dlink green

Green Technology
- Power saving by cable length detection
- Power saving by link status
- Provides continuous, reliable and eco-friendly operation

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

Intuitive Management
- Manage using SmartConsole or web-based GUI
- Built-in MIB browser for SNMP Management
- D-View 6.0 module support
- Compact CLI through Telnet

VoIP Deployment
- Highest priority for VoIP services
- Auto Voice VLAN

QoS
- Ensure time-sensitive data gets delivered efficiently
- Supports IEEE 802.1p QoS up to 4 802.1p Priority Queues
- DSCP QoS

Advanced Features
- Loopback Detection auto disables port when loop is detected
- Cable Diagnostics allows administrator to determine cable status
- Combined copper/SFP ports for increased flexibility
- Configurable MDI/MDIX

16/24/48-Port Web Smart Switch

D-Link's DGS-1210 Series is the latest generation of Web Smart Switches that features D-Link Green Technology. Equipped with 16, 24 or 48 10/100/1000Mbps ports including 4 combo 10/100/1000BASE-T/SFP ports, the series integrates advanced management and security functions that provide performance and scalability. Management options for the switches include SNMP, Web Management, SmartConsole Utility, and Compact Command Lines. The series also supports ACL filtering and D-Link's Safeguard Engine. Furthermore, the DGS-1210 Series uses Auto Voice VLAN, ensuring higher priority for voice traffic. The DGS-1210-16 and DGS-1210-24 come with a fanless design in 19" metal cases, the DGS-1210-48 comes equipped with two smart fans. These fans are set to low speed by default and will automatically switch to high speed once the temperature threshold is reached. A fanless design allows for quieter operation and guarantees an extended lifetime, while smart fans help to considerably save power.

D-Link Green
D-Link is constantly striving to take the lead in developing innovative technology that allows for power-saving while not sacrificing operational performance or functionality. The DGS-1210 Series automatically detects the length of connected cables and can adjust power usage by saving energy on shorter cable connections of up to 20 meters. Power saving by link status helps to further save energy by automatically switching ports without a link to sleep mode and thus drastically reducing power consumption. The DGS-1210 Series takes the approach to green IT and power saving one step further by incorporating a special chipset with advanced silicon technology.

Seamless Integration
The DGS-120 Series comes with Ethernet and Gigabit copper ports capable of connecting to existing Cat.5 twisted-pair cables. Additionally, the last four ports of the DGS-1210 Series combine SFP and copper connectivity into one port and therefore provide a more flexible solution for upstream or downstream server connections via fiber interface. Using the default presets, the administrator can quickly set up the switch without worrying about reconfiguring any settings and providing easy access for the user.

Extensive Layer 2 Features
Equipped with a complete lineup of L2 features, these switches include IGMP Snooping, Port Mirroring, Spanning Tree and Link Aggregation Control Protocol (LACP). The IEEE 802.3x Flow Control function allows servers to directly connect to the switch for fast, reliable data transfer. At 2000Mbps 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 and automatically shut down the affected port. Cable Diagnostics is designed for network administrators to quickly examine the quality of the copper cables and also determine the type of cable error.

QoS, Bandwidth Control
The switches are perfect for deployment in a VoIP environment, as they support Auto Voice VLAN and Differentiated Services Code Point (DSCP) QoS for VoIP application. Auto Voice VLAN will automatically place voice traffic from an IP phone to an assigned VLAN and by doing so enhance the VoIP service. With a higher priority and individual VLAN, this feature guarantees the quality and security of VoIP traffic. DSCP marks parts of an IP packet, enabling different levels of service to be assigned for network traffic. With Bandwidth Control, the network administrator can reserve bandwidth for important functions that require a larger bandwidth or might have high priority.

Secure your Network
D-Link's innovative Safeguard Engine function 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. The DGS-1210 Series includes ARP Spoofing Prevention, which protects from attacks on the Ethernet network that may allow an intruder to sniff data frames on a LAN, 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.

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Trap & Logs
- SNMP Trap supports link and STP state change
- Trap for SmartConsole Utility

Online Help
- Link to local support web site
- Downloadable user guide
- Real-time manual checks

Versatile Management
The DGS-1210 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 and it also provides an easy initial setting 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 settings and basic configuration of discovered devices such as password changes and firmware upgrades. The DGS-1210 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 in a consistent way. CLI management of the switches is possible via Telnet. This makes the adjustment of basic settings like password changes or firmware and configuration file uploads possible.

16/24/48-Port Web Smart Switch

Technical Specifications

General

Port Standards & 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
Number of Ports	▪ DGS-1210-16: 12 10/100/1000Mbps, 4 combo 10/100/1000BASE-T/SFP ▪ DGS-1210-24: 20 10/100/1000Mbps, 4 combo 10/100/1000BASE-T/SFP ▪ DGS-1210-48: 44 10/100/1000Mbps, 4 combo 10/100/1000BASE-T/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 10/100Mbps speeds ▪ Full duplex for Gigabit speed
Media Interface Exchange	Auto MDI/MDIX adjustment for all twisted-pair ports

Performance

Switching Capacity	▪ DGS-1210-16: 32Gbps ▪ DGS-1210-24: 48Gbps ▪ DGS-1210-48: 96Gbps
Transmission Method	Store-and-forward
MAC Address Table	8K 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	▪ DGS-1210-16: 23.8 Mpps ▪ DGS-1210-24: 35.7 Mpps ▪ DGS-1210-48: 71.4 Mpps
RAM Buffer	▪ DGS-1210-16: 512KB per device ▪ DGS-1210-24: 512KB per device ▪ DGS-1210-48: 1MB per device

Physical & Environmental

AC Input	100 to 240 VAC 50/60Hz internal universal power supply
Maximum Power Consumption	▪ DGS-1210-16: 17.4W ▪ DGS-1210-24: 24.1W ▪ DGS-1210-48: 59.1W
Standby Power Consumption	▪ DGS-1210-16: 4.9W/110V, 5W/240V ▪ DGS-1210-24: 6W/110V, 6.2W/240V ▪ DGS-1210-48: 19.2W/110V, 20.1W/240V
Fan Quantity	▪ DGS-1210-16: 0 ▪ DGS-1210-24: 0 ▪ DGS-1210-48: 2 smart fans (default fan speed is low, fans switch to high speed automatically at 33 degrees Celsius ambient temperature)
Acoustics	▪ DGS-1210-16: 0dBA ▪ DGS-1210-24: 0dBA ▪ DGS-1210-48: 46.2dBA (max.)

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Heat Dissipation	▪ DGS-1210-16: 59.23 BTU/hr ▪ DGS-1210-24: 82.23 BTU/hr ▪ DGS-1210-48: 201.65 BTU/hr
Operating Temperature	0˚ to 40˚ C
Storage Temperature	-10˚ to 70˚ C
Operating Humidity	10% to 95% non-condensing
Storage Humidity	5% to 95% non-condensing
Dimensions	▪ DGS-1210-16: 440 mm x 210 mm x 44mm ▪ DGS-1210-24: 440 mm x 210 mm x 44mm ▪ DGS-1210-48: 440 mm x 250 mm x 44 mm ▪ 19-inch standard rack mounting width, 1U height
Weight	▪ DGS-1210-16: 2.87 kg ▪ DGS-1210-24: 2.97 kg ▪ DGS-1210-48: 4.04 kg
Diagnostic LEDs	▪ Power (Per device) ▪ Fan error (Per device, optional) ▪ Link/Activity/Speed (Per 10/100/1000Mbps port) ▪ Link/Activity/Speed (Per SFP port)
Emission (EMI)	▪ FCC Class A ▪ CE Class A ▪ IC Class A ▪ VCCI Class A ▪ C-Tick
MTBF	▪ DGS-1210-16: 799,491 hrs ▪ DGS-1210-24: 410,948 hrs ▪ DGS-1210-48: 322,402 hrs
Safety	cUL, LVD

Software Features

L2 Features
- MAC Address Table
  - DGS-1210-16: 8K
  - DGS-1210-24: 8K
  - DGS-1210-48: 8K
- Flow Control
  - 802.3x Flow Control
  - HOL Blocking Prevention
- IGMP Snooping
  - IGMP v1/v2 Snooping
  - Support 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-1210-16:
    Max. 8 groups per device/8 ports per group
  - DGS-1210-24:
    Max. 8 groups per device/8 ports per group
  - DGS-1210-48:
    Max. 8 groups per device/8 ports per group
- Port Mirroring
  - One-to-One
  - Many-to-One
  - Supports Mirroring for Tx/Rx/Both
- Cable Diagnostics
- Configurable Auto MDI/MDIX
- Multicast Filtering

- Forwards all unregistered groups
- Filters all unregistered groups

VLAN
- 802.1Q
- VLAN Group
  - Max. 256 static VLAN groups
  - Max. 4094 VIDs
- Management VLAN
- Asymmetric VLAN
- Auto Voice VLAN
  - Max. 10 user defined OUI
  - Max. 8 default OUI

QoS (Quality of Service)
- 802.1p Quality of Service

16/24/48-Port Web Smart Switch

- 4 queues per port
- Queue Handling
  - Strict
  - Weighted Round Robin (WRR)
- CoS based on
  - 802.1p Priority Queues
  - DSCP
- Bandwidth Control
  - Port-based (Ingress/Egress, min. granularity 64Kb/s)

Access Control List (ACL)
- Max. 50 profiles
- Max. 240 rules shared by profiles
- ACL based on
  - MAC Address
  - IPv4 Address (ICMP/IGMP/TCP/UDP)
  - VLAN ID
  - 802.1p Priority
  - DSCP
- ACL Actions
  - Permit
  - Deny

Security
- 802.1X
- Port Security
  - Supports up to 64 MAC addresses per port
- Broadcast/Multicast/Unicast Storm Control
- Static MAC
- D-Link Safeguard Engine
- DHCP Server Screening*
- ARP Spoofing Prevention*
  - Max. 64 entries

* Available in future release

- SSL*
  - Supports v1/v2/v3
  - Supports IPv4

MIB
- 1213 MIB II
- 1493 Bridge MIB
- 1907 SNMP v2 MIB
- 1215 Trap Convention MIB
- 2233 Interface Group MIB
- D-Link Private MIB

RFC Standard Compliance
- RFC 768 UDP
- RFC 791 IP
- RFC 792 ICMP
- RFC 793 TCP
- RFC 826 ARP
- RFC 854 Telnet Server
- RFC 855 Telnet Server
- RFC 856 Telnet Binary Transmission
- RFC 858 Telnet Server
- RFC 896 Congestion Control in TCP/IP Network
- RFC 903 Reverse Address Resolution Protocol
- RFC 951 BootP Client
- RFC 1155 MIB
- RFC 1157 SNMP v1
- RFC 1191 Path MTU Discovery
- RFC 1212 Concise MIB Definition
- RFC 1213 MIB II, IF MIB
- RFC 1215 Traps for use with the SNMP
- RFC 1239 Standard MIB
- RFC 1350 TFTP

- RFC 1493 Bridge MIB
- RFC 1519 CIDR
- RFC 1945 HTTP/1.0
- RFC 2131 DHCP
- RFC 2132 DHCP Options and BOOTP Vendor Extensions
- RFC 2138 Radius Authentication
- RFC 2233 Interface MIB
- RFC 2578 Structure of Management Information Version 2 (SMIv2)
- RFC 2647 802.1p
- RFC 3416 SNMP
- RFC 3417 SNMP

Management
- Web-based GUI
- Compact CLI through Telnet
- Telnet Server
- TFTP Client
- SNMP
  - Supports v1/v2/v3*
- SNMP Trap
- Trap for SmartConsole Utility
- System Log
  - Max. 500 log entries
  - Supports IPv4 log server
- BootP/DHCP Client
- Time Setting
  - SNTP

16/24/48-Port Web Smart Switch

Optional Products

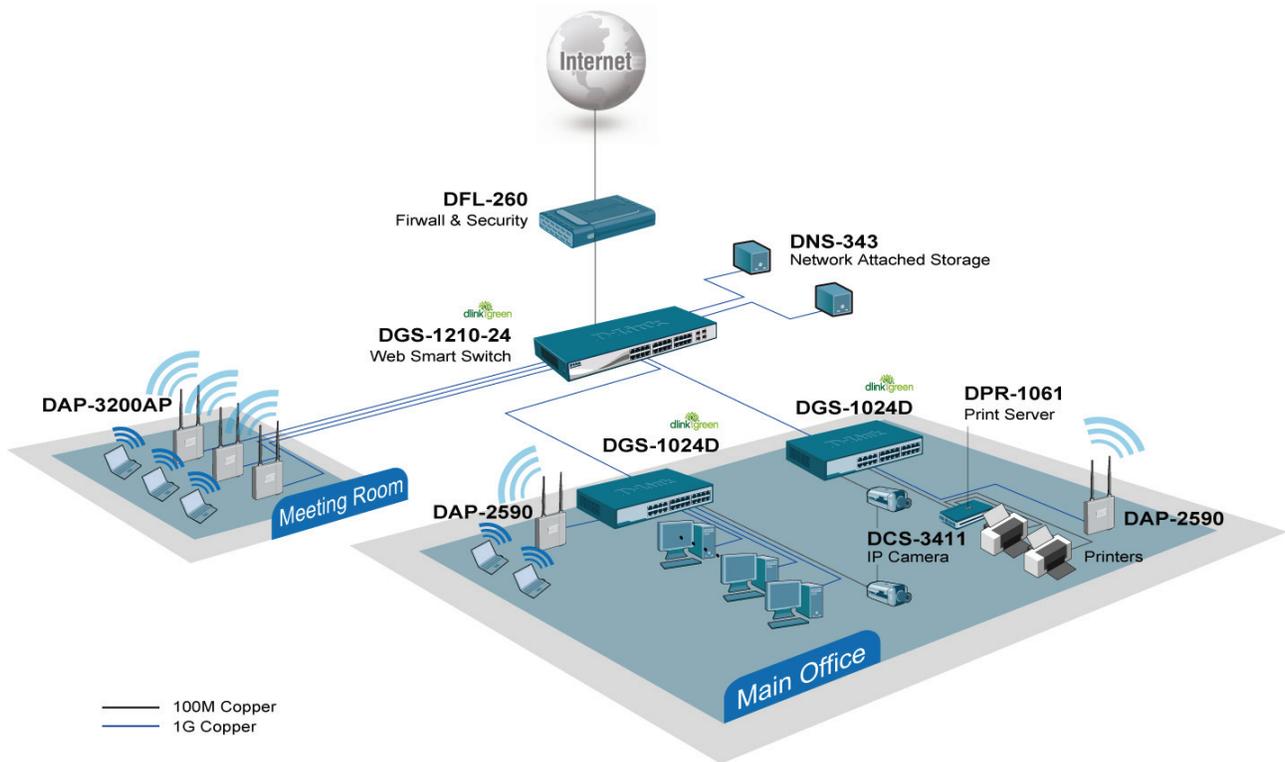### Optional SFP Transceivers
DEM-310GT   1000BASE-LX, Single-mode, 10km
DEM-311GT   1000BASE-SX, Multi-mode, 550m
DEM-312GT2   1000BASE-SX, Multi-mode, 2km
DEM-314GT   1000BASE-LX, Single-mode, 50km
DEM-315GT   1000BASE-LX, Single-mode, 80km
DEM-210   100BASE-FX, Single-mode, 15km
DEM-211   100BASE-FX, Multi-mode, 2km

Optional WDM SFP Transceivers
DEM-220R   100BASE-BX, Wavelength Tx:1550nm Rx:1310nm, Single-mode, 20km
DEM-220T   100BASE-BX, Wavelength Tx:1550nm Rx:1310nm, Single-mode, 20km
DEM-330T   1000BASE-LX, Wavelength Tx:1550nm Rx:1310nm, Single-mode, 10km
DEM-330R   1000BASE-LX, Wavelength Tx:1310nm Rx:1550nm, Single-mode, 10km

DEM-331T   1000BASE-LX, Wavelength Tx:1550nm Rx:1310nm, Single-mode, 40km
DEM-331R   1000BASE-LX, Wavelength Tx:1310nm Rx:1550nm, Single-mode, 40km

Deploying the DGS-1210 Series in an Office Environment