

Managed L2 Gigabit Stack

Entry-Level SNMP Solution

- High Port Density Gigabit & PoE Stackable Switches
- Up to 4 Fiber Links Via Combo SFP
- 10-Gigabit Bi-Directional Stacking Bandwidth
- 802.1X User Authentication & ACL Access Security
- Network Protection With D-Link Safeguard Engine

FEATURES

Flexible Choices of High Port Densities

- 8, 24 or 48 10/100/1000BASE-T Ports
- 4 Combo SFP or 16 Dedicated SFP for Fiber Gigabit and 100BASE-FX Links
- 802.3af Power Over Ethernet Support¹

High Bandwidth Physical Stacking

- 2 HDMI Ports Per Switch
- Up to 20Gbps Full-Duplex Stacking Bandwidth
- Up to 6 Units (288 Gigabit Ports) Per Stack
- Linear or Fault Tolerant Ring Stacking Topology

Security

- Port Security
- ACL
- 802.1X Port-Based/MAC-Based Access Control
- Guest VLAN
- Traffic Segmentation
- 256 VLAN Groups
- D-Link Safeguard Engine

Traffic Monitoring/Bandwidth Control

- Port Mirroring
- Granular Bandwidth Control (Down to 64Kbps Per Port/Flow)
- Broadcast Storm Control

Resiliency/Performance

- 802.1D, 802.1w and 802.1s Spanning Tree
- 802.3ad Link Aggregation (Port Trunks)
- Trunking/Mirroring Across Multiple Units Within a Stack
- Jumbo Frames Up to 10,240 Bytes

Configuration/Management

- Web-Based GUI
- Command Line Interface (CLI)
- Telnet Client/Server
- SNMP v1, v2c, v3 & RMON v1
- RADIUS/TACACS+ Authentication for Management Access
- SSH v1, v2, SSL v3

¹ Available on DGS-3100-24P and DGS-3100-48P only.

The DGS-3100 series switches are managed Layer 2 Gigabit stackable switches designed as feature-rich, low-cost devices in the entry-level network management category. These switches provide wide-ranging port densities and up to 20Gbps physical stacking. Outstanding features include scalable expansion, SFP fiber links, comprehensive network security, granular bandwidth control and extensive network management. Small to medium businesses (SMBs) looking for a flexible, advanced and affordable solution can deploy these switches to set up Gigabit connections to their desktops or build up a company-wide network backbone.

Physical Stacking. Each of the DGS-3100 series switches comes with 2 dedicated HDMI stacking ports, each providing 5Gbps stacking bandwidth (up to 20Gbps for the overall system in full-duplex mode, bi-directional). Up to 6 units, 288 10/100/1000Mbps ports can be stacked up in a linear or fault-tolerant Ring topology. A stack can consist of 10/100/1000Mbps switches, 10/100/1000Mbps PoE switches, or a combination of both types, with up to 96 SFP fiber links. Units can be gradually added to the stack to accommodate growth, while expansion beyond a single stack is possible using Gigabit port trunks between stacks, or from stack to network backbone and server paths.

Security & Availability. The DGS-3100 stack includes many security features including Access Control List (ACL), 802.1X Port-Based/MAC-Based Access Control and 802.1X Guest VLAN to make network access available to authorized users. To prevent malicious attacks and virus/worm affection from overwhelming the switch with unnecessary workload, the DGS-3100 stack provides the D-Link Safeguard Engine function to increase the switch's reliability and availability.

Resilience/Performance Enhancement. To enhance network resilience, the DGS-3100 stack provides Spanning Tree protocols, including 802.1D, 802.1w and 802.1s for redundant bridge paths. 802.3ad Link Aggregation provides the aggregated bandwidth between switches or server. For Quality of Service (QoS), it supports 802.1p Priority Queues and packet classification based on TOS, DSCP, MAC, IP, VLAN ID and L4 protocol types, enabling Internet voice, video and streaming media applications to run smoothly.

Traffic Monitoring/Bandwidth Control. Network administrators can define throughput levels for each port to manage bandwidth. The bandwidth limiting feature provides fine granularity with the ability to define limits down to 64Kbps segments. Broadcast storm control can reduce the level of damage that a virus attack can do to the network. The switch provides IGMP snooping and MLD snooping² to control multicast transmission, and port mirroring to facilitate diagnostics.

Management. The DGS-3100 stack supports standard-based management protocols such as SNMP, RMON, Telnet, Web GUI and SSH/SSL security authentication. With DHCP auto-configuration, the administrator can pre-set configurations and save them in a TFTP server, and individual switches can boot their IP from the server and load in the pre-set configurations.



Hardware Specifications

DGS-3100-24TG

DGS-3100-24

DGS-3100-24P

DGS-3100-48

DGS-3100-48P



Interface

10/100/1000BASE-T Ports

8

24

24

48

48

Combo SFP

-

4

4

4

4

Dedicate SFP

16

-

-

-

-

RS-232 Console Port

✓

✓

✓

✓

✓

Optional Redundant Power Supply

DPS-200

DPS-200

DPS-600

DPS-500

DPS-600

Stacking

HDMI Stacking Ports

2

2

2

2

2

Number of Unit Per Stack (Max)

6

6

6

6

6

Bandwidth/Topology

Up to 10Gbps (Linear Topology)
Up to 20Gbps (Bi-Directional Redundant Ring Topology)

Power Over Ethernet

802.3af PoE Support

-

-

Per 10/100/1000BASE-T Port

-

Per 10/100/1000BASE-T Port

Power Provision Per Port (Max.)

-

-

15.4W

-

15.4W

System PoE Power Budget

-

-

370W

-

370W

Auto Power/Device Discovery

-

-

✓

-

✓

Over-Current Protection

-

-

✓

-

✓

Performance

Switch Capacity

68Gbps

68Gbps

68Gbps

116Gbps

116Gbps

64-Byte Packet Forwarding Rate

50.60Mpps

50.60Mpps

50.60Mpps

86.31Mpps

86.31Mpps

MAC Address Table Size

8K

8K

8K

8K

8K

Packet Buffer

768KB

768KB

768KB

1.5MB

1.5MB

Jumbo Frame (Max.)

10,240Bytes

10,240Bytes

10,240Bytes

10,240Bytes

10,240Bytes

Physical & Environmental

Power Input

100 to 240 VAC, 50 to 60 Hz Internal Universal Power Supply

Power Consumption (Max)

38.30W

49.39W

55.50W

102.63W

619.30W

Dimensions

440mm x 210mm x 44mm 440mm x 210mm x 44mm 440mm x 310mm x 44mm 440mm x 310mm x 44mm 440mm x 430mm x 44mm
19-inch Rack Mount Width, 1U Height

Weight

2.95kg

3.04kg

5.58kg

5.50kg

7.43kg

Heat Dissipation

120.26 BTU/hr

168.53 BTU/hr

1895.48 BTU/hr

350.19 BTU/hr

2113.18 BTU/hr

MTBF

195,655 hrs

212,377 hrs

117,136 hrs

103,924 hrs

96,648 hrs

Operating Temperature

0° to 40°C (32° to 104° F)

Storage Temperature

-10° to 70°C (-14° to 158° F)

Operating Humidity

10% to 90% non-condensing

Storage Humidity

5% to 90% non-condensing

EMI/EMC

FCC Class A, ICES-003 Class A, CE, C-Tick, VCCI Class A

Safety

cUL, CB

Software Functions

L2 Features

- MAC Address Table: 8K
- Flow Control
 - 802.3x Flow Control
 - HOL Blocking Prevention
- Jumbo Frame up to 10,240 Bytes
- IGMP snooping
 - IGMP v1/v2 Snooping
 - Support 256 Groups
 - IGMP Snooping Fast Leave
- MLD Snooping
 - MLD v1/v2 Snooping
 - Support 128 Groups
- Spanning Tree
 - 802.1D STP
 - 802.1w RSTP
 - 802.1s MSTP
- Per port / per device BPDU filtering
- Loopback Detection
- 802.3ad Link Aggregation
 - Max. 32 Groups per device/8 Ports per group
- Port Mirroring
 - Support One-to-One
 - Many-to-One

VLAN

- VLAN Group
 - Max. 256 Static VLAN Groups
 - Max. 256 Dynamic VLAN Groups
- 802.1Q Tagged VLAN
- GVRP

QoS (Quality of Service)

- 802.1p Class of Service
 - 4 queues
- Queue Handling
 - Strict
 - Weighted Round Robin (WRR)
 - Strict + WRR
- CoS Based on Switch Port

VLAN ID

- 802.1p Priority Queues
- MAC Address
- Ether Type
- IPv4 Address
- DSCP
- Protocol Type
- TCP/UDP Port
- Bandwidth Control
 - Port-based (Ingress, min. granularity 3500Kbps; Egress, min. granularity 64Kbps)

ACL (Access Control List)

- Max. 15 profiles
- Max. 240 rules shared by all profiles
- ACL Based on
 - 802.1p Priority
 - VLAN ID
 - Ether Type
 - MAC Address
 - IPv4 Address
 - DSCP
 - Protocol Type
 - TCP/UDP Port Number
- Time-based ACL

Security

- SSH v2
- SSL v3
- Port Security: up to 16 MAC address per port
- Broadcast/Multicast/Unicast Storm Control
- D-Link Safeguard Engine

AAA

- 802.1X
 - Port-Based Access Control
 - MAC-Based Access Control
- MAC-Based Access Control (MAC)
 - Port-Based Access Control
- Guest VLAN
- Authentication for Management Access Support
 - RADIUS/TACACS +

Management

- Web-based GUI
- Command Line Interface (CLI)
- Telnet Server/Client
- TFTP Client
- SNMP v1/v2c/v3
- SNMP Trap
- System Log
- RMON v1
 - Support 1,2,3,9 Groups
- BootP/DHCP Client
- DHCP Auto-Configuration
- Dual Image
- Dual Configuration
- CPU Monitoring
- SNTp

MIB/IETF Standard

- RFC1213 MIB-II
- RFC1493 Bridge MIB
- RFC1907 SNMPv2 MIB
- RFC1757, 2819 RMON MIB
- RFC1643, 2358, 2665 Ether-like MIB
- RFC2674 802.1p MIB
- RFC2233, 2863 IF MIB
- RFC2618 RADIUS Authentication Client MIB
- RFC2925 Ping & Traceroute MIB
- D-Link Private MIB
- RFC768 UDP
- RFC783 TFTP
- RFC791 IP
- vRFC792 ICMP
- RFC793 TCP
- RFC826 ARP
- RFC854 Telnet
- RFC951, 1542 BootP
- RFC2068 HTTP
- RFC2138 RADIUS
- RFC2139, 2866 RADIUS Accounting
- RFC1492 TACACS
- RFC1157 SNMPv1
- RFC1901, 1908 SNMPv2c
- RFC2570, 2575 SNMPv3

Optional Products

Optional SFP Transceivers

- | | |
|-------------------|----------------------------------|
| DEM-310GT | (1000BASE-LX, Single-mode, 10km) |
| DEM-311GT | (1000BASE-SX, Multi-mode, 500m) |
| DEM-312GT2 | (1000BASE-SX, Multi-mode, 2km) |
| DEM-314GT | (1000BASE-LX, Single-mode, 50km) |
| DEM-315GT | (1000BASE-LX, Single-mode, 80km) |
| DEM-210 | (100BASE-FX, Single-mode, 15km) |
| DEM-211 | (100BASE-FX, Multi-mode, 2km) |
| DEM-220T | (100BASE-BX, Single-mode, 20km) |
| DEM-220R | (100BASE-BX, Single-mode, 20km) |

Optional WDM Transceivers

- | | |
|-----------------|---|
| DEM-330T | (1000BASE-LX, wavelength Tx: 1550nm, Rx: 1310nm, Single-mode, 10km) |
| DEM-330R | (1000BASE-LX, wavelength Tx: 1310nm, Rx: 1550nm, Single-mode, 10km) |
| DEM-331T | (1000BASE-LX, wavelength Tx: 1550nm, Rx: 1310nm, Single-mode, 40km) |
| DEM-331R | (1000BASE-LX, wavelength Tx: 1310nm, Rx: 1550nm, Single-mode, 40km) |

Optional Redundant Power Supply

- | | |
|----------------|---------------------------------------|
| DPS-200 | 60-watt redundant power supply |
| DPS-500 | 140-Watt redundant power supply |
| DPS-600 | 500-Watt redundant power supply |
| DPS-800 | 2-slot redundant power supply chassis |
| DPS-900 | 8-slot redundant power supply chassis |

Management Software

- | | |
|------------------------------|---|
| DV-600S & DV-600P | D-View 6.0 SNMP Network Management Software |
|------------------------------|---|



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