



**DIGISOL®**

# SWITCHING SOLUTIONS

## DIGISOL Dual Stack 10G Ethernet Routing Fiber Switch

### DG-GS4952FSE



#### Key Features:-

- Performance and Scalability
- VSF (Virtual Switching Framework)
- Rich L3 Features
- Strong Multicast
- Easy High Reliability network
- Comprehensive QoS
- Enhanced Security
- Abundant IPv6 Support
- Green-Energy



#### Introduction:-

DIGISOL DG-GS4952FSE next-generation 10G stackable routing switch has advanced hardware and software architecture design. These switches provide high availability, scalability, security, energy efficiency, and ease of operation with innovative features such as VSF and redundant power supplies. It is ideal for high-density aggregation or core layer as its high performance, availability and reliability.

#### Performance and Scalability

With high switching capacity, DG-GS4952FSE support wire-speed L2/L3 forwarding and high routing performance for IPv4 and IPv6 protocols. The 10 Gigabit Ethernet connectivity of DG-GS4952FSE is accomplished via a hot-pluggable 10 Gigabit SFP+ transceiver which supports distance up to 300 meters over multimode fiber and 10 to 40km over single-mode fiber (The distance depends the optical module chosen).

#### VSF (Virtual Switching Framework)

Virtual Switch Framework can virtualized multiple DIGISOL switches into one logical device, achieving the sharing of information and data tables between different switches. The performance and ports density of virtualized device are greatly enlarged by times under VSF. VSF also simplifies management work for network administrator and provides more reliability.

#### Rich L3 Features

DG-GS4952FSE delivers high-performance, hardware based IP routing. RIP, OSPF and BGP provide dynamic routing by exchanging routing information with other Layer 3 switches and routers. With DG-GS4952FSE, customers could easily achieve Policy based Route (PBR), which is important when they need multi exit application.

#### Strong Multicast

DG-GS4952FSE supports abundant multicast features. In Layer 2, such as IGMPv1/v2/v3 snooping and fast leave. L3 multicast protocols such as IGMPv1/v2/v3. With Multicast VLAN Register (MVR), multicast receiver/sender control and illegal multicast source detect functions; DG-GS4952FSE provides great application experience for customer.

#### Easy High Reliability network

MRPP is Multi-layer Ring Protection Protocol, which is DIGISOL private fast Ethernet ring protocol. Comparing to spanning tree protocol, it has advantages of fast convergence, simple protocol calculation, less system resources cost and so on, which can improve the reliability of Ethernet network operation.

#### Comprehensive QoS

With 8 queues per port, DG-GS4952FSE enable differentiated management of up to 8 traffic types. The traffic is prioritized according to IEEE802.1p, DSCP, IP precedence and TCP/UDP port number, giving optimal performance to real-time applications such as voice and video. DG-GS4952FSE also supports Bi-directional rate-limiting, per port or traffic class, preserves network bandwidth and allows full control of network resources.

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## Enhanced Security

IEEE 802.1X port-based access control and MAC-based access control ensure all users are authorized before being granted access to the network. Ingress/Egress Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on L2/L3/L4 headers information. And for some services are based on time, the product can support time based ACL to match the requirement. Secure Shell (SSH) encrypts network management information via Telnet providing secure network management. RADIUS Authentication enables centralized control of the switch and restricts unauthorized users from altering the configuration of the switch.

## Abundant IPv6 Support

DG-GS4952FSE supports IPv6 switching and routing based on hardware for maximum performance. With increased network devices growing the need for larger addressing and higher security become critical, DG-GS4952FSE will be a right product to meet this requirement.

## Green-Energy

Temperature monitoring, alarming, automatic cooling, energy saving features are realized on DG-GS4952FSE. According to the temperature monitoring, Fan speed can be adjusted or stopped to reduce energy consumption and noise.

## Technical Specifications:-

### HARDWARE FEATURES:

	DG-GS4952FSE
Physical Ports	48 x 100/1000Base-X (SFP) + 4 x 10GbE (SFP+)
Management Port	1 x RJ45 Ethernet Management port
	1x Console port
	1x USB2.0 interface
<b>Performance</b>	
Switching Capacity	176Gbps
Throughput	131Mpps
Jumbo Frame	10K
MAC Address	16K
ARP Table	4K
Routing Table	13K
ACL Table	3K
L3 Interface	Max 1K
<b>Physical</b>	
Dimension (W*H*D)	440 x 44 x 240 (mm)
Relative Humidity	10%~90% non-condensing, storage 95%
Temperature	Working 0°C~50°C, storage -40°C~70°C
Power Supply	AC: 100~240VAC, 50~60Hz, + 12VDC RPS
Power Consumption	<80W

### MAIN FEATURES:

#### L1, L2 Features

- IEEE802.3(10Base-T)
- IEEE802.3u(100Base-TX)
- IEEE802.3z(1000BASE-X)
- IEEE802.3ab(1000Base-T)
- IEEE802.3ae(10GBase)
- IEEE802.3x
- IEEE802.3ak(10GBASE-CX4)
- Port loopback detection
- LLDP and LLDP-MED

- UDLD
- 802.3ad LACP, max 128 group trunks with max 8 ports for each trunk
- LACP load balance
- N:1 Port Mirroring
- RSPAN, ERSPAN
- IEEE802.1d(STP)
- IEEE802.1w(RSTP)
- IEEE802.1s(MSTP)
- Root Guard, BPDU Guard

- BPDU Tunnel
- 802.1Q, 4K VLAN
- MAC VLAN, Voice VLAN, PVLAN, Protocol VLAN, Multicast VLAN
- QinQ, Selective QinQ, Flexible QinQ
- GVRP
- N:1 VLAN Translation
- Broadcast/Multicast/Unicast Storm Control
- IGMP v1/v2/v3 Snooping & L2 Query



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## Technical Specifications:-

- ND Snooping
- MLDv1/v2 Snooping
- Port Security
- Flow Control: HOL, IEEE802.3x
- Bandwidth Control

### L3 Features

- Static Routing, RIPv1/v2, OSPFv2, BGP4
- OSPFv3, BGP4+
- OSPF multiple process
- LPM Routing
- Policy-based Routing(PBR) for IPv4 and Ipv6
- VRRP
- URPF
- ECMP
- BFD
- IGMP v1/v2/v3, IGMP Proxy,
- DVMRP, PIM-DM, PIM-SM, PIM-SSM, Any Cast RP, MSDP
- Static Multicast Route
- Multicast Receive Control
- Illegal Multicast Source Detect
- ARP Guard, Local ARP proxy, Proxy ARP, ARP Binding, Gratuitous ARP, ARP Limit
- Anti ARP/NDP Cheat, Anti ARP/NDP Scan
- DNS Client, DNS Relay
- GRE Tunnel

### IPv6

- 6 to 4 Tunnel, Configured Tunnel, ISATAP Tunnel, GRE Tunnel

- ICMPv6, ND, DNSv6
- IPv6 LPM Routing, IPv6 Policy-based Routing(PBR)
- IPv6 VRRPv3, IPv6 URPF, IPv6 RA
- RIPng, OSPFv3, BGP4+
- MLD Snooping, IPv6 Multicast VLAN
- MLDv1/v2, PIM-SM/DM for IPv6,
- IPv6 Any Cast RP, IPv6 ACL, IPv6 QoS

### QoS

- 8 Queues
- SP, WDRR, SWDRR
- Traffic Classification Based on 802.1p COS, ToS, DiffServ DSCP, ACL, Port number
- Traffic Policing
- PRI Mark/Remark

### ACL

- IP ACL, MAC ACL, IP-MAC ACL
- Standard and Expanded ACL Based on source/destination IP or MAC, IP Protocol, TCP/UDP port, DSCP, ToS, IP Precedence, VLAN, Tag/Untag, CoS
- REDIRECT and Accounting based ACL
- Rules can be configured to port, VLAN, VLAN routing interfaces
- Time Ranged ACL

### Security

- 802.1x AAA
- Port, MAC based authentication
- Accounting based on time length & traffic Guest VLAN and auto VLAN
- RADIUS for IPv4 and IPv6

- TACACS+ for IPv4 and IPv6
- MAB

### DHCPv4/v6

- DHCP Server/Client for IPv4/IPv6
- DHCP Relay/Option 82
- DHCP Snooping/Option 82

### Traffic Monitor

- sFlow Traffic Analysis

### Security Network Management

- CLI, WEB, Telnet, SNMPv1/v2c/v3 through IPv4 and IPv6
- Syslog and external Syslog Server
- HTTP SSL
- SNMP MIB, SNMP TRAP
- FTP/TFTP
- SNTP/NTP
- RMOM 1,2,3,9
- Authentication by Radius/TACACS
- SSH v1/v2
- Dual firmware images/ Configuration files
- 802.3ah OAM, 802.1ag OAM

### Data Center Features

- VSF (Virtual Switch Framework)



## Ordering Information:-

**DG-GS4952FSE:** DIGISOL 10G Ethernet Routing Switch, 48x100/1000Base-X (SFP) + 4x10GbE (SFP+), AC + 12VDC RPS power supply.

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

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DIGISOL is a Subsidiary of Smartlink Holdings Limited

**DIGISOL SYSTEMS LIMITED**  
CITIPOINT, 7th Floor,  
Unit No. B-701, B-702 & B-703,  
Andheri-Kurla Road, J. B. Nagar,  
Andheri (East),  
Mumbai - 400059, INDIA

1800-209-3444  
www.digisol.com  
helpdesk@digisol.com

@DIGISOLINDIA