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Building Networks for People

Highlights

Easy Management
Web UI, CLI, and a variety of management features allow the switches to integrate with your existing network

IPv6 Ready
IPv6 compliance means that the switches are ready to meet future addressing standards, and are compatible with both your IPv4 and IPv6 network

Power over Ethernet
Increased PoE capability and support for IEEE 802.3af/at/bt allow the PoE models in the series to power more devices with greater port density

Surge Protection
General 4KV, Differential 2KV, ESD 8KV air, 6KV contact

DGS-F1500-52MP

48 Port Gigabit PoE Managed Switch

Features

Green Technology

- Link status detection
- Time-based PoE

Security Features

- Access Control Lists (ACLs)
- Port Security supports up to 64 MAC addresses per port
- Dynamic ARP inspection

Intuitive Management

- Web UI
- SNMP MIB for remote NMS
- Command Line Interface (CLI)

Advanced Features

- Static route
- Auto Voice VLAN
- Dual image

The D-Link DGS-F1500-52MP 48 Port Gigabit PoE Managed Switch is the latest generation of switch to provide increased Power over Ethernet (PoE) output, a range of physical interface types, multiple management interfaces, and advanced Layer 2+ features. With all of these features combined, the DGS-F1500-52MP provides a cost-efficient and flexexible solution for expanding any business network.

Seamless Integration

DGS-F1500-52MP model feature 48 100/1000 Mbps PoE ports and 4 10G SFP+ ports, allowing you to choose the most suitable media type for your requirements. DGS-F1500-52MP PoE switch include support for IEEE 802.3af/at/bt and higher power budgets, allowing more PoE devices to be powered by the switch and for devices to be installed in remote locations without immediate access to power outlets.

Advanced Features

The DGS-F1500-52MP comes equipped with a complete lineup of L2+ features, including IGMP snooping, port mirroring, Spanning Tree Protocol (STP), and Link Aggregation Control Protocol (LACP), OSPF, RIP. The IEEE 802.3x Flow Control function allows servers to directly connect to the switch for fast, reliable data transfers. The DGS-F1500-52MP also supports advanced features such as static routes, which allow network administrators to divide the network into VLANs, increasing network effciency. Network maintenance features include loopback detection and cable diagnostics. Loopback detection signifcantly speeds up troubleshooting by automatically detecting and shutting down switching loops. The cable diagnostics feature, designed primarily for administrators and customer service representatives, determines the cable quality and quickly discovers errors, allowing for hassle-free diagnostics and maintenance.

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DGS-F1500-52MP Managed Switch

Automatic Configuration

The DGS-F1500-52MP supports Auto Voice VLAN which allow voice traffic to be automatically identified and handled differently to regular network traffic. Auto Voice VLAN detects Voice over IP (VoIP) traffic and automatically segments it from the rest of the network, increasing security and allowing Quality of Service (QoS) to be applied.

Versatile Management

The DGS-F1500-52MP can be managed via Web UI. The DGS-F1500-52MP also supports D-View 8.0 and Command Line Interface (CLI). D-View 8.0 is a network management system that allows for the central management of critical network characteristics such as availability, reliability, resilience, and security.

Secure Your Network

The DGS-F1500-52MP supports 802.1X port-based authentication, allowing the network to be authenticated through external RADIUS servers. The Access Control List (ACL) feature enhances network security and helps to protect the internal IT network. For added security, the DHCP server screening feature filters DHCP replies on unauthorized ports to prevent them from being assigned an IP address.

TECHNICAL SPECIFICATIONS

Model	• DGS-F1500-52MP
Hardware Version	• A1
General	
Interfaces	• 48 10/100/1000BASE-T PoE + 4 1G/10G SFP+ Ports
Console Port	• 10/100/1000BASE-T RJ-45 port for out-of-band CLI Management
Port Standards	• IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) • IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) • IEEE 802.3u 100BASE-FX 100 Mbps over fiber optic • IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted- pair copper) • IEEE 802.3z 1000BASE-X 1 Gbps over fiber optic • IEEE 802.3az Energy Efficient Ethernet (EEE) • IEEE 802.3x Flow Control • IEEE 802.3af/at compliance (for PoE ports)
Network Cables	• UTP Cat. 5, Cat. 5e, Cat. 6 (100 m max.)
Duplex Mode	• Full/Half-duplex for 10/100 Mbps • Full-duplex for 1000 Mbps
Media Interface Exchange	• Auto MDI/MDIX adjustment for all twisted-pair ports
Performance	
Switching Capacity	• 176 Gbps
Transmission Method	• Store-and-forward
MAC Address Table	• 32K entries
Static MAC Addresses	• 256 entries
Maximum 64 Byte Packet Forwarding Rate	• 131 Mpps
Packet Buffer Memory	• 16 Mbits
CPU Memory	• 512 MB
Flash Memory	• 32 MB

PoE	
PoE Capable Ports	• Ports 1 to 48, ports 1-4 (802.3bt up to 90 W)
Power Budget	• 600 W
LEDs	
Power (per device)	✓
Link/Active/Speed (per port)	✓
Physical/Environmental	
Power Input	• 100 to 240 V AC 50/60 Hz internal universal power supply
Maximum Power Consumption (PoE enabled)	• 652 W/100 V • 651 W/240 V
Maximum Power Consumption (PoE disabled)	• 52 W/100 V • 51 W/240 V
Standby Power Consumption	• 5 W/100 V • 5 W/240 V
Acoustics	• 58-60 dB(A)
Heat Dissipation	• 2225.25 BTU/hr (100 V) • 2221.84 BTU/hr (240 V)
Fans	• 4
Operating Temperature	• -5 to 50°C
Storage Temperature	• -20 to 70°C
Operating Humidity	• 0% to 95% relative humidity
Storage Humidity	• 0% to 95% relative humidity
Dimensions (L x W x H)	• 440 x 360 x 44.5 mm
Weight	• G.W: 6.6kg, N.W: 5.3kg
MTBF	• 7,60000 hours

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DGS-F1500-52MP Managed Switch

Software

L2 Features

- MAC Address Table
  - 32K entries
- IGMP Snooping
  - IGMP v1/v2 /v3 Snooping
  - IGMP v3 awareness
  - Supports 256 IGMP groups
  - Supports at least 64 static multicast addresses
  - IGMP per VLAN
  - Supports IGMP Snooping Querier
- Loopback Detection
- 802.3ad Link Aggregation:
  - Maximum of 8 groups/8 ports per group
- LLDP
- LLDP-MED
- Jumbo Frame
  - Up to 10,000 bytes
- Spanning Tree Protocol
  - 802.1D STP
  - 802.1W RSTP
  - 802.1s MSTP
- Flow Control
  - 802.3x Flow Control
- Port Mirroring
  - One-to-One
  - Many-to-One
  - Supports Mirroring for Tx/Rx/Both
- Multicast Filtering
  - Forwards all unregistered groups
  - Filters all unregistered groups
- Configurable MDI/MDIX
  - MLD snooping v1/v2 (256 groups)

VLAN

- 802.1Q
- VLAN Group
  - Max. 4k staticVLAN groups
- Configurable VID from 1 - 4094
- Auto Voice VLAN

Quality of Service (QoS)

- 802.1p Quality of Service
- 8 queues per port
- Queue Handling
  - Strict
  - Weighted Round Robin (WRR)
- Bandwidth Control
  - Port-based (ingress/egress, min granularity 10/100/1000 is 16 Kbps)
- QoS based on:
  - 802.1p priority queues
  - DSCP
  - ToS
  - IP preference

L3 Features

- IP interface
  - Supports 15 interfaces
- IPv6 Neighbor Discovery (ND)
- Static routing
  - 32 IPv4 static route entries
  - 32 IPv6 static route entries
- RIP v1/v2
- OSPF

Access Control List (ACL)

- Max. 512 access lists
- Max. 127 rules shared by IPv4, MAC, and IPv6
- Each rule can only be associated with a single port
- ACL based on
  - MAC address
    - 802.1p priority mask
    - VID mask
    - Source/destination MAC address mask
    - EtherType mask
  - IP address
    - Source/destination IP address mask
    - DSCP mask
    - Protocol type mask
    - TCP/UDP port number mask
  - IPv6 address
    - Source/destination IP address mask
    - DSCP mask
    - Protocol type mask
    - TCP/UDP port number mask

Security

- Broadcast/Multicast/Unicast Storm Control
- SSH v2
- TLS v1.0
- DoS attack prevention
- 802.1X Port-based Access Control
- Port Security
  - Supports up to 64 MAC addresses per port
- Dynamic ARP Inspection
  - Max. 127 entries
- DHCP Server Screening
- IPv4 Inspection
  - Max. 127 entries
- IPv6 Inspection
  - Max. 63 entries
- DHCP Snooping
  - Max. 512 entries

AAA	• 802.1X Authentication
	  • Supports local/RADIUS database
	  • Supports port-based access control
	  • Supports EAP, PEAP
	  • Max. 128 entries when using local database
		• IPv6 RADIUS server
		• Support MD5 authentication
		• TACACS+ Authentication

OAM	• Cable diagnostics	• Factory reset

Management	• Web-based GUI
	• CLI
	• Telnet Server
	• TFTP Client
	• Configurable MDI/MDIX
	• SNMP
	  • Supports v1/v2c/v3
	• SNMP Trap
	• Firmware upgrade
	• Upload/download configuration file
	• BootP/DHCP Client
		• System Log
		  • Max. 500 log entries
		• SNTP
		• ICMP v6
		• IPv4/v6 Dual Stack
		• Time setting
		  • SNTP
		• RMONv1
		• Trusted host
		• Dual-image

Green V3.0 Technology	• Power Saving by:
	  • Link Status
	  • Time-based PoE: PoE ports can be turned on/off by port or system through schedule
		• Cable length detection

RFC Standards	• RFC791 IP • RFC768 UDP • RFC793 TCP • RFC792 ICMPv4 • RFC2463, RFC4443 ICMPv6 • RFC826 ARP • RFC1321, RFC2284, RFC2865, RFC2716, RFC3580 Extensible Authentication Protocol (EAP)	• RFC2573 SNMP Applications • RFC2461, RFC4861 Neighbor Discovery for IPv6 • RFC2462, RFC4862 IPv6 Stateless Address Auto-configuration (SLAAC) • RFC2464 IPv6 over Ethernet and definition • RFC4291 IPv6 Addressing Architecture • RFC2893, RFC4213 IPv4/IPv6 dual stack function

Order Information

DGS-F1500-52MP	48 10/100/1000 Mbps PoE ports and 4 1G/10G SFP+ Ports

Optional SFP Transceivers

DGS-712	1000BASE-T copper
DEM-302S-LX	1000BASE-LX, single-mode, 2 km
DEM-302S-BXD/BXU	Gigabit WDM transceiver, single-mode, 2 km
DEM-310GT	1000BASE-LX, single-mode, 10 km
DEM-311GT	1000BASE-SX, multi-mode, 550 m
DEM-312GT2	1000BASE-SX, multi-mode, 2 km
DEM-314GT	1000BASE-LHX, single-mode, 50 km
DEM-315GT	100BASE-ZX, single-mode, 80 km
DEM-330T/R	Gigabit WDM transceiver, single-mode 10 km
DEM-331T/R	Gigabit WDM transceiver, single-mode 40 km
DEM-210	100BASE-FX, single-mode, 15 km
DEM-211	100BASE-FX, multi-mode, 2 km
DEM-220T/R	Fast Ethernet WDM transceiver, single-mode, 20 km

Optional SFP+ Transceivers	
DEM-431XT	10GBASE-SR Multi-mode, OM1:33M/OM2:82M/OM3:300M (w/o DDM)
DEM-431XT-DD	10GBASE-SR Multi-mode, OM1:33M/OM2:82M/OM3:300M (with DDM)
DEM-432XT	10GBASE-LR Single-mode, 10 km (w/o DDM)
DEM-432XT-DD	10GBASE-LR Single-mode, 10 km (with DDM)
DEM-433XT	10GBASE-ER Single-mode, 40 km (w/o DDM)
DEM-433XT-DD	10GBASE-ER Single-mode, 40 km (with DDM)
DEM-434XT	10GBASE-ZR Single-mode, 80 km (w/o DDM)
DEM-436XT-BXD	10GBASE-LR Single-mode, 20 km (TX-1330/RX-1270 nm) (w/o DDM)
DEM-436XT-BXU	10GBASE-LR Single-mode, 20 km (TX-1270/RX-1310 nm) (w/o DDM)

Optional 10 Gbps SFP+ Direct Attach Cables	
DEM-CB100S	10 GbE SFP+ 1 m Direct Attach Cable
DEM-CB300S	10 GbE SFP+ 3 m Direct Attach Cable
DEM-CB700S	10 GbE SFP+ 7 m Direct Attach Cable