IS-DG510 Series

10-port Gigabit Din-Rail Managed Layer 2/4 Industrial Ethernet Switch

The IS-DG510 Series are full Gigabit Ethernet Switches with 10 Gigabit Ethernet ports, perfect for upgrading an existing network to a full Gigabit speed Infrastructure; a full Gigabit network provides higher throughput than legacy Fast Ethernet network. The IS-DG510 Series reduce the response time for timing sensitive applications which may combine all video, voice, and data streams in the traffic flow. With the powerful S/W and H/W features, the IS-DG510 Series prioritize, partition and optimize user's network while provide reliable and quality services. The IS-DG510 Series switches are suitable for all kinds of Industrial applications.

Key features

- ▶ 10/8/6 Gigabit RJ45 Copper ports plus 0/2/4 100 / 1000 Based SFP(SX/LX/LHX) ports
- ▶ Support 9K Jumbo frames
- ▶ Layer 2 wired-Speed switching engine
- ▶ Layer 4 ACL (Access Control List), QCL (QoS Control List), Port Control
- ▶ Network redundancy LACP, Spanning Tree Protocol, STP, RSTP, MSTP
- ▶ I.A. Ring, I.A.Chain (Network Load Balancing), 250pcs@20ms
- ▶ Ring Coupling, Multiple Ring, Dual Homing
- ▶ Port-based, Tag-based, Protocol-based VLAN, IEEE 802.1ad / QinQ, MVR
- ▶ Multicasting support IGMP v1/v2, proxy & snooping, MLD snooping

- ▶ IEEE 802.1X Port-based access control / RADIUS / TACACS+ Server
- ▶ VeriPHY Cable Diagnostics, Per VLAN mirroring
- ▶ Redundant Power Input (12~58 VDC) & Reverse power protection
- ▶ SNMP v1/v2c/v3, Trap / Inform, RMON
- ▶ Din-Rail and Wall Mount Installation
- ▶ Port Power Saving
- ▶ -40~75ºC operating temperature
- ▶ Loop Protection
- ▶ IP 30 Protection
- ▶ 2KV surge immunity on RJ45 Copper port
- ▶ 1.5KV Hipot
- ▶ Rugged Fanless Design

Specification

Ethernet

Operating Mode	Store and Forward, L2 wire-speed/non-blocking switching engine
MAC addresses	8K
Packet Buffer	4 Mbits
Jumbo frame	9K

RJ45 Copper ports

Speed	10/100/1000 Mbps
MDI/MDIX Auto-crossover	Support straight or cross wired cables
Auto-negotiation/Duplex	10/100/1000 Mbps speed auto-negotiation; Full & Half Duplex
Ethernet Port Protection	1.5KV VRMS 1minute(Hipot), 2KV surge immunity on RJ45 Copper ports

Fiber Ports

Port Types supported	100/1000 Base SFP Slot
Fiber port connector	LC/RJ45 connector for fiber ports
Optimal fiber cable	Typical 50 or 62.5/125 µm for multimode (mm) Typical 8 or 9/125 µm for single mode (sm)

Network Redundancy

I.A.Ring / I.A. Chain	Link Loss Recovery < 20ms@250pcs
Network Topology Optimize Functions	Ring Coupling, Multiple-Ring, Dual-Homing
Spanning Tree Protocol	IEEE 802.1D/1w/1s, STP/RSTP/MSTP
Port Trunk / LACP	Static Trunk or LACP (Link Aggregation Control Protocol)

Bridge, VLANs, Protocols

Flow Control	IEEE 802.3x (Full Duplex) and Back-Pressure (Half Duplex)
Max VLANs	256
VLAN Types	Port-Based VLAN, Private VLAN, MAC-Based VLAN
	IEEE 802.1Q tag-based VLAN, IP Subnet-Based VLAN, Voice VLAN
	IEEE 802.1ad Double Tagging (QinQ), Protocol-Based VLAN, VCL
Multicast protocols	IGMP v1, v2, V3, up to 255 multicast groups
	IGMP snooping, querying, MLD Snooping, GVRP
	Immediate leave and leave proxy, Throttling and filtering
LLDP	IEEE 802.1ab LLDP / LLDP-MED

Traffic management & QoS

Priority	IEEE 802.1p QoS, Ingress / Egress, QCL
Number of queues per port	8
Scheduling schemes	SPQ, WRR, SPQ+WRR
Traffic Shaper	Port-based shaping

Security

Port Security	IP and MAC-based Access Control/Filter, Auth User / Privilege Level Control
	IEEE 802.1X Authentication Network Access Control / RADIUS / TACACS+ Server
Storm Control	Multicast / Broadcast / Flooding Storm Control / Port Access Control / Bandwidth Limiters

Management

User Management Interfaces	Cisco-Like CLI (Command Line Interface)
	Web-based Management, Windows Utility for quick startup
	SNMP V1, V2c, V3 USM, RMON, Trap / Inform / Retry, Telnet (5 sessions)
Management Security	HTTPs, SSH, Access Management, Loop Protection
	RADIUS Client for Management
Upgrade & Restore	TFTP for Configuration Import / Export
	TFTP for Firmware Upgrade
Diagnostic	Syslog, Level Info / Warning / Error, Detailed Syslog
	Port Mirror, Per VLAN mirroring, CPU Load Monitor, Traffic Counter
	VeriPHY Ethernet Cable Diagnostics, ICMP Ping
MIBs	RFC 1757RMON 1, 2, 3, 9; RFC 2674 Q-Bridge MIB
	RFC 1213 MIB II; RFC 1493 Bridge MIB; RFC 2233 IF MIB
DHCP	Client Mode, Server Mode, Relay Mode, Snooping, Option 82
NTP/SNTP	YES
System Status	Device info/status; Ethernet port status
Green Ethernet	Port Power Savings
Layer 4 Security	Access Control List

Power

Power Input	Redundant Power Input, Removable Terminal Block
Input Voltage Range	12-58 VDC
Reverse power protection	YES
Transient protection	> 15, 000 Watts peak
Power Consumption	IS-DG510 11.6 Watt, IS-DG510-2F 12.5Watt, IS-DG510-4F 13.9 Watt

Indicators

Power status indication	Power Input status
Ethernet port indication	Link & speed

Environmental and Compliances

Operating Temperature	-40~75°C (Cold startup at -40°C)
Storage Temperature	-40~85°C
Humidity	5~95% (Non-Condensing)
Vibration, shock, free fall	IEC-60068-6, -27, -32
Certification Compliance	CE, FCC
Electrical safety	CE
EMC	FCC Part 15, CISPR 22 (EN55022) Class A IEC-61000-4-2, -3, -4, -5, -6 (Level 3)
RoHS & WEEE	RoHS (Pb free) and WEEE Compliant
MTBF	>25 years

Mechanical

Protection	IP30
Dimension	154mm x 65mm x 108mm(LxWxD)
Weight	1.2 kg
Installation	Din-Rail Mount, Wall mount
Relay Output	1A, 24V, Normal Open

Dimension Diagram
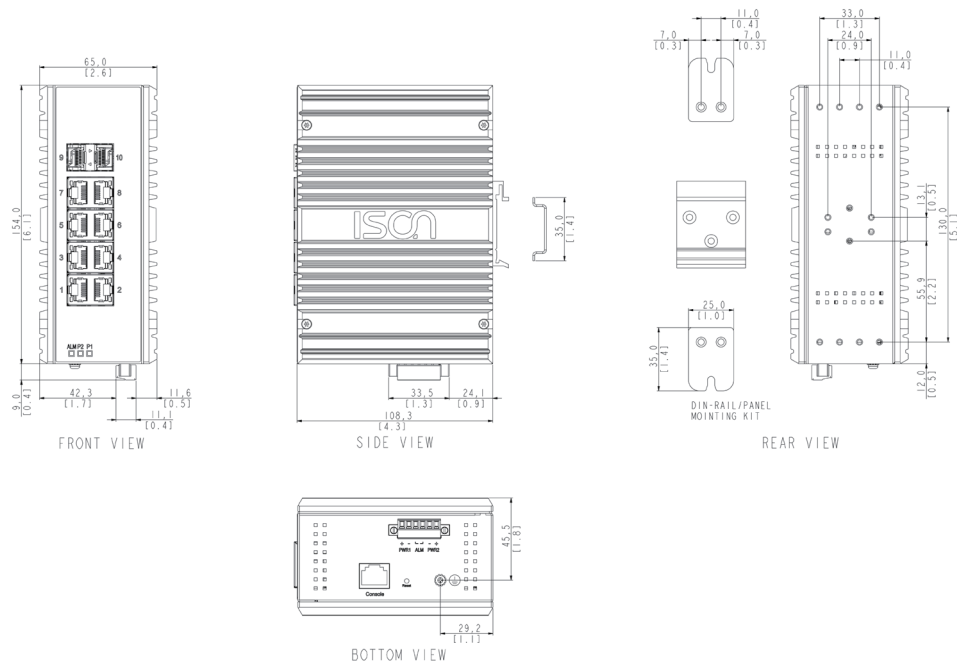
Ordering Information

Available Models	Description	10/100/1000Mb TX	100/1000Mb FX
IS-DG510	Industrial 10 port Gigabit Layer 2/4 Managed Ethernet Switch, -40~75°C	10	0
IS-DG510-2F	Industrial 10 port Gigabit Layer 2/4 Managed Ethernet Switch, -40~75°C	8	2
IS-DG510-4F	Industrial 10 port Gigabit Layer 2/4 Managed Ethernet Switch, -40~75°C	6	4

Accessories

1. 100 Mb SFP Modules

2. Gigabit SFP Modules