D-Link®

Building Networks for People

Product Highlights

Flexibility and Reliabilty

Ethernet and SFP ports make it ideal for a wide range of applications and environments

Security and Authentication Features

Robust security features, including the D-Link Safeguard Engine™ protect against malicious attacks, while authentication tools allow access control

Optimal Network Performance

Control traffic and bandwidth down to each individual port while multicast support streamlines simultaneous distribution to multiple ports

DGS-1210/ME Series

Metro Ethernet Switches

Features

Flexible Hardware Design

- Available with 8, 16, 24, or 48 10/100/1000BASE-T ports or 8, 24, or 48 port 10/100/1000BASE-T PoE models
- Each model has individual SFP ports for high speed data connections
- Designed for standard 1U rack-mounting

Surge Protection

- All ports feature surge protection[1]

L2 Features

- 16K MAC Address Table
- 802.1D STP, 802.1w RSTP, and 802.1s MSTP
- Loopback detection
- Supports 802.3ad Link Aggregation
- Port-based Q-in-Q
- VLAN Trunking

Security/Authentication

- Port security
- SSH/SSL
- IP-MAC-Port Binding (IMPB)
- Access Control List (ACL)
- 802.1X
- Guest VLAN

Management

- SNMP v1/v2c/v3
- RMON v1/v2
- Link Layer Discovery Protocol (LLDP)

The DGS-1210/ME Series Metro Ethernet Switches are a family of Ethernet switches ideal for Metro Ethernet applications. These Metro Ethernet Switches provide 8/16/24/48 copper connections on upgraded Gigabit Ethernet ports, along with Gigabit SFP ports for improved uplink bandwidth. Surge protection ensures resilience against unexpected electrical spikes, while a full suite of security and management features keeps your network safe from internal and external threats.

Gigabit Performance

The DGS-1210/ME Series all come with 10/100/1000 Mbps Ethernet downlink ports for superior Gigabit performance for your network. All models offer Gigabit SFP uplink ports and the DGS-1210-10P/ME , DGS-1210-28P/ME, DGS-1210-52P/ME, and DGS-1210-54MP/ME also offer Power-over-Ethernet (PoE) so network devices such as PoE IP cameras can be installed in remote locations without immediate access to power outlets. Simply use an Ethernet cable to connect to these devices at the deployment location and it can act as a conduit not only for data, but for power as well.

Efficient and Resilient

For mission critical environments, the DGS-1210/ME Series Metro Ethernet Switches support 802.1D 2004 edition, 802.1w, and 802.1s Spanning Tree Protocols (STP). STP allows the switch to be configured with a redundant backup bridge path, so transmission and reception of packets can be guaranteed in emergency situations. The switches also support 802.3ad link aggregation, which enables multiple ports to be grouped in parallel to form a single port, increasing bandwidth and redundancy for higher availability. These models feature 802.1p Quality of Service (QoS), allowing for real-time traffic classification into Weighted Round Robin (WRR) and strict priority levels mapped to 8 queues. Packet classification is based on TOS, DSCP, MAC, IPv4, VLAN ID, TCP/UDP port number, protocol type, or user-defined packet content for flexible configuration for specific multimedia applications such as VoIP or IPTV.

Security & Authentication

DGS-1210/ME Series Metro Ethernet Switches support 802.1X port-based/host-based access control, guest VLAN, and RADIUS/TACACS+ authentication for strict access control over the network. The IP-MAC-Port Binding feature allows administrators to bind a source IP address with an associated MAC and also to define the port number to enhance user access control. The built-in D-Link Safeguard Engine™ protects the CPU from broadcast/multicast/unicast flooding by automatically trapping packets and logging events in these situations. In addition, the Access Control List (ACL) feature enhances network security and switch performance.

Management Capabilities

A web-based GUI provides a user-friendly interface and easy management, and DHCP auto-configuration gives administrators enhanced management features, allowing them to save configuration presets to a TFTP server. Individual switches can then retrieve their IP addresses from the server and load the preset configuration. Support for Link Layer Discovery Protocol (LLDP) allows a network device to advertise its identity and capabilities on the local network, which helps businesses better manage their network topology. Also, each port on these switches supports a cable diagnostic feature that helps detect cable related problems such as length or cable functionality issues, so the administrator can quickly identify and fix this problem.

Traffic & Bandwidth Control

Integrated bandwidth control allows network administrators to define the throughput levels for each port to manage bandwidth. It provides minimum granularity of 64 Kbps, ingress control for port and flow-based bandwidth control. The DGS-1210/ME Series also supports traffic control, which optimizes performance by dropping packets beyond the threshold, and port mirroring helps administrators facilitate traffic diagnostics and track switch performance. The DGS-1210/ME Series also provides IGMP snooping with IGMP authentication to prune multicast traffic and to optimize network performance.

Multicast Applications

The DGS-1210/ME Series Metro Ethernet Switches feature a full set of L2 multicast functions, including IGMP snooping, IGMP filtering, fast leave, and multicast traffic configuration for specific ports. With L2 multicast support, the DGS-1210/ME Series is ready and capable of handling growing IPTV applications. Host-based IGMP/MLD snooping allows for multiple multicast subscribers per physical interface, and ISM VLAN sends multicast streams in a multicast VLAN, saving bandwidth on the backbone network. ISM VLAN profiles allow users to bind/replace the predefined multicast registration information to subscriber ports quickly and easily.
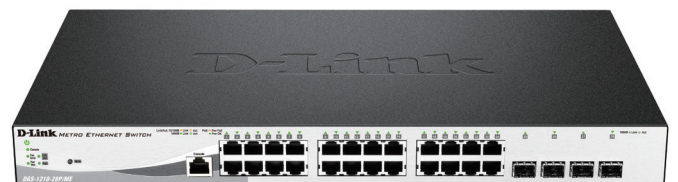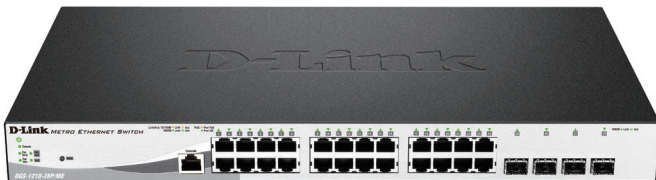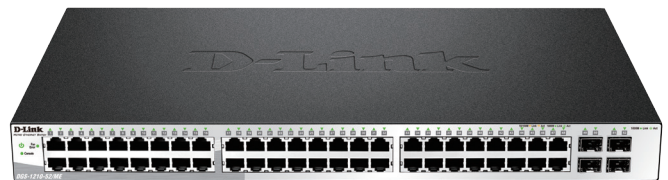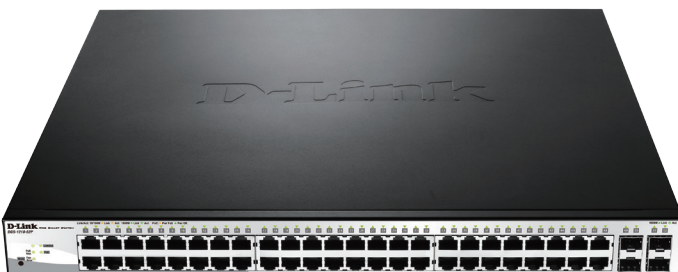
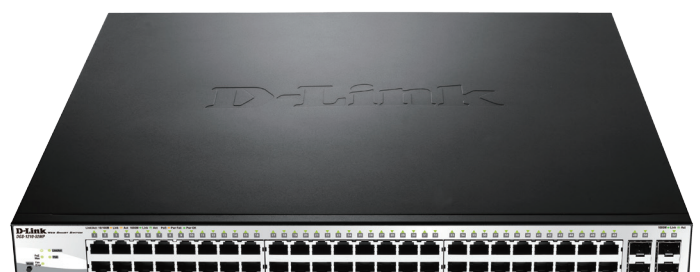DGS-1210-10/ME

DGS-1210-10P/ME

DGS-1210-20/ME

DGS-1210-28P/ME

DGS-1210-28/ME

DGS-1210-52/ME

DGS-1210-52P/ME

DGS-1210-52MP/ME

Technical Specifications

Model Number	DGS-1210-10P/ME	DGS-1210-28P/ME	DGS-1210-52MP/ME	DGS-1210-52P/ME
Hardware Version	A1	A1	A1	A1
Interface				
Size	• 11" inch standard rack-mount width • 1U Height	• 11" inch standard rack-mount width • 1U Height	• 19" inch standard rack-mount width • 1U Height	• 19" inch standard rack-mount width • 1U Height
Interface	• 8 10/100/1000BASE-T PoE + 2 SFP	• 24 10/100/1000BASE-T PoE + 4 SFP	• 48 10/100/1000BASE-T PoE + 4 SFP	• 24 10/100/1000BASE-T PoE • 24 10/100/1000BASE-T + 4 SFP
Port Standards & Functions	• 8 Ports compliant with 802.3at	• Ports 1 to 4 compliant with 802.3at • Ports 5 to 24 compliant with 802.3af	• Ports 1 to 8 compliant with 802.3at • Ports 9 to 48 compliant with 802.3af	• Ports 1 to 8 compliant with 802.3at • Ports 9 to 24 compliant with 802.3af
Console Port	• RJ-45 console port			
Other 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 802.3az compliance • Auto-negotiation • IEEE 802.3x Flow Control • IEEE 802.3, • IEEE 802.3u, • IEEE 802.3ab • IEEE 802.3az • IEEE 802.3z			
Network Cables	• UTP Cat. 5, Cat. 5e (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 for all twisted-pair ports			
Performance				
Switching Capacity	40 Gbps	56 Gbps	104 Gbps	104 Gbps
	Store and forward			
MAC Address Table Size	16K Entries			
MAC Address Update	Up to 256 static MAC entries			
Maximum 64-byte Max. packet Forwarding Rate	14.88 Mbps	41.7 Mbps	77.4 Mbps	77.4 Mbps
DDRIII for CPU	128 MB DDR3			
Packet Buffer	1.5 MB	1.5 MB	3.0 MB	3.0 MB
Flash Memory	32 MB			
LEDs				
Power (per device)	✓	✓	✓	✓
Console (per device)	✓	✓	✓	✓
Link/Active/Speed (per port)	✓	✓	✓	✓
Fan Error			✓	✓

Physical/Environmental

MTBF (Hours)	309,439 hours	239,534 hours	257,252 hours	201,071 hours
Acoustic	0 dB(A)	52.4 dB(A)	50.1 dB(A)	47.3 dB(A)
Heat Dissipation	347 BTU/hr	840.89 BTU/hr	1648.23 BTU/hr	912.96 BTU/hr
Power Input	AC Input: 100 to 240 V AC, 50/60 Hz			
Maximum Power Consumption	103.4 Watts (PoE on) 103.4 Watts (PoE off)	246.5 Watts (PoE on) 28.4 Watts (PoE off)	483.1 Watts (PoE on) 48.9 Watts (PoE off)	270.2 Watts (PoE on) 47 Watts (PoE off)
Maximum PoE Budget	78 Watts	193 Watts	370 Watts	193 Watts
Standby Power Consumption	10.3 W/100 V 11.1 W/240 V	24.5 W/100 V 21.9 W/240 V	29.6 W/100 V 28.2 W/240 V	29.5 W/100 V 27.5 W/240 V
Dimensions (WxDxH)	280 mm x 180 mm x 44 mm	440 mm x 210 mm x 44 mm	440 mm x 430 mm x 44 mm	440 mm x 430 mm x 44 mm
Ventilation	Fanless	2x Smart Fan	3x Smart Fan	2x Smart Fan
Power Surge Protection	All Ethernet ports support IEC61000-4-5 surge protection			
Operating Temperature	-5 to 50 ℃ (23 to 122 ℉)			
Storage Temperature	-40 to 70 ℃ (-40 to 158 ℉)			
Operating Humidity	10% to 90% non-condensing			
Storage Humidity	5% to 90% non-condensing			
EMI	FCC class A, CE class A, VCCI, C-Tick, BSMI, CCC			
Safety Certifications	CCC, CE LVD, UL/cUL			

Technical Specifications

Model Number	DGS-1210-10/ME	DGS-1210-20/ME	DGS-1210-28/ME	DGS-1210-52/ME
Hardware Version	A1	A1	A1	A1

Interface

Size	• 11" inch standard rack-mount width • 1U Height	• 11" inch standard rack-mount width • 1U Height	• 19" inch standard rack-mount width • 1U Height	• 19" inch standard rack-mount width • 1U Height
Interface	• 8 10/100/1000BASE-T + 2 SFP	• 16 10/100/1000BASE-T + 4 SFP	• 24 10/100/1000BASE-T + 4 SFP	• 48 10/100/1000BASE-T + 4 SFP
Console Port	RJ-45 Console Port			
Other 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 802.3az compliance • Auto-negotiation • IEEE 802.3x Flow Control • IEEE 802.3, • IEEE 802.3u, • IEEE 802.3ab • IEEE 802.3az • IEEE 802.3z			
Network Cables	• UTP Cat. 5, Cat. 5e (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 for all twisted-pair ports			

Performance

Performance				
Switching Capacity	20 Gbps	40 Gbps	56 Gbps	104 Gbps
64-byte Max. Forwarding Rate	14.88 Mbps	29.80 Mbps	41.7 Mbps	77.4 Mbps
MAC Address Table Size	16K Entries			
RAM for CPU	128 MB DDR3			
Packet Buffer	1.5 MB	1.5 MB	1.5 MB	3.0 MB
Flash Memory	32 MB			

LEDs

LEDs				
Power (per device)	✓	✓	✓	✓
Console (per device)	✓	✓	✓	✓
Link/Active/Speed (per port)	✓	✓	✓	✓
Fan Error				✓

Physical/Environmental

Physical/Environmental				
MTBF (Hours)	309,072 hours	392,728 hours	388,138 hours	334,101 hours
Acoustic	0 dB(A)	0 dB(A)	0 dB(A)	49.7 dB(A)
Heat Dissipation	46.35 BTU/hr	54.91 BTU/hr	76.59 BTU/hr	130.58 BTU/hr
Power Input	AC Input: 100 to 240 V AC, 50/60 Hz			
Maximum Power Consumption	13.59 Watts / 9.40 Watts (Standby)	16.09 Watts / 8.80 Watts (Standby)	22.45 Watts / 17.84 Watts (Standby)	38.27 Watts / 29.49 Watts (Standby)
Dimensions (WxDxH)	280 mm x 126 mm x 44 mm	280 mm x 180 mm x 44 mm	440 mm x 140 mm x 44 mm	440 mm x 210 mm x 44 mm
Ventilation	Fanless	Fanless	Fanless	1 x Smart Fan
Power Surge Protection	All Ethernet ports support IEC61000-4-5 surge protection			
Operating Temperature	-5 to 50 °C (23 to 122 °F)			
Storage Temperature	-40 to 70 °C (-40 to 158 °F)			
Operating Humidity	10% to 90% non-condensing			
Storage Humidity	5% to 90% non-condensing			
EMI	FCC class A, CE class A, VCCI, C-Tick, BSMI, CCC			
Safety Certifications	CCC, CE LVD, UL/cUL			

Software Specifications (all models)

Software Specifications (all models)	
L2 Features	• MAC Address Table: 16K • Spanning Tree Protocols - 802.1D STP - 802.1w RSTP - 802.1s MSTP - BPDU filtering - Root restriction • Loopback detection • Mirroring - Support 1 mirroring group - Support One-to-One, Many-to-One, Flow-based(ACL) mirroring for ingress traffic • L2 Protocol Tunneling (L2PT) • Link aggregation - Compliant with 802.3ad - Supports max 8 groups, 8 ports per group

L2 Multicasting	• IGMP Snooping
	  - IGMP v1/v2 snooping, v3 awareness
	  - IGMP authentication/filtering
	  - Supports 256 groups
	  - VLAN/host-based IGMP snooping fast leave
	  - Report suppression
		• MLD snooping
		  - MLD v1, MLD v2 awareness
		  - Support 256 groups

VLAN	• 802.1Q tagged VLAN • VLAN group • Max. 4094 VLAN groups • Port-based VLAN • GVRP • Asymmetric VLAN	• Max. 256 dynamic VLAN • 802.1v protocol VLAN • VLAN trunking • MAC-based VLAN • Port-based Q-in-Q • ISM VLAN
L3 Features	• Max. 256 ARP entries • Supports 255 static ARP entries	• Support Gratuitous ARP

Quality of Service (QoS)	• CoS based on:
	  - Switch port
	  - 802.1p priority queues
	  - VLAN ID
	  - MAC address
	  - IPv4/IPv6 address
	  - DSCP
	  - TOS
	  - Protocol type
	  - TCP/UDP port
	  - IPv6 traffic class
		• 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
		  - Weighted Round Robin (WRR)
		• 8 outbound queues

Access Control List (ACL)	• ACL based on
	  - Switch port
	  - 802.1p priority
	  - VLAN ID
	  - MAC address
	  - Ether type
	  - TOS
	  - IPv4/v6 address
	  - DSCP
	  - Protocol type
	  - IPv4/IPv6 TCP/UDP port number
	  - ICMP
	  - IPv6 traffic class
		• Up to 256 ingress access rules
		• ACL Action (permit/deny/mirror)
		• Time-based ACL
		• ACL statistics
		• CPU interface filtering

AAA	• 802.1X
	  - Host-based access control
	  - Port-based access control
	• Guest VLAN
		• RADIUS accounting
		• TACACS+ accounting
		• User Account Privilege (4 level user account)

Security	• SSH v2
	• SSL v1/2/3
	• Port security (Up to 64 MAC addresses per port)
	• IP-MAC-Port Binding (IMPB)
	  - ARP inspection
	  - IP inspection
	  - IPv6 DHCP snooping
	• Broadcast/Multicast/Unicast storm control
		• D-Link Safeguard Engine
		• DHCP server screening
		• DHCP client filtering
		• ARP spoofing prevention
		• BPDU attack protection
		• DoS attack prevention
		• Traffic segmentation

OAM	• 802.3ah Ethernet Link OAM
	  - Support 802.3ah link layer remote loopback and discovery (System log and SNMP)
	  - 802.3ah D-Link extension: D-link Unidirectional Link Detection (DULD), (System log and SNMP)
		• Cable diagnostics

Management	• Web-based GUI (IPv4/IPv6)
	• Command Line Interface (CLI)
	• Telnet Server/ Client (Support IPv4/IPv6)
	• TFTP client (IPv4/IPv6)
	• Command logging
	• SNMP v1/v2c/v3
	• SNMP traps
	• System log
	• RMON v1
	• RMON v2
	• LLDP
	• BootP/DHCP client
	• DHCP Auto-configuration
	• Text-editable config file
	• Trusted host
		• DHCP relay (IPv4/IPv6)
		  - DHCP relay agent/local relay
		  - DHCP relay option 12, 37, 38
		  - DHCP relay option 82
		• PPPoE Circult-ID tag insertion
		• Trap/alarm/log severity control
		• CPU monitoring
		• SNTP
		• LLDP
		• Debug command
		• Password recovery
		• Password encryption
		• Backdoor password
		• Trusted host

MIB	• RFC1213 MIB II • RFC1493 Bridge MIB • RFC1907 SNMPv2 MIB • RFC1757, 2819 RMON MIB • RFC2021 RMONv2 MIB • RFC1398, 1643, 1650, 2358, 2665 Ether-like MIB • RFC2674,4363 802.1p MIB	• RFC 2233, 2863 IF MIB • RFC 2618 RADIUS authentication client MIB • RFC 2620 RADIUS accounting client MIB • RFC 2925 ping & traceroute MIB • Private MIB • D-Link Zone Defense MIB
IETF Standard	• RFC768 UDP • RFC791 IP • RFC792 ICMPv4 • RFC2463, 4443 ICMPv6 • RFC793 TCP • RFC826 ARP	• RFC 2474, 3260 definition of the DS Field in the IPv4 and IPv6 header • RFC 1321, 2284,2865, 3580, 3748 Extensible Authentication Protocol (EAP) • RFC2571, RFC2572, RFC2573, RFC2574 SNMP
IPv6	• RFC1981 Path MTU Discovery • RFC2460 IPv6 • RFC2461, 4861 Neighbor Discovery • RFC2462, 4862 IPv6 Stateless Address Auto-configuration	• RFC2464 IPv6 Neighbor over Ethernet and definition • RFC3513, 4291 IPv6 addressing architecture • RFC2893, 4213 IPv4/IPv6 dual stack function

Order Information

Part Number	Description
DGS-1210-10/ME	8 10/100/1000BASE-T + 2 10/100/1000BASE-T SFP
DGS-1210-20/ME	16 10/100/1000BASE-T + 4 10/100/1000BASE-T SFP
DGS-1210-28/ME	24 10/100/1000BASE-T+ 4 10/100/1000BASE-T SFP
DGS-1210-52/ME	48 10/100/1000BASE-T+ 4 10/100/1000BASE-T SFP
DGS-1210-28P/ME	24 10/100/1000BASE-T PoE + 4 10/100/1000BASE-T SFP

Redundant Power Supply for DGS-1210-10/ME only

DPS-200	60-watt RPS with a 1-meter DC power cable
DPS-CB150-2PS	The RPS cable for DGS-1210-10/ME and DPS-200

Optional SPF Transceivers

	Description
DEM-310GT	1000BASE-LX, Single-mode, 10km
DEM-311GT	1000BASE-SX, Multi-mode, 500m
DEM-312GT2	1000BASE-SX, Multi-mode, 2km
DEM-312GT2	1000BASE-LHX, Single-mode, 50km
DEM-315GT	1000BASE-ZX, Single-mode, 80km
DGS-712	1000BASE-T 100m (Only supported 1000 Mbps mode) (no flow control)
DEM-302S-LX	1000BASE-LX, Single-mode, 2km

Optional WDM SFP Transceiver

	Description
DEM-330T	1000BASE-LX, Single-mode, 10km, TX-1550/RX-1310nm
DEM-330R	1000BASE-LX, Single-mode, 10km, TX-1310/RX-1550nm
DEM-331T	1000BASE-LX, Single-mode, 40km, TX-1550/RX-1310nm
DEM-331R	1000BASE-LX, Single-mode, 40km, TX-1310/RX-1550nm
DEM-302S-BXD	1000BASE-LX, Single-Mode, 2km, TX-1550/RX-1310nm
DEM-302S-BXU	1000BASE-LX, Single-Mode, 2km, TX-1310/RX-1550nm

[1] The PoE ports of the DGS-1210-28P/ME do not support surge protection. All ports of DGS-1210/ME series support surge protection.

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