D-Link®
Building Networks for People

Product Highlights

Comprehensive Security Solution

Support for Access Control Lists (ACLs), multiple user authentication methods, and IP-MAC-Port Binding ensures a secure network environment

Superior Reliability

Per-port surge protection, Ethernet Ring Protection Switching (ERPS), and Redundant Power Supply (RPS) features maximise service availability

Service Provider Features

Layer 2 multicast functions allow IPTV streams to be distributed efficiently and security features prevent network abuse

DGS-3000 Series
Gigabit L2 Managed Switches

Features

Reliable Hardware and Software Features
- 6 kV surge protection for Ethernet ports
- Real Time Clock (RTC)
- Dying Gasp
- Ethernet Ring Protection Switching (ERPS)
- Redundant Power Supply (RPS) support

Advanced Switch Features
- VLAN trunking
- VLAN mirroring
- ISM VLAN (Multicast VLAN)
- RSPAN

Comprehensive Security Features
- Access Control Lists (ACLs)
- D-Link Safeguard Engine
- BPDU attack protection
- ARP spoofing prevention
- IP-MAC-Port Binding
- DoS attack prevention
- IEEE 802.1X port-based Access Control
- WAC/MAC-based Access Control
- Guest VLAN

System Management
- 802.1ag CFM
- 802.3ah Ethernet Link OAM
- SNMP v1/v2c/v3
- RMON v1/v2
- LLDP/LLDP-MED

The DGS-3000 Series Gigabit L2 Managed Switches are part of the Layer 2 family of D-Link's managed switch product line that provides wired Gigabit speeds for Metro Ethernet and campus networks. They feature a variety of ports, including 10/100/1000BASE-T RJ-45 ports, 1G SFP ports, and 10G SFP+ ports for increased network bandwidth. Surge protection, advanced Layer 2 functions, and a suite of security and management tools make the DGS-3000 Series Gigabit L2 Managed Switches ideal for Metro Ethernet and campus applications.

Multi-Gigabit Performance

The DGS-3000 Series Gigabit L2 Managed Switches come with a variety of port types, including 1 G RJ-45 ports, 1 G SFP ports, and 10G SFP+ ports, with all models offering a minimum of at least 2 1 G SFP ports. The DGS-3000-28X and DGS-3000-52X offer 4 10G SFP+ ports for improved bandwidth and fault tolerance. The DGS-3000-28LP and DGS-3000-28XMP switches feature Power over Ethernet (PoE), allowing compatible devices to be installed in remote locations without immediate access to power outlets.

Efficient and Resilient Networking

The DGS-3000 Series supports up to 6 kV surge protection on all Ethernet ports, protecting the switch from power surges due to lightning strikes or faulty electrical cabling. The DGS-3000 Series supports ITU-T G.8032 Ethernet Ring Protection Switching (ERPS), which allows 50-millisecond failover in the event of a failure of one of the rings, minimising service disruption. The switches also support IEEE 802.1AX and 802.3ad Link Aggregation, which allows grouping of multiple ports to provide redundancy and load balancing in mission-critical environments.

Quality of Service

The DGS-3000 Series implements a rich set of multilayer QoS/CoS features to ensure that critical network services such as VoIP, video conferencing, IPTV, and IP surveillance are given high priority. Flexible packet classification can be based on various header fields or user-defined packet content to help administrators prioritise network traffic. Traffic Shaping features guarantee bandwidth for these critical services when the network is busy. Multilayer QoS/CoS features let IT managers arrange network resources more efficiently in enterprise environments.

Identity-driven Network Policies

The DGS-3000 Series supports authentication mechanisms such as 802.1X port-based Access Control, Web-based Access Control (WAC), and MAC-based Access Control (MAC) for strict access control to network resources. After authentication, individual policies such as VLAN membership, QoS policies, and ACL rules can be assigned to each host. Additionally, the switches support Microsoft® NAP (Network Access Protection), which allows network assets to be protected from compromised computers by enforcing compliance with network health policies.

Manageability

D-Link Single IP Management (SIM) simplifies and speeds up management tasks, allowing multiple switches to be configured, monitored, and maintained from any workstation running a web browser and with network connectivity. All switches can be managed as a virtual stack, allowing physically separate switches to be managed using a single IP address. The DGS-3000 Series also supports management tools such as a Web UI, SSH, Telnet, and console, and standards-based protocols such as SNMP, RMON, and SSL.

Security & Authentication

The DGS-3000 Series offers user and device authentication, including host-based authentication and authorization, which provide the option to finely control network access for each device on the network. Advanced features such as RADIUS accounting allow the switches to be integrated with back-end systems for billing or advanced access control. The DGS-3000 Series also supports address and interface binding features such as IP-MAC-Port Binding and ARP Spoofing Prevention to protect against Man-in-the-Middle or ARP Spoofing attacks.

D-Link Assist
Rapid Response Support

If the worst should happen to your network you need the very best support and fast. Downtime costs your business money. D-Link Assist maximises your uptime by solving technical problems quickly and effectively. Our highly trained technicians are on standby around the clock, ensuring that award-winning support is only a phone call away.

With a choice of three affordable service offerings covering all D-Link business products, you can select the package that suits you best:

D-Link Assist Gold - for comprehensive 24-hour support

D-Link Assist Gold is perfect for mission-critical environments where maximum uptime is a high priority. It guarantees four hour around-the-clock response. Cover applies 24/7 for every day of the year including holidays.

D-Link Assist Silver - for prompt same-day assistance

D-Link Assist Silver is designed for 'high availability' businesses that require rapid response within regular working hours. It provides a four hour response service Monday to Friday from 8am to 5pm, excluding holidays.

D-Link Assist Bronze - for guaranteed response on the next business day

D-Link Assist Bronze is a highly cost-effective support solution for less critical environments. Response is guaranteed within eight business hours Monday to Friday from 8am to 5pm, excluding holidays.

D-Link Assist can be purchased together with any D-Link business product. So whether you're buying switching, wireless, storage, security or IP Surveillance equipment from D-Link, your peace of mind is guaranteed. D-Link Assist also offers installation and configuration services to get your new hardware working quickly and correctly.

Technical Specifications

Interface	DGS-3000-28X	DGS-3000-52X
Size	• 19-inch standard rack-mount width	• 1U height
Interface	• 24 x 10/100/1000 Mbps + 4 10G SFP+	• 48 x 10/100/1000 Mbps + 4 10G SFP+
Console Port	• RJ-45 Console Port	
Port Standards & Functions	• IEEE 802.3 10BASE-T Ethernet • IEEE 802.3u 100BASE-TX Fast Ethernet • IEEE 802.3ab 1000BASE-T Gigabit Ethernet	• IEEE 802.3ae 10G Ethernet • IEEE 802.3x Flow Control for full-duplex mode, auto-negotiation
Network Cables	• UTP Cat. 5, Cat. 5e (100 m max.); EIA/TIA-568 100-ohm STP (100 m max.)	
Full/Half-duplex	• Half/full-duplex for 10/100 Mbps and full-duplex for 1000 Mbps speeds	
Media Interface Exchange	• Auto or configurable MDI/MDIX	

Performance

Switching Capacity	128 Gbps	176 Gbps
Forwarding Method	Store-and-forward	
MAC Address Table Size	Up to 16K entries per device	
MAC Address Update	Up to 512 static MAC entries	
Maximum 64-byte Max. Packet Forwarding Rate	95.24 Mpps	130.95 Mpps
Packet Buffer	1.5 MB per device	3.0 MB per device

LEDs

Power (per device)	✓	✓
Redundant Power Supply (RPS) (per device)	✓	✓
Console (per device)	✓	✓
Link/Active/Speed (per port)	✓	✓
Fan Error	✓	✓

Physical/Environmental

MTBF	652,062 hours	465,240 hours
Acoustic	44 dB(A)	45.9 dB(A)
Heat Dissipation	75.361 BTU/h	145.948 BTU/h
Power Input	AC Input: 100 to 240 VAC 50/60 Hz	
Maximum Power Consumption	22.1 W	40.7 W
Standby Power Consumption	15.2 W	28.9 W
Dimensions (W x D x H)	440 x 210 x 44 mm (17.32 x 8.27 x 1.73 in.)	440 x 210 x 44 mm (17.32 x 8.27 x 1.73 in.)
Weight	2.00 kg (4.41 lb)	2.40 kg (5.29 lb)
Ventilation	1 x Smart Fan	2 x Smart Fan
Power Surge Protection	All Ethernet ports support IEC61000-4-5 6 kV surge protection	
Temperature	• Operating: -5 to 50 ˚C (23 to 122 ˚F)	• Storage: -20 to 70˚C (-4 to 158 ˚F)
Humidity	• Operating : 0% to 95% non-condensing	• Storage: 0% to 95% non-condensing
EMI	CE, FCC, C-Tick, VCCI, BSMI	
Safety Certifications	cUL, CB	

Technical Specifications

Interface	DGS-3000-28LP	DGS-3000-28XMP
Size	• 19-inch standard rack-mount width	• 1U height
Interface	• 24 x 10/100/1000 Mbps PoE + 4 SFP	• 24 x 10/100/1000 Mbps PoE + 4 SFP+
Port Standards & Functions	• Ports 1 to 24 compliant with both IEEE 802.3af/802.3at	
Console Port	• RJ-45 Console Port	
Other Port Standards & Functions	• IEEE 802.3 10BASE-T Ethernet • IEEE 802.3u 100BASE-TX Fast Ethernet • IEEE 802.3ab 1000BASE-T Gigabit Ethernet • IEEE 802.3ae 10G Ethernet	• IEEE 802.3x Flow Control for full-duplex mode, auto-negotiation • IEEE 802.3af, 802.3at PoE
Network Cables	• UTP Cat. 5, Cat. 5e (100 m max.); EIA/TIA-568 100-ohm STP (100 m max.)	
Full/Half-duplex	• Half/full-duplex for 10/100 Mbps and full-duplex for 1000 Mbps speeds	
Media Interface Exchange	• Auto or configurable MDI/MDIX	

Performance

	DGS-3000-28LP	DGS-3000-28XMP
Switching Capacity	56 Gbps	128 Gbps
Forwarding Method	Store-and-forward	
MAC Address Table Size	Up to 16K entries per device	
MAC Address Update	Up to 512 static MAC entries	
Maximum 64-byte Max. Packet Forwarding Rate	68.45 Mpps	95.24 Mpps
Packet Buffer	1.5 MB per device	

LEDs

	DGS-3000-28LP	DGS-3000-28XMP
Power (per device)	✓	✓
Redundant Power Supply (RPS) (per device)	✓	✓
Console (per device)	✓	✓
Link/Active/Speed (per port)	✓	✓
Fan Error	✓	✓

Physical/Environmental

	DGS-3000-28LP	DGS-3000-28XMP
MTBF	304,565 hours	268,693 hours
Acoustic	47.4 dB(A)	54.1 dB(A)
Heat Dissipation	840 BTU/h	1518.132 BTU/h
Power Input	AC Input: 100 to 240 VAC 50/60 Hz	
Maximum Power Consumption	246.5 W (PoE on), 28.4 W (PoE off)	445.2 W (PoE on), 31.8 W (PoE off)
Maximum PoE Budget	193 W	370 W
Standby Power Consumption	19 W	28.2 W
Dimensions (W x D x H)	440 x 210 x 44 mm (17.32 x 8.27 x 1.73 in.)	440 x 308 x 44 mm (17.32 x 12.13 x 1.73 in.)
Weight	2.54 kg (5.60 lb)	4.25 kg (9.37 lb)
Ventilation	2 x Smart Fan	
Power Surge Protection	All Ethernet ports support IEC61000-4-5 6 kV surge protection	
Operating Temperature	• Operating: -5 to 50 °C (23 to 122 °F)	• Storage: -20 to 70°C (-4 to 158 °F)
Operating Humidity	• Operating: 0% to 95% non-condensing	• Storage: 0% to 95% non-condensing
EMI	CE, FCC, C-Tick, VCCI, BSMI	
Safety Certifications	cUL, CB	

Software Specifications

Virtual Stacking	• D-Link Single IP Management (SIM) - Up to 32 units per virtual stack

L2 Features	• MAC Address Table: Up to 16K
	• Flow Control
	  - 802.3x Flow Control
	  - HOL Blocking Prevention
	• Jumbo Frames up to 9216 Bytes
	• Spanning Tree Protocol
	  - 802.1D STP
	  - 802.1w RSTP
	  - 802.1s MSTP
	• BPDU filtering
	
	• Root Restriction
	• Loopback Detection
	• Link Aggregation
	  - Compliant with 802.1AX and 802.3ad
	• Port Mirroring
	  - Supports 1 Mirroring group
	  - Supports one-to-one, many-to-one, flow-based (ACL) mirroring
	• Ethernet Ring Protection Switching (ERPS)
	• L2 Protocol Tunneling (L2PT)

L2 Multicasting	• IGMP Snooping
	  - IGMP v1/v2 snooping, v3 awareness
	  - Supports 1024 groups
	  - Port/Host-based IGMP Snooping Fast Leave
	  - Report suppression
	  - IGMP authentication
	  - Limited IP Multicast (IGMP filtering)
	
	• MLD Snooping
	  - MLD v1, MLD v2 awareness
	  - Supports 1024 groups
	  - Port/Host-based MLD Snooping Fast Leave

VLAN	• VLAN group
	  - Max. 4094 VLAN
	• Port-based VLAN
	• MAC-based VLAN
	• GVRP
	  - Max. 255 dynamic VLANs
	• 802.1v Protocol VLAN
	• Double VLAN (Q-in-Q)
	  - Port-based Q-in-Q
	
	• 802.1Q tagged VLAN
	• ISM VLAN
	• VLAN translation
	• VLAN trunking
	• VLAN mirroring
	• RSPAN
	• Voice VLAN
	• Private VLAN

L3 Features	• Max. 1024 ARP entries
	  - Supports 255 static ARP entries
	• Gratuitous ARP
	• IPv6 Neighbor Discovery (ND)
	• 16 IP interfaces
	
	• Default route
	• Static route[1]
	  - 64 IPv4 static routes[1]
	  - 32 IPv6 static routes[1]

Quality of Service (QoS)	• CoS based on
	  - Switch port
	  - 802.1p priority
	  - VLAN ID
	  - MAC address
	  - EtherType
	  - IPv4/IPv6 address
	  - DSCP
	  - ToS
	  - Protocol type
	  - TCP/UDP port
	  - IPv6 traffic class
	  - IPv6 Flow Label
	  - User-defined packet content
	
	• Bandwidth control
	  - Port-based (ingress, min. granularity 64 Kbps)
	  - Flow-based (ingress, min. granularity 64 Kbps)
	  - Egress queue bandwidth control (min. granularity 64 Kbps)
	• Queue Handling
	  - Strict Priority Queue (SPQ)
	  - Weighted Round Robin (WRR)
	  - SPQ + WRR
	• 8 queues per port

Access Control List (ACL)	• ACL based on
	  - Switch port
	  - 802.1p priority
	  - VLAN ID
	  - MAC address
	  - EtherType
	  - IPv4/IPv6 address
	  - IPv6 traffic class
	  - IPv6 Flow Label
	  - DSCP
	  - ToS
	  - Protocol type
	  - TCP/UDP port
	  - User-defined packet content
	
	• Up to 1024 ingress access rules
	• Time-based ACL
	• ACL statistics
	• CPU interface filtering

Authentication, Authorization, and Accounting (AAA)	• 802.1X - Port-based Access Control - Host-based Access Control - Dynamic VLAN assignment • MAC-based Access Control (MAC) - Port-based Access Control - Host-based Access Control - Dynamic VLAN assignment • Web-based Access Control (WAC) - Port-based Access Control - Host-based Access Control - Identity Driven WAC policy assignment - Authentication database failover	• Microsoft® NAP (IPv4) • Guest VLAN • RADIUS • RADIUS accounting • TACACS • TACACS+ • XTACACS+ • Trusted host • Four-level user account • Compound authentication
Security	• SSH v1/v2 • SSL v1/v2/v3 • Port Security - Up to 64 MAC addresses per port • Broadcast/multicast/unicast storm control • IP-MAC-Port Binding (IMPB) - ARP inspection - IP inspection - DHCP snooping - DHCPv6 snooping[1] - DHCPv6 Guard[1] - IPv6 Route Advertisement (RA) Guard[1] - IPv6 ND snooping[1] - IPv6 ND inspection[1]	• Traffic segmentation • D-Link Safeguard Engine • L3 control packet filtering • NetBIOS/NetBEUI filtering • DHCP server screening • DHCP client filtering • ARP spoofing prevention • BPDU attack protection • DoS attack prevention
Operations, Administration, and Management (OAM)	• Cable diagnostics • 802.3ah Ethernet Link OAM • Dying Gasp	• 802.1ag Connectivity Fault Management (CFM) • Y.1731 OAM
Management	• Web-based GUI (supports IPv4/v6) • Command Line Interface (CLI) • Telnet server/client • TFTP client • FTP client (supports IPv4) • ZModem • Command logging • SNMP v1/v2c/v3 (supports IPv4) • SNMP Traps • System log • SMTP (supports IPv4) • RMON v1: - Supports 1, 2, 3, 9 groups • RMON v2: - Supports Probe Config group • 802.1AB LLDP - LLDP-MED • BootP/DHCP client (supports IPv4) • DNS client • DHCP auto-configuration[1]	• DHCP relay (supports IPv4) - DHCP relay Option 60, 61 and 82 - DHCP client Option 12 • PPPoE circuit-ID tag insertion[1] • Multiple image • Flash file system • CPU monitoring • Memory monitoring • SNTP (supports IPv4) • Debug command • Password recovery • Password encryption • Ping • Traceroute • Microsoft® NLB (Network Load Balancing) support (supports IPv4) • Zero Touch Provisioning (ZTP)[1] • sFlow • D-Link Network Assistant (DNA)[1]

Optional Redundant Power Supply	
DPS-500A	140 W Redundant Power Supply (Alternating Current)[2]
Optional SFP Transceivers	
DEM-310GT	1000BASE-LX, Single-mode, 10 km
DEM-311GT	1000BASE-SX, Multi-mode, 550 m
DEM-312GT2	1000BASE-SX, Multi-mode, 2 km
DGS-712	1000BASE-T to SFP transceiver
Optional SFP+ Transceivers	
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
Optional 10 Gigabit Ethernet SFP+ Direct Attach Cables (DGS-3000-28X, 28XMP and 52X only)	
DEM-CB100S	10G SFP+ 1 m Direct Attach Cable
DEM-CB300S	10G SFP+ 3 m Direct Attach Cable

[1] Feature available in a future software release
[2] Requires the DPS-CB150-2PS cable, sold separately. Please note, for DGS-3000-28LP and DGS-3000-28XMP, in the event of an internal power supply failure, the DPS-500A will only provide the switching functionality. The DPS-500A will not be able to provide power to connected PoE powered devices.

For more information: www.dlink.com

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