

Product Highlights

Flexibility and Reliability

A combination of Ethernet and SFP+ ports provides the necessary flexibility to adapt to 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

High Bandwidth

Up to four 10G SFP+ ports provide maximum throughput, reduce latency, and provide bandwidth for future network expansion



DGS-1210-28X/ME

L2 Managed Switch with 24 10/100/1000Base-T Ports and 4 10GBase-X SFP+ Ports

Features

Interfaces

- 24x10/100/1000Base-T
- 4x10GBase-X SFP+

Reliability

- Ethernet Ring Protection Switching (ERPS)
- Supports up to 6 kV surge protection on copper ports
- Dying Gasp
- Rear panel RPS connector for an additional external power supply

L2 Features

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

Security features

- Access Control Lists (ACLs)
- D-Link Safeguard Engine
- BPDU attack protection
- IP-MAC-Port Binding
- DoS attack prevention
- 802.1X Port-based Access Control
- MAC/Web Based Access Control
- Guest VLAN

OAM

- IEEE 802.3ah Ethernet Link OAM
- IEEE 802.1ag/ITU-T Y.1731 OAM

The D-Link DGS-1210-28X/ME L2 Managed Switch is an ideal solution for Metro Ethernet applications. This switch is equipped with 24 10/100/1000Base-T ports for twisted pair connection, as well as 4 10GBase-X SFP+ ports used for high-speed backbone connection. 6 kV surge protection ensures resilience against unexpected electrical spikes, while a full suite of security and management features keeps network safe from internal and external threats. The DGS-1210-28X/ME supports Auto Voice VLAN, ensuring higher priority for voice traffic.

Efficient and Resilient

For mission critical environments, the DGS-1210-28X/ME switch supports 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 switch also supports 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. The switch features 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/IPv6, 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.

Auto Voice VLAN

The DGS-1210-28X/ME switch supports Auto Voice VLAN. This functionality allows automatic detection of VoIP equipment in the common network, distributing it into separate VLANs, within each of which the highest priority of service will be assigned for voice traffic. Support for Auto Voice VLAN ensures stable operation of VoIP applications and high-quality audio transmission, regardless of the overall network load.

Security and Authentication

The DGS-1210-28X/ME switch supports 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 and 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-1210-28X/ME switch 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-1210-28X/ME switch also provides IGMP snooping with IGMP authentication to prune multicast traffic and to optimize network performance.

Multicast Applications

The DGS-1210-28X/ME switch 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-1210-28X/ME 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.

Features		
Hardware		
Hardware Version	• C1	
CPU	• 1.4 GHz	
RAM	• 1 024 MB	
Flash	• 128 MB	
Interfaces	<ul style="list-style-type: none">• 24x10/100/1000Base-T• 4x10GBase-X SFP+• 1xRJ45 Concole port	
LEDs	<ul style="list-style-type: none">• Power• Link/Activity/Speed (per port)• Console• RPS	
Buttons	• RPS Power On/Off Button	
Power connector	<ul style="list-style-type: none">• AC power connector• Connector for RPS¹	
Functionality		
Standards and Functions	<ul style="list-style-type: none">• IEEE 802.3 10Base-T• IEEE 802.3u 100Base-TX• IEEE 802.3ab 1000Base-T• IEEE 802.3z 1000Base-X• IEEE 802.3ae 10GBase-X• IEEE 802.3az Energy-Efficient Ethernet• Auto-negotiation• IEEE 802.3x Flow Control• Automatic detection of MDI / MDIX on all copper ports	
Duplex Mode	<ul style="list-style-type: none">• Full/half duplex for 10/100 Mbps speeds• Full duplex for 1000 Mbps speed	
Performance		
Switching Capacity	• 128 Gbps	
Forwarding Method	• Store-and-forward	
64-byte Max.packet Forwarding Rate	• 95.23 Mpps	
MAC Address Table	• 16K entries	

Packet Buffer	• 1.5 MB	
Jumbo Frame	• 10,240 bytes	
Software		
L2 Features	<ul style="list-style-type: none">• MAC Address Table: 16K• Flow Control<ul style="list-style-type: none">- 802.3x- HOL Blocking Prevention• Link Aggregation<ul style="list-style-type: none">- 802.1AX- 802.3ad- Supports max 8 groups per device/8 ports per group• Spanning Tree Protocol<ul style="list-style-type: none">- 802.1D STP- 802.1w RSTP- 802.1s MSTP- BPDU Filtering- Root Guard (Restriction)- Loop Guard• Loopback Detection	<ul style="list-style-type: none">• Port Mirroring<ul style="list-style-type: none">- Support One-to-One, Many-to-One, Flow-based (ACL) mirroring for ingress traffic- Supports 1 mirroring group- Supports Mirroring for both Tx/Rx• Flow mirroring<ul style="list-style-type: none">- Supports Mirroring for Rx• VLAN Mirroring• RSPAN• L2 Protocol Tunneling• ERPS (Ethernet Ring Protection Switching)
L2 Multicasting	<ul style="list-style-type: none">• IGMP Snooping<ul style="list-style-type: none">- IGMP v1/v2- IGMP v3 awareness- IGMP Authentication- Support 1024 groups- VLAN/host-based IGMP Snooping Fast Leave- Report Suppression- IGMP Snooping Querier- Data Driven Learning	<ul style="list-style-type: none">• MLD Snooping<ul style="list-style-type: none">- MLD v1- MLD v2 awareness- Support 1024 groups- Port-based MLD Snooping Fast Leave- MLD Snooping Querier
VLAN	<ul style="list-style-type: none">• 802.1Q Tagged VLAN• VLAN group:<ul style="list-style-type: none">- Max. 4094 VLAN groups• Port-based VLAN• GVRP<ul style="list-style-type: none">- Max. 256 Dynamic VLAN Groups• Auto Surveillance VLAN• 802.1v Protocol VLAN• Voice VLAN• MAC-based VLAN• VLAN Translation	<ul style="list-style-type: none">• Multicast VLAN (ISM VLAN for IPv4/IPv6)• Asymmetric VLAN• Private VLAN• VLAN Trunking• Double VLAN (Q-in-Q)<ul style="list-style-type: none">- Port-based Q-in-Q
Quality of Service (QoS)	<ul style="list-style-type: none">• 8 queues per port• Queue Handling<ul style="list-style-type: none">- Strict Priority- Weighted Round Robin (WRR)• CoS based on:<ul style="list-style-type: none">- Switch port- 802.1p priority queues- VLAN ID- MAC address- IPv4/IPv6 address- DSCP- ToS	<ul style="list-style-type: none">- Protocol type- TCP/UDP port- IPv6 traffic class• Bandwidth Control<ul style="list-style-type: none">- Port-based (Ingress, Min. Granularity 64 Kbps)- Flow-based (Ingress, Min. Granularity 64 Kbps)- Egress queue bandwidth control (Min. Granularity 64 Kbps)
L3 Features	<ul style="list-style-type: none">• ARP<ul style="list-style-type: none">- Max. 768 ARP entries- Supports 768 static ARP entries• Gratuitous ARP• IP Interfaces: 4• Default Route	<ul style="list-style-type: none">• Static route<ul style="list-style-type: none">- Supports 64 IPv4 static routes- Supports 32 IPv6 static routes• IPv6 Neighbor Discovery (ND)
Access Control List (ACL)	<ul style="list-style-type: none">• ACL based on<ul style="list-style-type: none">- MAC address- IPv4/IPv6 address- Protocol type- TCP/UDP port number- IPv6 traffic class	<ul style="list-style-type: none">• Up to 768 ingress access rules• Time-based ACL• CPU interface filtering

Security	<ul style="list-style-type: none"> • Port Security <ul style="list-style-type: none"> - Up to 64 MAC addresses per port • Broadcast/multicast/unicast storm control • D-Link Safeguard Engine • DHCP Server Screening • IP Source Guard • DHCP Snooping • IPv6 ND Snooping • Dynamic ARP Inspection (DAI) • DHCPv6 Guard • IPv6 Route Advertisement (RA) Guard • IPv6 ND Inspection 	<ul style="list-style-type: none"> • Traffic segmentation • SSL <ul style="list-style-type: none"> - Supports v1/v2/v3 - Supports TLS 1.0/1.1/1.2/1.3 - Supports IPv4/IPv6 access • SSH <ul style="list-style-type: none"> - Supports SSH v2 • DHCP client filtering • BPDU attack protection • DoS attack prevention
OAM	<ul style="list-style-type: none"> • 802.3ah Ethernet Link OAM • D-Link Unidirectional Link Detection (DULD) • Dying Gasp • 802.1ag Connectivity Fault Management (CFM) 	<ul style="list-style-type: none"> • Y.1731 OAM • Cable diagnostics • Digital Diagnostics Monitoring (DDM)
AAA	<ul style="list-style-type: none"> • 802.1X: <ul style="list-style-type: none"> - Supports port/host-based access control - Identity-driven Policy Assignment - Supports local/RADIUS database - Supports EAP, OTP, TLS, TTLS, PEAP • Guest VLAN • Support MD5 authentication • Trusted Host • RADIUS/TACACS+ Accounting • Web-based Access Control (WAC) <ul style="list-style-type: none"> - Port-based Access Control - Identity Driven WAC policy assignment 	<ul style="list-style-type: none"> - Dynamic VLAN Assignment - Bandwidth Control Assignment - ACL Assignment • RADIUS and TACACS+ Authentication • Microsoft® NAP <ul style="list-style-type: none"> - Support 802.1X NAP - Support DHCP NAP • MAC-based Access Control (MAC) <ul style="list-style-type: none"> - Host-based access control
Management	<ul style="list-style-type: none"> • Web-based GUI <ul style="list-style-type: none"> - Support IPv4/IPv6 access - Support SSL (HTTPS) • Command Line Interface (CLI) • Telnet Server for IPv4/IPv6 • Telnet Client for IPv4/IPv6 • TFTP Client for IPv4/IPv6 • DNS Client for IPv4/IPv6 • FTP Client for IPv4/IPv6 • SNMP <ul style="list-style-type: none"> - Support v1/v2c/v3 - Support IPv4/IPv6 access • SNMP Traps • System Log for IPv4/IPv6 Syslog Server • sFlow • RMON v1 • RMON v2: <ul style="list-style-type: none"> - Supports Probe Config group • LLDP/LLDP-MED 	<ul style="list-style-type: none"> • BootP/DHCP client • DHCP Auto-configuration • DHCP/DHCPv6 Local Relay • DHCP Relay Option 12/58/59/77/82 • DHCP auto-image • PPPoE Circuit-ID insertion • D-Link Discover Protocol (DDP) • SNTP • Password recovery • Password encryption • Command Logging • SMTP • DHCPv6 Prefix Delegation (PD) • Ping/Traceroute for IPv4/IPv6 • Zero Touch Provisioning (ZTP)
Green Features	<ul style="list-style-type: none"> • IEEE 802.3az Energy Efficient Ethernet (EEE) • Power Saving by: <ul style="list-style-type: none"> - Link Status - LED Shutoff 	<ul style="list-style-type: none"> - Port Shutoff - System Hibernation
MIB Standards	<ul style="list-style-type: none"> • RFC1065, RFC1155, RFC2578 MIB Structure • RFC1212 Concise MIB Definitions • RFC1213 MIBII • RFC1215 MIB Traps Convention • RFC1493 Bridge MIB • RFC1157, RFC2573, RFC2575, RFC2576 SNMP MIB • RFC3418 SNMPv2 MIB • RFC2819 RMON MIB • RFC2021 RMONv2 MIB • RFC1643, RFC1650, RFC2665, Ether-like MIB • RFC2674 802.1p MIB • RFC2233 Interface Group MIB • RFC2618 RADIUS Authentication Client MIB 	<ul style="list-style-type: none"> • RFC4022 MIB for TCP • RFC4113 MIB for UDP • RFC2389 MIB for Diffserv. • RFC2620 RADIUS Accounting Client MIB • RFC2925 Ping & TRACEROUTE MIB • TFTP uploads and downloads (D-Link MIB) • Trap MIB (D-Link MIB) • DDM MIB (D-Link MIB) • Private MIB • RFC3621 Power Ethernet MIB • DDP MIB • LLDP-MED MIB

IETF Standards	<ul style="list-style-type: none">• RFC768 UDP• RFC791 IP• RFC793 TCP• RFC792 ICMPv4• RFC2463, RFC4443 ICMPv6• RFC826 ARP• RFC1338, RFC1519 CIDR	<ul style="list-style-type: none">• RFC2474, RFC3168, RFC3260 Definition of the DS Field in the IPv4 and IPv6 Headers• RFC1321, RFC2284, RFC2865, RFC2716, RFC3580 Extensible Authentication Protocol (EAP)• RFC2573, SNMP Applications• RFC2574 User-based Security Model for SNMPv3
IPv6	<ul style="list-style-type: none">• RFC1981 Path MTU Discovery• RFC2460 IPv6• RFC2461, RFC4861 Neighbor Discovery for IPv6• RFC2462, RFC4862 IPv6 Stateless Address Auto-configuration (SLAAC)	<ul style="list-style-type: none">• RFC2464 IPv6 over Ethernet and definition• RFC3513, RFC4291 IPv6 Addressing Architecture• RFC2893, RFC4213 IPv4/IPv6 dual stack function
Physical Parameters		
Dimensions (WxDxH)	<ul style="list-style-type: none">• 440 x 140 x 44 mm	
Weight	<ul style="list-style-type: none">• 2.060 kg	
Environmental Conditions		
Power Input	<ul style="list-style-type: none">• AC Input: 100 to 240 V AC, 50/60 Hz	
Maximum Power Consumption	<ul style="list-style-type: none">• 18.424 W	
Standby Power Consumption	<ul style="list-style-type: none">• 6.949 W	
Heat Dissipation	<ul style="list-style-type: none">• 18.42 W (62,86 BTU/hr)	
MTBF (hours)	<ul style="list-style-type: none">• 832,908.04	
Power Surge Protection	<ul style="list-style-type: none">• All Ethernet ports support IEC61000-4-5 surge protection	
Ventilation	<ul style="list-style-type: none">• Fanless	
Temperature	<ul style="list-style-type: none">• Operating: 0 to 50 °C• Storage: -25 to 70 °C	
Humidity	<ul style="list-style-type: none">• Operating: 10% to 90% non-condensing• Storage: 5% to 90% non-condensing	
Package Contents		
<ul style="list-style-type: none">• DGS-1210-28X/ME switch• AC power cord• 2 brackets for 19-inch rack mounting• 4 rubber feet• Mounting kit		
Other		
Certifications	<ul style="list-style-type: none">• RoHS	
EMI	<ul style="list-style-type: none">• FCC• CE• VCCI• C-Tick	
Safety	<ul style="list-style-type: none">• CB• CE• cUL	
Order info		
DGS-1210-28X/ME	24 10/100/1000Base-T ports + 4 10GBase-X SFP+ ports L2 Managed Switch	

Optional SFP Transceivers	
DGS-712	1000Base-T Copper SFP transceiver (up to 100 m)
DEM-310GT	1000Base-LX Single-Mode SFP transceiver (up to 10 km)
DEM-311GT	1000Base-SX Multi-Mode SFP transceiver (up to 550 m)
DEM-312GT2	1000Base-SX+ Multi-Mode SFP transceiver (up to 2 km)
DEM-314GT	1000Base-LHX Single-Mode SFP transceiver (up to 50 km) ²
DEM-315GT	1000Base-ZX Single-Mode SFP transceiver (up to 80 km) ²
Optional WDM SFP Transceivers	
DEM-330T/3KM	1000Base-BX-D (Tx:1550 nm, Rx:1310 nm) Single-Mode WDM SFP transceiver (up to 3 km)
DEM-330R/3KM	1000Base-BX-U (Tx:1310 nm, Rx:1550 nm) Single-Mode WDM SFP transceiver (up to 3 km)
DEM-330T/10KM	1000Base-BX-D (Tx:1550 nm, Rx:1310 nm) Single-Mode WDM SFP transceiver (up to 10 km)
DEM-330R/10KM	1000Base-BX-U (Tx:1310 nm, Rx:1550 nm) Single-Mode WDM SFP transceiver (up to 10 km)
DEM-331T/20KM	1000Base-BX-D (Tx:1550 nm, Rx:1310 nm) Single-Mode WDM SFP transceiver (up to 20 km)
DEM-331R/20KM	1000Base-BX-U (Tx:1310 nm, Rx:1550 nm) Single-Mode WDM SFP transceiver (up to 20 km)
DEM-331T/40KM	1000Base-BX-D (Tx:1550 nm, Rx:1310 nm) Single-Mode WDM SFP transceiver (up to 40 km) ²
DEM-331R/40KM	1000Base-BX-U (Tx:1310 nm, Rx:1550 nm) Single-Mode WDM SFP transceiver (up to 40 km) ²
Optional SFP+ Transceivers	
DEM-410T	10GBase-T Copper SFP+ transceiver (up to 30 m)
DEM-431XT	10GBase-SR Multi-Mode SFP+ transceiver (up to 300 m)
DEM-432XT	10GBase-LR Single-Mode SFP+ transceiver (up to 10 km)
DEM-433XT	10GBase-ER Single-Mode SFP+ transceiver (up to 40 km) ²
DEM-434XT	10GBase-ZR Single-Mode SFP+ transceiver (up to 80 km) ²
DEM-435XT	10GBase-LRM Multi-Mode SFP+ transceiver (up to 200 m)
Optional WDM SFP+ Transceivers	
DEM-436XT-BXD/40KM	10GBase-ER Single-Mode WDM SFP+ transceiver (up to 40 km ²), Tx:1330 nm, Rx:1270 nm
DEM-436XT-BXU/40KM	10GBase-ER Single-Mode WDM SFP+ transceiver (up to 40 km ²), Tx:1270 nm, Rx:1330 nm
DEM-436XT-BXD/20KM	10GBase-ER Single-Mode WDM SFP+ transceiver (up to 20 km), Tx:1330 nm, Rx:1270 nm
DEM-436XT-BXU/20KM	10GBase-ER Single-Mode WDM SFP+ transceiver (up to 20 km), Tx:1270 nm, Rx:1330 nm
Optional 10G SFP+ Direct Attach Cables	
DEM-CB100S	10G Passive SFP+ Twinaxial Direct Attach Cable, 1m
DEM-CB300S	10G Passive SFP+ Twinaxial Direct Attach Cable, 3m
DEM-CB700S	10G Passive SFP+ Twinaxial Direct Attach Cable, 7m
Optional 40G QSFP+ Direct Attach Cables	
DEM-CB100QXS-4XS	40G Passive QSFP+ Twinaxial Direct Attach Cable, 1m (for connecting to switches with 40G QSFP+ ports)
Optional Redundant Power Supplies ¹	
DPS-500A	Redundant power supply for switches (140 W)
DPS-500DC/B	Redundant power supply for switches (140 W)
DPS-CB150-2PS/B	1.5 meter power cable for connecting redundant power supply to switches

¹ Not included in the package contents.

² The operation at shorter distances is possible only with the use of attenuator (not included in package contents).

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