D-Link®
Building Networks for People

DGS-1210ME Series
Metro Ethernet Switches

Features

Flexible Hardware Design

- Available in multiple configurations:
  - Different combinations of 1000BASE-T, 1G, and 10G ports
  - PoE and non-PoE variations
- Designed for standard 1U rack-mounting
- Rear panel RPS connector for an additional external power supply (for non-PoE models)

Layer 2 Features

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

Security and Authentication

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

Reliability and Maintenance

- Surge protection on all Gigabit Ethernet ports[2]
- ITU-T G.8032 ERPS sub-50 ms protection and recovery
- Dying Gasp for quick trouble shooting during power failures or system shut downs

The DGS-1210ME Series Metro Ethernet Switches are a range of switches designed for Metro Ethernet applications. They feature a variety of port configurations, 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-1210ME Series Metro Ethernet Switches ideal for Metro Ethernet applications.

Multi-Gigabit Performance

The DGS-1210ME Series Metro Ethernet Switches come in a variety of port setups, including Gigabit Ethernet RJ-45, 1G Ethernet SFP ports, or 10G SFP+ ports. All models offer a minimum of at least two 1G Ethernet SFP ports, excluding the DGS-1210-12TS/ME which offers ten 1G SFP ports and two 10/100/1000BASE-T ports. The DGS-1210-28X/ME and DGS-1210-28XS/ME offer four 10G SFP+ ports for improved uplink bandwidth. The DGS-1210-10P/ME, DGS-1210-28P/ME, DGS-1210-28MP/ME, DGS-1210-52P/ME, DGS-1210-52MP/ME and DGS-1210-52MPP/ME switches feature Power over Ethernet (PoE), allowing compatible devices to be installed and powered in remote locations without immediate access to power outlets.

Efficient and Resilient

For mission critical environments, the DGS-1210ME Series Metro Ethernet Switches support IEEE 802.1D 2004 edition, 802.1w, and 802.1s Spanning Tree Protocols (STP). The Spanning Tree Protocol allows the switches to participate in Spanning Tree topology, providing an alternative Layer 2 path in the event of a network failover. The switches also support IEEE 802.3ad link aggregation, which enables multiple ports to be grouped to form a single virtual port, increasing bandwidth and redundancy for higher availability. This series furthermore features IEEE 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. Advanced traffic classification parameters allow the network to be tuned for flexible configurations for specific multimedia applications such as VoIP or IPTV.

Security & Authentication

The DGS-1210ME Series supports IEEE 802.1X port-based/host-based access control, guest VLAN, and RADIUS/TACACS+ authentication for strict access control to the network. The IP-MAC-Port Binding (IMPB) feature allows administrators to associate a source IP address with a designated MAC address and also offers the flexibility to define the port number to enhance user access control. The built-in D-Link Safeguard Engine™ protects the CPU from broadcast, multicast, and 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 user-friendly web interface gives administrators access to advanced management features such as DHCP auto-configuration. This enables switches to load their configuration from a TFTP server once they have been assigned an IP address, allowing central management of device configurations. The switches support Link Layer Discovery Protocol (LLDP), which advertises the device's capabilities and identity to the local network, allowing administrators to better manage their network topology. Each port also supports cable diagnostics, which can be used to troubleshoot cable length and functionality problems remotely, resulting in lower management overheads.

Traffic & Bandwidth Control

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

Multicast Applications

The DGS-1210ME Series features 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-1210ME 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. Additionally, ISM VLAN profiles allow users to bind or replace the predefined multicast registration information to subscriber ports quickly and easily.

DGS-1210-28X/ME

DGS-1210-28XS/ME

DGS-1210-52/ME

DGS-1210-52MP/ME

Technical Specifications

	DGS-1210-12TS/ME	DGS-1210-28X/ME	DGS-1210-28XS/ME
Model Number	DGS-1210-12TS/ME	DGS-1210-28X/ME	DGS-1210-28XS/ME
Hardware Version	B1	B1	B1
Interface			
Size	• 11-inch standard rack-mount width • 1U height	• 19-inch standard rack-mount width • 1U height	• 19-inch standard rack-mount width • 1U height
Interfaces	• 10 1G SFP • 2 10/100/1000BASE-T	• 24 10/100/1000BASE-T • 4 10G SFP+	• 24 100/1000 Mbps SFP • 4 10G SFP+
Console Port	RJ-45 console port		
Other Port Standards & Functions	• IEEE 802.3i 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 802.3ae 10 Gigabit Ethernet (for 28X/ME, 28XS/ME) • IEEE 802.3u 100BASE-FX (for 28XS/ME) • IEEE 802.3z 1000BASE-X Gigabit Fiber (for 28XS/ME, 12TS/ME)		
Network Cables	• UTP Cat. 5, Cat. 5e (100 m max.)		
Full/Half-Duplex	• Full/half-duplex for 10/100 Mbps speeds • Full-duplex for 1000 Mbps speeds		
Media Interface Exchange	• Auto MDI/MDIX adjustment for all twisted-pair ports		

Performance

Performance			
Switching Capacity	24 Gbps	128 Gbps	128 Gbps
64-byte Max. Forwarding Rate	17.86 Mpps	95.24 Mpps	95.24 Mpps
MAC Address Table Size	16K Entries		
CPU Memory	256 MB DDR3		
Packet Buffer	1.5 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	405,083 hours	450,021 hours	243,327 hours
Acoustic	0 dB(A)	42.5 dB(A)	48.9 dB(A)
Heat Dissipation	47.25 BTU/hr	83.72 BTU/hr	115.17 BTU/hr
Power Input	AC Input: 100 to 240 V AC, 50/60 Hz		
Maximum Power Consumption	13.6 W/100 V 13.85 W/240 V	24.5 W/100 V 24.4 W/240 V	32.9 W/100 V 33.4 W/240 V
Standby Power Consumption	7.28 W/100 V 7.49 W/240 V	12.8 W/100 V 13.0 W/240 V	15.5 W/100 V 16.7 W/240 V
Dimensions (W x D x H)	280 x 180 x 44 mm	440 x 210 x 44 mm	440 x 210 x 44 mm
Ventilation	Fanless	1 x Smart fan	2 x Smart fans
Weight	1.17 kg	2.68 kg	2.96 kg
Power Surge Protection	All Gigabit Ethernet ports support IEC 61000-4-5 surge protection		
Operating Temperature	-5 to 50 °C (23 to 122 °F)		
Storage Temperature	-20 to 70 °C (-4 to 158 °F)		
Operating Humidity	0% to 95% RH		
Storage Humidity	0% to 95% RH		
EMI	BSMI, CE, FCC, VCCI	CE	
Safety Certifications	UL, CB, LVD, BSMI	CB, LVD	

Software

L2 Features	• MAC address table: 16K entries
	• 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
		  - Supports 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 (multicast VLAN) • Private VLAN

L3 Features	• Max. 256 ARP entries
	• Supports 255 static ARP entries
	• Static route
	  - 64 IPv4 static routes
	  - 32 IPv6 static routes
		• Supports Gratuitous ARP
		• Default route
		• 4 IP interfaces

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
	  - EtherType
	  - 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

Authentication, Authorization, and Accounting (AAA)	• 802.1X
	  - Host-based access control
	  - Port-based access control
	• Guest VLAN
	• Host-based MAC authentication
	• RADIUS accounting
		• TACACS+ accounting
		• User account privilege (4 level user access)
		• MAC-based access control
		  - Max. 512 entries when using local database
		• Authentication for management access
		  - Local, RADIUS, TACACS+ database

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
		• BPDU attack protection
		• DoS attack prevention
		• Traffic segmentation

Operations, Administration, and Maintenance (OAM)	• 802.3ah Ethernet Link OAM
	  - Supports 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
		• Dying Gasp
		• Supports optical transceiver digital diagnostics monitoring (DDM)

Management	• Web-based GUI (IPv4/IPv6)
	• Command Line Interface (CLI)
	• Telnet Server/Client (Support IPv4/IPv6)
	• TFTP client (IPv4)
	• 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, 18, 37, 38, 82
		• PPPoE Circuit-ID tag insertion
		• Trap/alarm/log severity control
		• CPU monitoring
		• SNTP
		• LLDP-MED (for PoE models only)
		• Debug command
		• Password recovery
		• Password encryption
		• Backdoor password

MIB	• RFC1212 Concise MIB Definitions • RFC1213 MIB II • RFC1215 MIB Traps Convention • RFC1065, 1151, 2578 MIB Structure • RFC1493 Bridge MIB • RFC1157, 2573, 2575, 2576 SNMP MIB • RFC3418 SNMPv2 MIB • RFC2819 RMON MIB • RFC2021 RMONv2 MIB • RFC1643, 1650, 2665 Ether-like MIB	• RFC2674 802.1p MIB • RFC 2233 Interface Group MIB • RFC 2618 RADIUS authentication client MIB • RFC 2620 RADIUS accounting client MIB • RFC3289 D-Link Zone Defense MIB • RFC4022 MIB for TCP • RFC4113 MIB for UDP • PoE MIB • DDP MIB • LLDP-MED MIB
IETF Standard	• RFC768 UDP • RFC791 IP • RFC792 ICMPv4 • RFC2463, 4443 ICMPv6	• RFC793 TCP • RFC826 ARP • RFC1321, 2284, 2865, 2716, 3580 Extensible Authentication Protocol (EAP)
IPv6	• RFC1981 Path MTU Discovery • RFC2460 IPv6 • RFC2461, 4861 Neighbor Discovery	• RFC2462, 4862 IPv6 Stateless Address Auto-configuration • RFC2893, 4213 IPv4/IPv6 dual stack function