16/24/48- Port Gigabit Web Smart Switches

Optimize Performance using Jumbo Frames

+ Supports upto 10,240bytes Jumbo Frames for 16T/24T, and 9216bytes for 48T

Unique Power Saving Functionality

+ Automatically powers down ports that have no link

Enhanced Security Features

+ Access Security with 802.1X Port-Based Authentication
+ Broadcast Storm Control
+ Safeguard Engine feature guarantees Switch Performance

Static Port Trunking

+ Up to 6 trunk groups for Server Connection/Switch Cascading, and each trunk supports up to 8 ports

Intutive Centralized Management

+ Manage using SmartConsole or Web-Based GUI
+ Built-in Smart Wizard for initial configuration setting for Web-Based interface.
+ Built-in MIB browser for SNMP Management

D-Link's next generation Gigabit web smart switch series is available at an affordable price, which is economical for the small and medium business to benefit from the increased bandwidth of Gigabit Ethernet. The smart switches provide user friendly Web-Based management for easy configuration. With three models to choose from DGS-1216T/1224T/1248T, this series provide flexible choices for different network requirements. Typically, fans are a key energy consumer. The DGS-1216T and 1224T comes with an innovative fanless design for a 19" metal case. The three models are housed in a new style rack-mount metal case with easy-to-view front panel diagnostic LEDs, and facilitate advance features that include:
• Two or four combo SFP fiber connections
• Network security
• Traffic segmentation
• QoS
• Versatile management

Think Green

D-Link's Gigabit web smart switch series helps protect the environment with new power saving feature. The DGS-1216T/1224T/1248T web smart switches are based on Green Technology and designed keeping in mind the ecosystem offering reduced power consumption, less heat dissipation, powerful performance, versatile functions and maximum cost-effectiveness.

The link down mode in these switches is a power saving feature works when the link partner is powered off, thus saving energy. Another alternative is to disable power via Web GUI whenever a problem occurs to the device.

Conserving Energy

D-Link's Green Technology initiative has been dramatically improving energy efficiency. The new generation Gigabit web smart switch adopts the 90nm silicon technology, which provides advanced functionality to customers with lower power consumption usage.

Protecting the Environment for a Better Tomorrow

D-Link constantly considers ways to protect the environment and accordingly designed the web smart switches. These RoHS-compliant devices also align with legal regulations for environmental friendly applications. Also complies with WEEE (Waste Electrical and Electronic Equipment) directives that use recyclable packaging to help reduce wastage.

Seamless Integration

The Gigabit web smart switches are designed and focused to provide SMB users a complete control over network. With Gigabit copper ports capable of connecting to your existing Cat.5 twisted-pair cable, these switches eliminate the need of a complex reconfiguration process. Each switch provides two or four combo SFP slots for flexible connection to a fiber backbone or servers. In addition, all ports support auto-negotiation of MDI/MDIX crossover, so do away with cross over cables or uplink ports and bring inexpensive and easy Gigabit connection to your desktop.

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Superior VLAN Features

+ 802.1Q: VLAN Tagging for Traffic Segmentation, and 256 VLAN group support

+ Asymmetric VLAN: Supports Asymmetric VLAN for more efficient use of shared resources such as server or gateway devices

Advanced QoS

+ Ensure time-sensitive data gets delivered efficiently, even during bursts of high traffic

+ Supports IEEE 802.1p QoS up to 4 802.1p Priority Queues and DSCP QoS for VoIP application

+ Ensures optimal experience for gamers and other requirements by prioritizing network traffic

Cable Diagnostics Function

With the continuing drive to Home/SMB Gigabit adaptation, D-Link's Cable Diagnostics function enables users to efficiently detect the cable condition and type of error. Gigabit networks operate over 8-wire CAT 5 RJ-45 cable. However, many older and home networks still use 4-wire CAT 3/5 RJ-45 cable. The Cable Diagnostics function allows users to determine whether their RJ-45 cables are Gigabit capable or for troubleshooting problems of cables, simply through the web-based interface to check the test results.

+ This function assists users to effectively detect RJ-45 cable condition while migrating from their existing networks to Gigabit-capable ones, minimizing the service calls during the migration.

+ Displays the result of detecting RJ-45 cable with an open circuit (a lack of continuity between the pins at each end of the Ethernet cable or a disconnected cable) or short circuit (two or more conductors short-circuited)

Extensive Layer 2 Features
Implemented as complete L2 feature, these switches include features such as Jumbo frame support, IGMP snooping, port mirroring, Spanning Tree and port trunks. The IEEE 802.3x flow control function allows your servers to directly connect to the switch for fast, reliable data transfer. At 2000Mbps full duplex, the switch provides high-speed data pipes to your servers with minimum data transfer loss.

QoS, 802.1Q VLAN and Asymmetric VLAN
The switches support 802.1Q VLAN standard tagging by prioritizing traffic to enhance network security and performance. Also support 802.1p priority queues, enabling users to run bandwidth-sensitive applications such as streaming multimedia and VoIP in network. These functions allow switches to work seamlessly with VLAN and 802.1p traffic in network. Asymmetric VLAN is implemented in these switches for a more efficient use of shared resources such as server or gateway devices.

Secure your Network
D-Link's innovative Safeguard Engine function protects the switches against traffic flooding caused by virus attacks. Additional features like MAC address filters screen access to the network. They support 802.1X port-based authentication, allowing network to be configured with external RADIUS servers.

Versatile Management
The new generation of Gigabit web smart switches provides growing businesses simple and easy management of their network using an intuitive SmartConsole utility or a Web-Based management interface that allows administrators to remotely control their network down to the port level. The SmartConsole easily allows customers to discover multiple D-Link web smart switches with the same L2 network segment connected to user's local PC. With this utility, users do not need to change the IP address of PC and also provides easy initial setting of smart switches. The switches with the same L2 network segment connected to user's local PC are displayed on the screen for instant access. It allows extensive switch configuration setting, and basic configuration of discovered devices such as password change, firmware upgrade.

Before entering the Web GUI main page, D-Link provides a built-in Smart Wizard for the initial configuration setup. Users can pre-configure basic functionality such as password change, system information and SNMP settings. In addition, users can also use the built-in MIB browser to poll the switches for information about their status and send traps of abnormal events. MIB support allows users to integrate the switches with third-party devices for management in an SNMP environment.

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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) + IEEE 802.3z Gigabit Ethernet (fiber) ANSI/IEEE 802.3 + NWay auto-negotiation + IEEE 802.3x Flow Control
Number of Ports	+ DGS-1216T: 16 10/100/1000BASE-T ports, 2 combo SFP slots + DGS-1224T: 24 10/100/1000BASE-T ports, 2 combo SFP slots + DGS-1248T: 48 10/100/1000BASE-T ports, 4 combo SFP slots * Use of the SFP will disable their corresponding 10/100/1000BASE-T connections

Data Transfer Rates	+ Ethernet:
	   10Mbps (half duplex)
	   20Mbps (full duplex)
	+ Fast Ethernet:
	   100Mbps (half duplex)
	   200Mbps (full duplex)
	+ Gigabit Ethernet:
	   2000Mbps (full duplex)

Topology	+ Star
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

LED Indicators	+ DGS-1216T, DGS-1224T:
	   Per device: Power/CPU
	   Per 10/100/1000BASE-T port: Link/Act, 100/1000Mbps
	   Per SFP slot: Link/Act, 1000Mbps
	+ DGS-1248T:
	   Per device: Power/CPU
	   Per 10/100/1000BASE-T port: 10/100Mbps, 1000Mbps
	   Per SFP slot: Link/Act

Software

L2 Features	+ IGMP snooping v1/2: supports 64 multicast groups + 802.1D Spanning Tree + Static Port trunk (Link Aggregation): up to 6 groups per device, up to 8 ports per group + Power Saving
VLAN	+ 802.1Q VLAN standard (VLAN Tagging) + Up to 256 static VLAN groups + Management VLAN + Asymmetric VLAN
QoS (Quality of Service)	+ 802.1p Priority Queues standard + Up to 4 queues per port + DSCP-based QoS + Supports WRR or Strict mode in queue handling

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Security	+ 802.1X port-based access control + Broadcast Storm Control: threshold of 8K, 16K, 32K, 64K, 128K, 256k, 512K, 1024K, 2048K, 4096K bytes per second + D-Link Safeguard Engine to protect CPU from broadcast / multicast / unicast flooding + Trusted Host + Cable Diagnostics function
Management	+ Web-based GUI + SNMP v1 support + DHCP client + Trap setting for destination IP, system events, fiber port events, twisted-pair port events + Port access control + Web-based configuration backup/restoration + Web-based firmware backup/upload + Firmware upgrade using SmartConsole Utility + System Reboot using Web-based interface + SmartConsole Utility
MIB	+ RFC 1213 MIB-II + D-Link Enterprise Private MIB

Performance

Switch Capacity	+ DGS-1216T: 32Gbps + DGS-1224T: 48Gbps + DGS-1248T: 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-1216T: 23.8 Mpps + DGS-1224T: 35.7 Mpps + DGS-1248T: 71.4 Mpps
RAM Buffer	+ DGS-1216T: 512Kbytes per device + DGS-1224T: 512Kbytes per device + DGS-1248T: 1MBytes per device
Jumbo Frame	+ DGS-1216T, DGS-1224T: 10,240 bytes + DGS-1248T: 9,216 bytes

Physical & Environmental

AC Input	100 to 240 VAC 50/60Hz internal universal power supply
Power Consumption	+ DGS-1216T: 23W + DGS-1224T: 31.2W + DGS-1248T: 76.2W
Fan Quantity	+ DGS-1216T: 0 + DGS-1224T: 0 + DGS-1248T: 3 pcs
Heat Dissipation	+ DGS-1216T: 72.22 BTU/hr + DGS-1224T: 97.97 BTU/hr + DGS-1248T: 239.27 BTU/hr

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Acoustic Value	+DGS-1216T: 0 dB(A) +DGS-1224T: 0 dB(A) +DGS-1248T: 51.6 dB(A)
Operating Temperature	0˚ to 40˚ C
Storage Temperature	-10˚ to 70˚ C
Operating Humidity	+10% to 90% non-condensing
Storage Humidity	5% to 90% non-condensing
Dimensions	+DGS-1216T: 440 mm x 210 mm x 44mm +DGS-1224T: 440 mm x 210 mm x 44mm +DGS-1248T: 441 mm x 309 mm x 44 mm +19-inch standard rack mounting width, 1U height
Weight	+DGS-1216T: 2.72 kg +DGS-1224T: 2.80 kg +DGS-1248T: 4.46g
Emission (EMI)	+FCC Class A +CE Class A +VCCI Class A
MTBF	+DGS-1216T: 228,450hrs +DGS-1224T: 215,976hrs +DGS-1248T: 186,656hrs
Safety	cUL