



DIGISOL™

SWITCHING SOLUTIONS

DIGISOL 8 port Fast Ethernet Layer 2 Managed switch with 2 Gigabit combo ports (RJ45/SFP)

DG-FS4510

Key Features:-

- 5.4Gbps Switching Performance
- Ethernet Ring Protection Switching
- Cable Diagnostics
- Web Authentication
- IPv6 Support
- Rack Mountable



Introduction:-

DIGISOL DG-FS4510 is a high-performance Fast Ethernet Layer 2 Managed switch featuring 10 ports; 8 10/100 ports and 2 combo Gigabit Ethernet RJ-45/SFP (Small Form Factor Pluggable) ports. It is ideal for desktop Fast Ethernet connectivity and wiring closet installations. Switch supports IP Clustering for a virtual stack of up to 36 switches. The whole stack can be managed as a single entity with a single IP address. This switch is packed with features and is a cost-effective solution that brings continuous availability, enhanced security and advanced QoS to the network edge, while maintaining simplicity of management.

Performance and Scalability

It's a great entry level managed switch with 5.6Gbps switching capacity delivering wire-speed switching performance on all switch ports. There are two Gigabit Ethernet combo ports for uplink flexibility, allowing copper or fiber uplinks. Optional SFP transceivers can be utilized for long distance connectivity.

Continuous Availability

IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence, enhancing overall network stability and reliability. IEEE 802.1Q VLAN-segmented Broadcast Domains limits broadcast traffic and helps in maintaining network security and performance. IEEE 802.3ad Link Aggregation Control Protocol (LACP) increase bandwidth by automatically aggregating several physical links together as a logical trunk and providing load balancing and fault tolerance for uplink connection. IGMP snooping prevents flooding of IP multicast traffic thus, limiting bandwidth intensive multicast traffic to only the subscribers. Broadcast storm control prevents faulty end stations from degrading overall system performance.

Comprehensive QoS

Traffic is prioritized according to 802.1p, DSCP, IP precedence and TCP/UDP port number, giving optimal performance to realtime applications such as voice & video. Asymmetric bidirectional rate-limiting, per port or per traffic class, preserves network bandwidth and allows maximum control of network resources.

Enhanced Security

Port Security secures switch port access based on MAC address thus, limiting the total number of devices from using a switch port and protects from MAC flooding attacks. IEEE 802.1X port based access control ensures all users are authorized before being granted access to the network. User authentication is carried out using any standard-based RADIUS server. Access Control Lists (ACLs) restrict access to sensitive network resources by denying packets based on source and destination MAC addresses, IP addresses and TCP/UDP ports. This is done by hardware, so the switching performance is not compromised. Secure Shell (SSH) and Secure Sockets Layer (SSL/HTTPS) encrypt network management information passing via CLI and web. This helps in securing network management, protect data communication and ensure data privacy. TACACS+/RADIUS Authentication enables centralized control of the switch and restricts unauthorized users from altering the configuration of the switch. DHCP snooping provides security by filtering untrusted DHCP messages. This is achieved by building and maintaining a DHCP snooping binding table.

Simple Management

Industry standard Command Line Interface (CLI) via console port or telnet provides a common user interface and common set of commands for users to configure the switch. Embedded user friendly web interface helps user to quickly and easily configure switches. DG-FS4510 Supports SNMPv1, v2 and v3 management as well as four groups of RMON for traffic management, monitoring and analysis. Multiple configuration files can be used as a backup while upgrading or fine tuning configuration of the switch.



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Technical Specifications:-

Physical Port

- 10/100 Base T : 8
- Combo ports (RJ45/SFP) : 2
- 1000Base-FX Support
- Console : RS 232 (Connector RJ45)

Performance

- Switching Capacity : 5.6Gbps
- Forwarding Rate : 3.97Mpps
- MAC Address Table : 8K
- Vlan support : 4K
- Priority Queues : 4 hardware queues per port
- Multicast Forwarding Table : 255
- Jumbo Frame : 10240 bytes
- MSTP Instances : 32
- ACL Rules : 320

L2 Features

- Auto-negotiation for port speed and duplex mode Flow Control
- Spanning Tree Protocol
 - IEEE 802.1D Spanning Tree Protocol (STP)
 - IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
 - IEEE802.1s Multiple Spanning Tree Protocol (MSTP)
 - Auto edge/STP fast forwarding
 - Root Guard
 - BPDU Guard
 - BPDU Filter
 - Loopback detection
 - Violation Action : Shutdown or Block
 - Release Mode : Auto or Manual
 - Traps support
- VLANs
 - IP subnet vlan
 - Port based vlan
 - MAC based vlan
 - Protocol VLAN
- GVRP
- VLAN trunking
- QinQ
- Traffic Segmentation
- Link Aggregation
 - Static Trunk
 - IEEE 802.3ad Link Aggregation Control Protocol
 - Trunk groups: 5
- IGMP Snooping
 - IGMP query
 - IGMP snooping v1/v2/v3
 - IGMP throttling/filtering

- IGMP snooping proxy: v1/v2/v3
- IGMP immediate leave
- MVR
- Port Mirror
 - Up to 10 Port based session
 - VLAN based
 - MAC based
 - RSPAN
- Up to 1024 static MAC address entries
- Ethernet Ring protection Switching
- Connectivity Fault Management (CFM)
- OAM Support

QoS Features

- Traffic classification based
 - IEEE 802.1p CoS
 - DSCP
 - TCP/UDP port number
 - Access Control List
- Enhanced QoS (Shaping/Marking)
- DiffServ
- Queue Mechanism
 - Supports WRR
 - Strict Priority
 - Hybrid
- Port based Egress/Igress Rate Limiting with 64Kbps Granularity
- Flow based Rate Limit
- Voice vlan

Security Features

- 802.1x
 - Port-based with Up to 1024 users per port
 - User based
 - VLAN assignment
 - EAPOL Pass Through
- MAC Authentication with up to 1024 Mac per port
 - Dynamic QoS
 - Dynamic Vlan
 - Authentication By-pass supported
- Web Authentication
- Guest VLAN
- Port Security
- ACL Rules Based on
 - IPv4
 - IPv6
 - ARP
 - MAC
 - Time
- AAA Model
- Local user database
- Radius Servers (Max. 5)
- Tacacs+
- HTTP/SSL Server

- Storm Control in steps of 64Kbps
 - Unknown Unicast
 - Multicast
 - Broadcast
- DHCP snooping & option 82
- ARP Inspection
- IP Source Guard
- SSH 2.0
- IP Filter for Web,SNMP,TELNET
- Automatic Traffic Control (ATC)
- DoS Protection supporting echo-charge, smurf, tcp-flooding, tcp-null-scan, tcp-syn-fin-scan, tcp-xmas-scan, udp-flooding, win-nuke

IPv6 Features

- IPv4/v6 Dual Protocol Stack
- Auto-configuration with address type Link-Local,Global and EUI-64
- Statistics for IPv6, ICMPv6 and UDP
- MTU Discovery
- IPv6 ACL, HTTP, TELNET, SSH, SYSLOG,TFTP
- IPv6 Neighbor Discover

Management Features

- Login Banner
- CLI via console port or Telnet
- WEB management
- SNMP v1, v2c,v3
- Firmware & Configuration
 - Firmware upgrade via TFTP/FTP/Xmodem/HTTP
 - Multiple configuration files
 - Configuration file upload/download via TFTP/FTP/HTTP Server
 - Auto Firmware upgrade
- SSH v2/HTTPS/SSL
- RMON (groups 1, 2, 3 and 9)
- BOOTP/DHCP/DHCP relay
- SNTP
- LLDP (802.1ab)
- DNS
 - Caching with upto 2500 entries
 - Domain name, Name Server
 - Static Host table
- Event/Error log/ System log
 - Remote Syslog (Max 5 Server)
 - SMTP Support for logs
- CPU and Memory Utilization Monitoring
- Ports statistics and chart
- Chart based display for port and



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Technical Specifications:-

- trunk statistics
- Cable test
- Scheduled Reload
- Green Ethernet
- IP Cluster with 36 units per cluster
- Remote PING for IPv4 and Ipv6
- Traceroute
- PPPOE intermediate-agent

Mechanical

- Dimensions (W x D x H):
195 mm x 115 mm x 36 mm
- LED Indicators : System: Power, DIAG (Diagnostic),

- Port: status (link, speed, and activity)
- AC Power Input: 100 to 240 V,
50-60 Hz, 0.2A
- Weight : 0.72 kg (1.59 lbs)

Environmental

- Temperature
Operating: 0°C to 45°C
(32°F to 113°F)
Storage: -40°C to 70°C
(-40°F to 158°F)
- Humidity: Operating: 10% to 90%
(non-condensing)

Electrical

- Power Consumption (Max.) : 32Watts
- Power Supply : Internal, auto-ranging transformer: 100 to 240 VAC,
50 to 60 Hz
- Maximum Current : 0.12 A @ 240 VAC

Warranty

- DIGICARE Lifetime Warranty

Optional Accessories:-

- DG-SA1030: DIGISOL 1000Base-SX SFP Transceiver LC type
- DG-SA1133: DIGISOL 1000Base-LX SFP Transceiver LC type



Ordering Information:-

DG-FS4510: DIGISOL 8 port Fast Ethernet Layer 2 Managed switch with 2 Gigabit combo ports (RJ45/SFP)

*Lifetime Warranty shall be subject to terms and conditions specified in the DIGISOL PRODUCT WARRANTY displayed on the website of the company.

*Also available - 48VDC version

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Power Connector

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