 - 1907 SNMP v2 MIB
 - 1215 Trap Convention MIB
 - 2233 Interface Group MIB
 - D-Link Private MIB
 - LLDP MIB
 - Power-Ethernet MIB⁸
 - RFC Standard Compliance**
 - RFC 783 TFTP
 - RFC 854 Telnet Server
 - RFC 951 BootP/DHCP Client
 - RFC 1157 SNMP v1, v2, v3
 - RFC 1213 MIB II
 - RFC 1215 MIB Traps Convention
 - RFC 1350 TFTP
 - RFC 1493 Bridge MIB
 - RFC 1769 SNTp
 - RFC 1542 BootP/DHCP Client
 - RFC 1901 SNMP v1, v2, v3
 - RFC 1907 SNMP v2 MIB
 - RFC 1908 SNMP v1, v2, v3
 - RFC 2068 FCS
 - RFC 2131 BootP/DHCP Client
 - RFC 2138 RADIUS Authentication
 - RFC 2139 RADIUS Authentication
 - RFC 2233 Interface Group MIB
 - RFC-2246 SSL
 - RFC 2475
 - RFC 2570 SNMP v1, v2, v3
 - RFC 2575 SNMP v1, v2, v3
 - RFC 2598 CoS
 - RFC 2616 FCS
 - RFC 2618 RADIUS Authentication
 - RFC 2819 RMON v1
 - RFC 2865 RADIUS Authentication
 - RFC 3164 System Log
 - RFC 3195 System Log
 - RFC 3411-17 SNMP
 - RFC 3621 Power Ethernet MIB
- OAM**
 - Cable Diagnostics
 - Factory Reset
- Management**
 - Web-based GUI
 - Single IP Management
 - Compact CLI
 - Telnet Server
 - TFTP Client
 - Configurable MDI/MDIX
 - SNMP
 - Supports v1/v2/v3
 - SNMP Trap
 - Trap for SmartConsole Utility
 - System Log
 - Max. 500 log entries
 - BootP/DHCP Client
 - SNTp
 - ICMP v6⁷
 - IPv4/v6 Dual Stack⁷
 - DHCP Auto Configuration
 - Debug Command
 - Time Setting
 - SNTp
 - RMON1
 - Trusted Host
 - Time-based PoE⁸
 - User Account
 - Upload/Download Configuration file
 - Backup/Upgrade firmware
 - Smart Wizard
- Green**
 - Power Saving by:
 - Link Status
 - Cable Length
 - LED Shutoff
 - Port Standby
 - System Hibernation
- Certification**
 - IPv6 Core Ready Logo Phase II⁹

⁶ DGS-1500-28P will be released in early 2012.

⁷ Will be available in a future release in 2012. IPv6 Ready Logo Phase II will be obtained in the future.

⁸ Available for DGS-1500-28P only.

Optional Products

Optional SFP Transceivers

Supported by DGS-1500-20/28/28P⁹

DGS-712	1000BASE-T Copper
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

Supported by DGS-1500-52

DGS-712	1000BASE-T Copper
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
DEM-210	100BASE-BX, Single-mode, 15 km
DEM-211	100BASE-BX, Multi-mode, 2 km

Optional WDM SFP Transceivers

Supported by DGS-1500-20/28/28P⁹

DEM-330T/R	Gigabit, Wavelength Tx:1550 nm, Rx:1310 nm, Single-mode, 10 km
DEM-331T/R	Gigabit, Wavelength Tx:1550 nm, Rx:1310 nm, Single-mode, 40 km

Supported by DGS-1500-52

DEM-220R	100BASE-BX, Wavelength Tx:1550 nm, Rx:1310 nm, Single-mode, 20 km
DEM-220T	100BASE-BX, Wavelength Tx:1550 nm, Rx:1310 nm, Single-mode, 20 km
DEM-330T/R	Gigabit, Wavelength Tx:1550 nm, Rx:1310 nm, Single-mode, 10 km
DEM-331T/R	Gigabit, Wavelength Tx:1550 nm, Rx:1310 nm, Single-mode, 40 km

Optional Management Software

Supported by DGS-1500-20/28/28P⁹/52

DV-600S	D-View 6.0 Network Management System (Standard Edition)
DV-600P	D-View 6.0 Network Management System (Professional Edition)

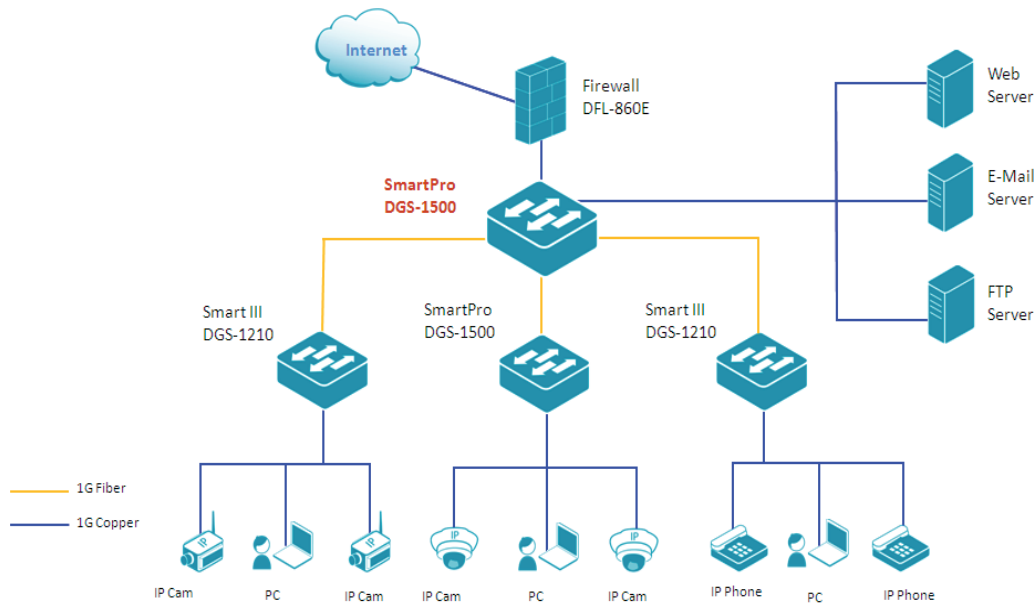
Optional Redundant Power Supply

Supported by DGS-1500-28P⁹

DPS-700	589 Watts Redundant Power Supply 370 Watts PoE Power Budget
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⁹ DGS-1500-28P will be released in early 2012.

Deploying the DGS-1500 Series in an Office Environment



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