



# Highlights

#### **Easy Management**

A multilingual Web UI, a Full CLI, and a variety of management features allow the switches to integrate with your existing network

### **Expand** your Network

All models include high-speed 4 x 10G SFP+ uplink ports, enabling easy expansion of your network

#### **Power over Ethernet**

Support for IEEE 802.3af/at and a higher PoE budget allow the PoE models in the series to power more devices with greater port density



## **DGS-1250 Series**

# **Smart Managed Switches**

#### **Features**

#### **Green Technology**

- · Link status detection
- · Port and LED shut-off
- System hibernation
- Time-based PoE (PoE models only)

#### **Security Features**

- · Access Control Lists (ACLs)
- D-Link Safeguard Engine helps the CPU resist broadcast/multicast/unicast flooding
- Port Security supports up to 64 MAC addresses per port
- ARP Spoofing Prevention
- IMPB Support

#### **Intuitive Management**

- D-Link Network Assistant (DNA) utility
- Multi-lingual Web UI
- Built-in SNMP MIB for remote NMS (D-View 7.0)
- Full command line support via console port

#### Advanced Features

- · Static routing
- · Surveillance Mode
- Auto Voice VLAN
- Dual software images
- Dual configuration files
- Embedded 6kV surge protection on all Gigabit Ethernet access ports

The D-Link DGS-1250 Series Smart Managed Switches are the latest generation of switches to provide increased Power over Ethernet (PoE) output, high port density, multiple management interfaces, and advanced Layer 2 features. With all of these features combined, the DGS-1250 Series provides a cost-efficient and flexible solution for expanding any business network.

## **Seamless Integration**

The DGS-1250 Series includes a wide range of port and media types. All models in the DGS-1250 Series feature four 10G SFP+ ports, allowing you to choose the most suitable media type for your requirements. All DGS-1250 Series PoE switches include support for IEEE 802.3af/at and higher power budgets, allowing more PoE devices to be powered by the switch and for devices to be installed in remote locations without immediate access to power outlets. Furthermore, the DGS-1250-28XMP and DGS-1250-52XMP can supply PoE power up to 370 W providing even more power for connected devices.

#### **Advanced Features**

The DGS-1250 Series comes equipped with a complete lineup of L2 features, including IGMP snooping, port mirroring, Spanning Tree Protocol (STP), 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 transfers. The DGS-1250 Series also supports advanced features such as static routing, which allow network administrators to divide the network into VLANs, increasing network efficiency. Network maintenance features include loopback detection and cable diagnostics. Loopback detection significantly speeds up troubleshooting by automatically detecting and shutting down switching loops. The cable diagnostics feature, designed primarily for administrators and customer service representatives, determines the cable quality and quickly discovers errors, allowing for swift diagnostics and maintenance.



#### Surveillance Mode

The DGS-1250 Series supports Auto Voice VLAN and Surveillance Mode, which allows voice and video traffic to be automatically identified and handled differently than regular network traffic. Auto Voice VLAN detects Voice over IP (VoIP) traffic and automatically segments it from the rest of the network, adding a layer of isolation and allowing Quality of Service (QoS) to be applied. 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. Surveillance Mode also includes its own Web UI, making surveillance features easily accessible and simplifying management of your surveillance network.

#### **Advanced Access Control**

D-Link's innovative Safeguard Engine helps to protect the switches against traffic flooding caused by malicious attacks. The DGS-1250 Series supports 802.1X port-based authentication, allowing clients to be authenticated through external RADIUS servers. The Access Control List (ACL) feature helps to enhance network security and helps to protect the internal IT network. The DGS-1250 Series also features Address Resolution Protocol (ARP) spoofing prevention, which helps to provide protection from attacks on the network that could allow an intruder to sniff data frames, modify traffic, or bring traffic to a halt altogether by sending fake ARP messages. To help prevent ARP spoofing attacks, the switch uses packet control ACLs to block invalid packets that contain fake ARP messages. The DHCP server screening filters DHCP replies on unauthorized ports to prevent them from being assigned an IP address.

## **Versatile Management**

The DGS-1250 Series comes with the D-Link Network Assistant (DNA) utility that enables administrators to remotely control their network down to the port level. The D-Link Network Assistant 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. With this utility, users do not need to change the IP address of their PC. This allows for simultaneous configuration and setup of all discovered devices, including password changes and firmware upgrades. The DGS-1250 Series supports Command Line Interface (CLI) through console port. SNMP is also supported which allows for the central management of network assets, remote configuration, and logging functions.

# **6kV Surge Protection**

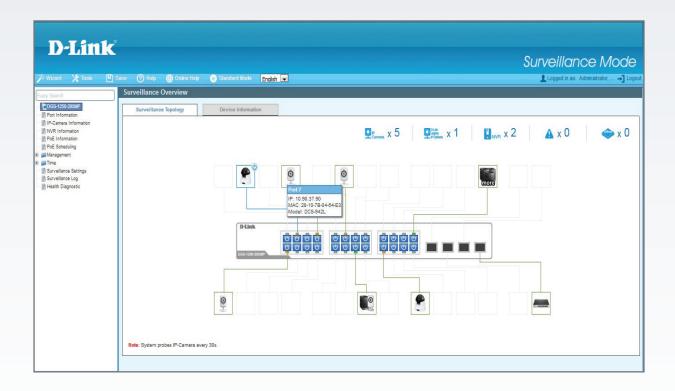
The DGS-1250 Series switches feature built-in 6kV surge protection on all PoE and non-PoE Ethernet access ports. This helps protect the switches against sudden electrical surges such as lightning strikes or unstable electrical current. Built-in 6kV surge protection helps reduce the chances of equipment being damaged from electrical surges, and effectively lowers maintenance costs by minimizing the need for expensive equipment repairs or replacement.

# **Lifetime Warranty**

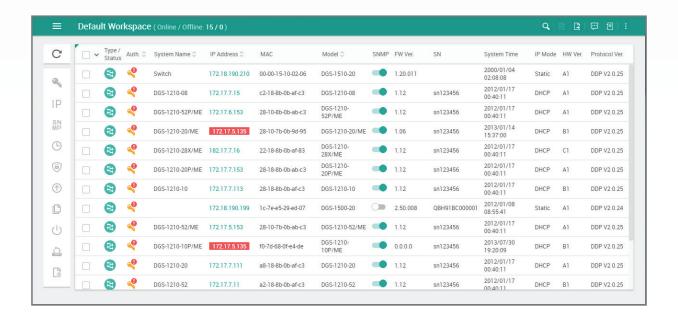
D-Link offers a Lifetime Warranty and Next Business Day (NBD) hardware replacement for the DGS-1250 Series Smart Managed Switches to further its commitment to product quality and long-term customer confidence. <sup>1</sup>



# Surveillance Topology Web Interface



### **D-Link Network Assistant (DNA)**





Technical Specificat	ions			
Model Number	• DGS-1250-28X-6KV	• DGS-1250-28XMP-6KV	• DGS-1250-52X-6KV	• DGS-1250-52XMP-6KV
Hardware Version	• A1			
General				
Interfaces	• 24 x 10/100/1000BASE-T • 4 x 10G SFP+ ports	• 24 x 10/100/1000BASE-T PoE • 4 x 10G SFP+ ports	• 48 x 10/100/1000BASE-T • 4 x 10G SFP+ ports	• 48 x 10/100/1000BASE-T PoE • 4 x 10G SFP+ ports
Port Standards	IEEE 802.3 10BASE-T Ethernet (twisted-pair copper)  IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper)  IEEE 802.3u 100BASE-FX 100 Mbps over fiber optic  IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper)  IEEE 802.3z 1000BASE-X 1 Gbps over fiber optic  IEEE 802.3az Energy-Efficient Ethernet (EEE)  IEEE 802.3x Flow Control  IEEE 802.3ae 10 Gigabit Ethernet  IEEE 802.3af/at			
Network Cables	• UTP Cat. 5, Cat. 5e (100 m max.)			
Duplex Mode	• Full/Half-duplex for 10/100 Mbps • Full-duplex for 1000 Mbps			
Media Interface Exchange	Auto MDI/MDIX adjustment for all twisted-pair ports			
Performance				
Switching Capacity	• 128 Gbps	• 128 Gbps	• 176 Gbps	• 176 Gbps
Transmission Method	Store-and-forward			
MAC Address Table	• 16K	• 16K	• 32K	• 32K
Static MAC Addresses	• 256 entries			
Maximum 64 Byte Packet Forwarding Rate	• 95.24 Mpps	• 95.24 Mpps	• 130.95 Mpps	• 130.95 Mpps
Packet Buffer Memory	• 12 Mbits	• 12 Mbits	• 16 Mbits	• 16 Mbits
CPU Memory	• 2G DDR3			
Flash Memory	• 64 MB			
PoE				
PoE Standard		• IEEE 802.3af/at		• IEEE 802.3af/at
PoE Capable Ports		• 24		• 48
PoE Power Budget		• 370 W • 30 W per port		• 370 W • 30 W per port
LEDs				
Power (per device)	✓			
Link/Active/Speed (per RJ-45 port)	✓			
Link/Active/Speed (per 10G SFP+ port)	✓			



Physical					
Power Input	• 100 to 240 V AC 50/60 Hz internal universal power supply				
Maximum Power Consumption	• 30.6 W/100 V • 29.6 W/240 V	• PoE On: • 455.1 W/100 V • 431.5 W/240 V • PoE Off: • 38.6 W/100 V • 39.1 W/240 V	• 51 W/100 V • 51.2 W/240 V	• PoE On: • 467.3 W/100 V • 443.6 W/240 V • PoE Off: • 56.4 W/100 V • 57.2 W/240 V	
Standby Power Consumption	• 8.7 W/100 V • 9.3 W/240 V	• 18.5 W/100 V • 19 W/240 V	• 23 W/100 V • 23.5 W/240 V	• 27.8 W/100 V • 28.4 W/240 V	
Surge Protection	6kV surge protection on all Ethernet access ports				
Acoustics	• Max: 47.6 dB(A) • Min: 33.2 dB(A)	• Max: 50.8 dB(A) • Min: 42.0 dB(A)	• Max: 50.7 dB(A) • Max: 39.0 dB(A)	• Max: 51.2 dB(A) • Min: 43.0 dB(A)	
Heat Dissipation	• 104.346 BTU/hr (100 V) • 100.936 BTU/hr (240 V)	PoE On:     1551.891 BTU/hr (100 V)     1471.415 BTU/hr (240 V)     PoE Off:     131.626 BTU/hr (100 V)     133.331 BTU/hr (240 V)	• 173.91 BTU/hr (100 V) • 174.592 BTU/hr (240 V)	PoE On:     1593.493 BTU/hr (100 V)     1512.676 BTU/hr (240 V)     PoE Off:     192.324 BTU/hr (100 V)     195.052 BTU/hr (240 V)	
MTBF	• 743,482.45 hours	• 463,430.16 hours	• 589,984.72 hours	• 309,053.10 hours	
Operating Temperature	• -5 to 50°C (23 to 122°F)				
Storage Temperature	• -20 to 70°C (-4 to 158°C)				
Operating Humidity	• 0% to 95% relative humidity				
Storage Humidity	• 0% to 95% relative humidity				
Dimensions (L x W x H)	• 440 x 140 x 44 mm (17.32 x 5.51 x 1.73 in)	• 440 x 250 x 44 mm (17.32 x 9.84 x 1.73 in)	• 440 x 210 x 44 mm (17.32 x 8.27 x 1.73 in)	• 440 x 250 x 44 mm (17.32 x 9.84 x 1.73 in)	
Weight	• 1.75 kg (3.86 lbs)	• 3.46 kg (7.63 lbs)	• 3.01 kg (6.63 lbs)	• 3.85 kg (8.49 lbs)	
Certifications					
Safety	• CB, UL, BSMI, CCC				
EMI		• CE Class A, VCCI Clas	ss A, FCC Class A, IC, BSMI		
Software					
L2 Features	MAC Address Table  16K entries  32K entries (DGS-1250-52X/52XMP only)  IGMP Snooping  IGMP v1/v2/v3 Snooping  Supports 256 IGMP groups  Supports at least 64 static multicast addresses  IGMP per VLAN  Supports IGMP Snooping Querier  Loopback Detection  802.3ad Link Aggregation:  Supports maximum 8 groups per per device and 8 ports per group  LLDP  LLDP  LLDP-MED  Jumbo Frame  Up to 12,000 bytes		<ul> <li>Spanning Tree Protocol</li> <li>802.1D STP</li> <li>802.1W RSTP</li> <li>802.1s MSTP</li> <li>Flow Control</li> <li>802.3x Flow Control</li> <li>HOL Blocking Prevention</li> <li>Port Mirroring</li> <li>One-to-One</li> <li>Many-to-One</li> <li>Supports Mirroring for Tx/Rx/Both</li> <li>Multicast Filtering</li> <li>Forwards all registered groups</li> <li>Filters all unregistered groups</li> <li>Configurable MDI/MDIX</li> <li>MLD snooping v1/v2 awareness (256 groups)</li> <li>PD-Alive</li> </ul>		



	• 802.1Q	Auto Voice VLAN	
VLAN	VLAN Group     Max. 4094 static VLAN groups	Max. 10 user-defined OUI     Max. 8 default OUI	
	Configurable VID from 1 - 4094     Asymmetric VLAN	Auto Surveillance VLAN	
	802.1p Quality of Service	• QoS based on:	
	8 queues per port	802.1p priority queues  Occupants  Occu	
	Queue Handling     Strict	DSCP     MAC address	
	Weighted Round Robin (WRR)	• EtherType	
Quality of Service (QoS)	Bandwidth Control	• IP address	
Z, (Z,	<ul> <li>Port-based (ingress/egress, min granularity 10/100/1000 is 16</li> </ul>	<ul> <li>Protocol type</li> </ul>	
	Kbps)	• ToS	
		• IP preference	
		<ul><li>IPv6 Traffic Class</li><li>TCP/UDP port</li></ul>	
	• IP interface	Static routing	
L3 Features	Supports 4 interfaces	• 124 IPv4 static route entries	
	IPv6 Neighbor Discovery (ND)	50 IPv6 static route entries	
	Max. 50 access lists	• IPv6 address	
	Max. 768 rules shared by IPv4, MAC, and IPv6     Each rule can only be associated with a single port	<ul><li>Source/destination IP address mask</li><li>DSCP mask</li></ul>	
	ACL based on	Protocol type mask	
	MAC address	TCP/UDP port number mask	
	802.1p priority mask	IPv6 traffic class mask	
Access Control List (ACL)	• VID mask		
Access control List (Ace)	Source/destination MAC address mask		
	• EtherType mask		
	IP address     Source/destination IP address mask		
	DSCP mask		
	Protocol type mask		
	TCP/UDP port number mask		
	Broadcast/Multicast/Unicast Storm Control	DHCP Server Screening	
	D-Link Safeguard Engine  To 65	IP-MAC-Port Binding (Smart Binding)	
	Traffic segmentation     SSH v2	<ul><li>ARP Inspection</li><li>Max. 64 entries</li></ul>	
	• TLS v.1.2	• IPv4 Inspection	
Security Features	DoS attack prevention	Max. 127 entries	
•	802.1X Port-based Access Control	• IPv6 Inspection	
	Port Security	Max. 63 entries	
	Supports up to 64 MAC addresses per port	DHCP Snooping	
	ARP Spoofing Prevention     Max. 127 entries	Max. 512 entries	
	802.1X Authentication	IPv6 RADIUS server	
	Supports local/RADIUS database	Support MD5 authentication	
AAA	Supports port-based access control	Max. 128 entries when using local database	
	Supports host-based access control     Supports EAP, OTP, TLS, TTLS, PEAP		
OAM	Cable diagnostics	Factory reset	
OAW			
	Web-based GUI     D-Link Network Assistant	System Log     Max. 500 log entries	
	Full CLI	Note: N	
	• Telnet Server	• ICMP v6	
	• TFTP Client	• IPv4/v6 Dual Stack	
Management	Configurable MDI/MDIX	DHCP Auto Configuration	
	• SNMP	Time setting	
	Supports v1/v2c/v3     SNMPTrop	• SNTP	
	SNMP Trap     Backup/upgrade firmware	RMONv1     Trusted host	
	Smart Wizard	Dual image	
	Upload/download configuration file	Dual configuration	
	BootP/DHCP Client		

Green V3.0 Technology	Power Saving by: Link Status Time-based PoE: PoE ports can be turned on/off by port or system through schedule	<ul><li>System hibernation</li><li>Port shut off</li><li>Cable length detection</li></ul>	
MIBs	<ul> <li>RFC1212 Concise MIB Definitions</li> <li>RFC1213 MIBII</li> <li>RFC1215 MIB Traps Convention</li> <li>RFC1493 Bridge MIB</li> <li>RFC1493, RFC2573, RFC2575, RFC2576 SNMP MIB</li> <li>RFC1157, RFC2573, RFC1902, RFC1903, RFC1904, RFC1905, RFC1906, RFC1907, RFC1908, RFC2578, RFC3418 SNMPv2 MIB</li> <li>RFC271, RFC1757, RFC2819 RMON MIB</li> <li>RFC2021 RMONv2 MIB</li> <li>RFC1398, RFC1643, RFC1650, RFC2358, RFC2665 Ether-like MIB</li> </ul>	<ul> <li>RFC2674 802.1p MIB</li> <li>Interface Group MIB</li> <li>RFC2618 RADIUS Authentication Client MIB</li> <li>RFC4022 MIB for TCP</li> <li>RFC4113 MIB for UDP</li> <li>RFC2389 MIB for Diffserv.</li> <li>RFC2620 RADIUS Accounting Client MIB</li> <li>Private MIB</li> <li>PoE MIB</li> <li>DDP MIB</li> <li>LLDP-MED MIB</li> </ul>	
RFC Standards	RFC791 IP     RFC768 UDP     RFC793 TCP     RFC792 ICMPv4     RFC2463, RFC4443 ICMPv6     RFC826 ARP     RFC1321, RFC2284, RFC2865, RFC2716, RFC3580 Extensible Authentication Protocol (EAP)	<ul> <li>RFC2573 SNMP Applications</li> <li>RFC2461, RFC4861 Neighbor Discovery for IPv6</li> <li>RFC2462, RFC4862 IPv6 Stateless Address Auto-configuration (SLAAC)</li> <li>RFC2464 IPv6 over Ethernet and definition</li> <li>RFC4291 IPv6 Addressing Architecture</li> <li>RFC2893, RFC4213 IPv4/IPv6 dual stack function</li> </ul>	
Order Information			
DGS-1250-28X-6KV	24 Ports 10/100/1000 Mbps + 4 Ports 10G SFP+ Smart Managed Sw	ritch	
DGS-1250-28XMP-6KV	24 Ports 10/100/1000 Mbps PoE + 4 Ports 10G SFP+ Smart Managed Switch		
DGS-1250-52X-6KV	48 Ports 10/100/1000 Mbps + 4 Ports 10G SFP+ Smart Managed Switch		
DGS-1250-52XMP-6KV	48 Ports 10/100/1000 Mbps PoE + 4 Ports 10G SFP+ Smart Managed Switch		
Optional SFP Transo	ceivers		
DGS-712	1000BASE-T copper		
DEM-310GT	1000BASE-LX, single-mode, 10 km		
DEM-311GT	1000BASE-SX, multi-mode, 550 m		
Optional SFP+ Tran	sceivers		
DEM-410T	10GBASE-T SFP+ transceiver, 100 m		
DEM-431XT	10GBASE-SR SFP+ transceiver (without DDM), 33 m: OM1 MMF, 82 m: OM2 MMF, 300 m: OM3 MMF		
DEM-432XT	10GBASE-LR SFP+ transceiver (without DDM), 10 km		

Limited lifetime warranty is available in the USA only. The warranty is void when not purchased from an authorized US D-Link reseller. Please visit us.dlink.com for a list of authorized US resellers. Updated 2020/04/28

## For more information

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