



DGS-3224TG

DGS-3224TG rack-mount managed switch with 20 10/100/1000Mbps Gigabit ports and 4 GBIC ports.

20-port Copper Gigabit Switch + 4 GBIC & Network Management

This SNMP managed switch provides 20 copper Gigabit ports and 4 GBIC ports, allowing 20 workstations and servers to run at the Gigabit speed on your existing Cat. 5 twisted-pair network cable. The GBIC ports allow flexible connection to the fiber backbone. Advanced features like port trunking, VLANs and priority queues are provided, allowing a department to effectively deploy a bottleneck-free switching network for easy integration with a larger enterprise or campus network.

20 Copper Gigabit Ports for Server & Departmental Connection

20 copper Gigabit ports provide an inexpensive alternative solution to fiber-optic. Using your existing low-cost Cat. 5 copper twisted-pair wires as the transmission media, these ports allow you to instantly upgrade your servers to Gigabit capability without requiring you to install new, expensive fiber cables. All ports support 10/100/1000Mbps network speed auto-sensing and full/half duplex auto-negotiation. For downstream network expansion, you can also attach these Gigabit ports to 10/100Mbps switches, from which workstations can access the network.

4 GBIC-based Ports for Fiber Backbone Connection

For flexible fiber connection, 4 GBIC-based ports are provided for installation of 1000BASE-SX short/medium-distance and 1000BASE-LX long-distance fiber. An optional PHY module must be inserted in each of these ports.

802.3x Flow Control

This function support allows your servers to directly connect to the switch for fast, reliable data transfer. At 2000Mbps full duplex, the switch provides high-speed data pipes to your servers with minimum data transfer loss.

Auto-negotiation of MDI/MDIX Cross Over

All copper Gigabit ports support auto-negotiation of MDI/MDIX cross over. This eliminates the need for cross over cables or uplink ports. Any port can simply plug to a server, a hub or a switch, using the usual straight-through twisted-pair cable.

VLANs for Enhanced Security & Performance

VLANs improve security and bandwidth utilization by limiting the broadcast domains and confining intra-group traffic within their segments. To segment up the network, nodes supporting IEEE 802.1Q VLAN Tagging connected to the switch can be grouped into different Virtual LANs (VLANs). The switch also supports GVRP (GARP VLAN Registration Protocol) for automatic VLAN configuration distribution.

Priority Queues for QoS

The switch supports Layer 2 802.1p Priority Queue control. Each packet going through the switch can be assigned a queue priority number (in the priority bit). Packets with a higher priority number are allowed to pass first. This function support allows you to attach video servers to the switch to run delay-sensitive applications like video conference.

IGMP Snooping for Broadcast Control

The switch listens to IGMP (Internet Group Management Protocol) messages to build mapping table and associate forwarding filters. It dynamically configures the switch ports to forward IP multicast traffic only to those ports associated with multicast hosts.

Port Mirroring

This function allows you to mirror adjacent ports for the purpose of analyzing incoming and outgoing packets where packet patterns can be studied.

Key Features

- 20 10/100/1000Mbps copper Gigabit ports
- 4 GBIC-based fiber Gigabit ports
- Auto MDI/MDIX for all twisted-pair ports
- 802.3x Flow Control for protection against data loss
- 802.1Q and port-based VLANs for enhanced performance and security
- QoS with 802.1P Priority Queues for multimedia applications
- IGMP snooping (multicasting) for multimedia application support
- 802.1D Spanning Tree for redundant backup bridge paths
- SNMP management, RMON monitoring, Telnet support, log file
- IP filtering on management interface

General

Standards

- 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 802.3z standard
- ANSI/IEEE 802.3 NWay auto-negotiation
- IEEE 802.3x Flow Control

Number of Ports

- 20 10BASE-T/100BASE-TX/1000BASE-T ports
- 4 GBIC-based ports

Protocol

CSMA/CD

Data Transfer Rates

- Ethernet:
 - 10Mbps (half duplex)
 - 20Mbps (full duplex)
- Fast Ethernet:
 - 100Mbps (half duplex)
 - 200Mbps (full duplex)
- Gigabit Ethernet:
 - 2000Mbps (full duplex)

Topology

Star

Network Cables

- 10BASE-T:
 - UTP Cat. 3, 4, 5 (100 m max.)
 - EIA/TIA-586 100-ohm STP (100 m max.)
- 100BASE-TX, 1000BASE-T:
 - UTP Cat. 5, Cat. 5e (100 m max.)
 - EIA/TIA-568 100-ohm STP (100 m max.)
- IEEE 802.3z:
 - Single-mode and multi-mode fiber

Full/half Duplex

- Full/half duplex for 10/100Mbps speeds
- Full duplex for Gigabit speed

Media Interface Exchange

Auto MDI-II/MDI-X adjustment for all copper Gigabit ports

LED Indicators

- Per copper Gigabit port:
 - 10Mbps speed, 100Mbps speed, 1000Mbps speed
 - Full/half Duplex
 - Link/Act
- Per GBIC port:
 - Link/Act
- Per device: Power, Status

Performance

Transmission Method

Store-and-forward

MAC Address Table

32K entries per device

MAC Address Learning

- Automatic update
- Max Age: 300 sec.

Packet Filtering/Forwarding Rates (half duplex)

- Ethernet: 14,880 pps per port
- Fast Ethernet: 148,810 pps per port
- Gigabit Ethernet: 1,488,100 pps per port

RAM Buffer

2Mbytes per device

Software

VLAN

- IEEE 802.1Q Tagged VLAN
- Port-based VLAN
- Number of VLANs: 4K per device (max.)

Priority Queues (QoS)

- Standard: IEEE 802.1P
- Number of queues: 4

Spanning Tree

Standard: IEEE 802.1D

Multicast

- IGMP v.1, v.2
- IGMP v.1, v.2 Snooping

Access Security

- MAC based: user-specified MAC addresses
- VLAN based: ingress checking enable/disable
- IEEE 802.1x Port-based Network Access Control

Configuration & Management

Management Support

- SNMP v.1
- RMON monitoring
- Telnet
- Log file

MIBs

- MIB-II (RFC 1213)
- Bridge MIB (RFC 1493)
- RMON MIB (RFC 1757)
- 802.1Q VLAN MIB (RFC 2674)
- IGMP MIB (RFC 2833)
- If MIB (RFC 2233)
- Ethernet-like MIB (RFC 2358)
- dot3statsTable
- D-Link enterprise MIB

RMON Groups

1, 2, 3, 9 (Alarm, Statistics, History, Event)

IP Number Self-identification

Through DHCP client, Bootp client

Firmware Upgrade

TFTP

Console Port

DB-9 RS-232 DCE

Physical & Environmental

AC Input

100 - 240 VAC, 50/60 Hz
Internal universal power supply

Power Consumption

79 watts (max.)

Ventilation

50 x 50 x 15 mm DC fans x 4

Operating Temperature

0° - 50°C (32° - 122°F)

Storage Temperature

-25° - 55°C (-60° - 133°F)

Humidity

5% - 95% non-condensing

DGS-3224TG

Technical Specifications

Gigabit Switch Series

Dimensions

441 (W) x 388 (D) x 66 (H) mm
(17.36 x 15.27 x 2.59 inches)
19-inch standard rack-mount width, 1.5 U height

Weight

6 kg (12 lb.)

Emission (EMI)

- FCC Class A
- CE Class A
- C-Tick Class A
- BSMI Class A

Safety

- CSA international



Ordering Information

SNMP Managed Copper Gigabit Switch

DGS-3224TG 20 10/100/1000Mbps ports
4 GBIC-based ports

Optional Modules for GBIC Ports

DGS-701 For 1000BASE-SX, Wave length 850m,
Fiber type 50um/125um 500 MHz-km multimode
fiber, distance 550m max.

DGS-702 For 1000BASE-LX, Wave length 1310m,
Fiber type 9um single-mode fiber, distance 5km
max.

D-Link®

Specifications subject to change without
prior notice.
D-Link is a registered trademark of D-Link
Corporation/D-Link System Inc. All other
trademarks belong to their proprietors.

U.S.A.	TEL: 1-949-788-0805	FAX: 1-949-753-7033
Canada	TEL: 1-905-829-5033	FAX: 1-905-829-5095
Europe	TEL: 44-20-8731-5555	FAX: 44-20-8731-5511
U.K.	TEL: 44-20-8731-5555	FAX: 44-20-8731-5511
Germany	TEL: 49-61- 96779900	FAX: 49-61-967799300
France	TEL: 33-1-30238688	FAX: 33-1-30238689
Benelux	TEL: 31-10-204-5740	FAX: 31-10-204-5880
Italy	TEL: 39-02-2900-0676	FAX: 39-02-2900-1723
Iberia	TEL: 34-93-4090770	FAX: 34-93-4910795
Sweden	TEL: 46-(0)8-564-61900	FAX: 46-(0)8-564-61901
Norway	TEL: 47-22-991890	FAX: 47-22-205700
Denmark	TEL: 45-43-969040	FAX: 45-43-424347
Finland	TEL: 358-9-2707-5080	FAX: 358-9-2707-5081
Singapore	TEL: 65-6774-6233	FAX: 65-6774-6322
Australia	TEL: 61-2-8899-1800	FAX: 61-2-8899-1868
Japan	TEL: 81-3-5434-9678	FAX: 81-3-5434-9868
China	TEL: 86-010-8518-2533	FAX: 86-010-8518-2250
India	TEL: 91-22-652-6696	FAX: 91-22-652-8914
Middle East	TEL: 202-6356176	FAX: 202-6356192
South America	TEL: 56-2-232-3185	FAX: 56-2-232-0923
Brazil	TEL: 55-11-3094-2910	FAX: 55-11-3094-2921
South Africa	TEL: 27(0)126652165	FAX: 27(0)126652186
Russia	TEL: 7-095-737-3389	FAX: 7-095-737-3390
Taiwan	TEL: 886-2-2910-2626	FAX: 886-2-2910-1515
D-Link Corp.	TEL: 886-2-2916-1600	FAX: 886-2-2914-6299



RECYCLABLE
Rev. 02 (Oct. 2002)
Printed in Taiwan