

# IS-DG510P Series

## 10-ports Din-Rail managed Layer 2/4 Industrial PoE Switch

The IS-DG510P Series full Gigabit managed 10-port Ethernet switch with up to 8 PoE IEEE 802.3af/at PoE ports provide easy to use plug-n-play applications; a full Gigabit network provides higher throughput than legacy Fast Ethernet network. The cost effective IS-DG510P Series managed switches can provide power and data directly through a single Ethernet cable, which is ideal for factory production line or embedded into machine system. The IS-DG510P Series managed switches are especially good for Building automation, CCTV, ITS and security/safety related applications.



### Key features

- ▶ Provide 10/8/6 Gigabit RJ45 Copper ports plus 0/2/4 100 / 1000 Based SFP(SX/LX/LHX) ports
- ▶ Support up to 8/6 PoE port, IEEE 802.3af/at PoE, 15.4/30 Watt output, Full Load
- ▶ Support up to 2 Ultra High Power PoE port, 60 Watt output
- ▶ Support Smart PoE management function
- ▶ 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/v3, proxy & snooping, MLD snooping
- ▶ IEEE 802.1X Port-based access control / RADIUS / TACACS+ Server
- ▶ VeriPHY Cable Diagnostics, Per VLAN mirroring
- ▶ Redundant Power Input (46~57 VDC) & Reverse power protection
- ▶ SNMP v1/v2c/v3, Trap / Inform
- ▶ Din-Rail and Wall Mount Installation
- ▶ Port Power Saving, 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     |
| PoE                      | IEEE 802.3af/at (15.4/30 Watt), PoE/PoE+, 60 Watt Ultra high power PoE |

#### 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 $\mu\text{m}$ for multimode (mm)<br>Typical 8 or 9/125 $\mu\text{m}$ 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 / 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                          |
| PoE                        | Smart PoE management   |
| 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      | 46-57 VDC   |
| Reverse power protection | YES   |
| Transient protection     | > 15, 000 Watts peak  |
| Power Consumption        | 17 Watt (Without PD Load),<br>PSE: 8 x 30Watt, total power budget, 240 Watt |

## Indicators

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

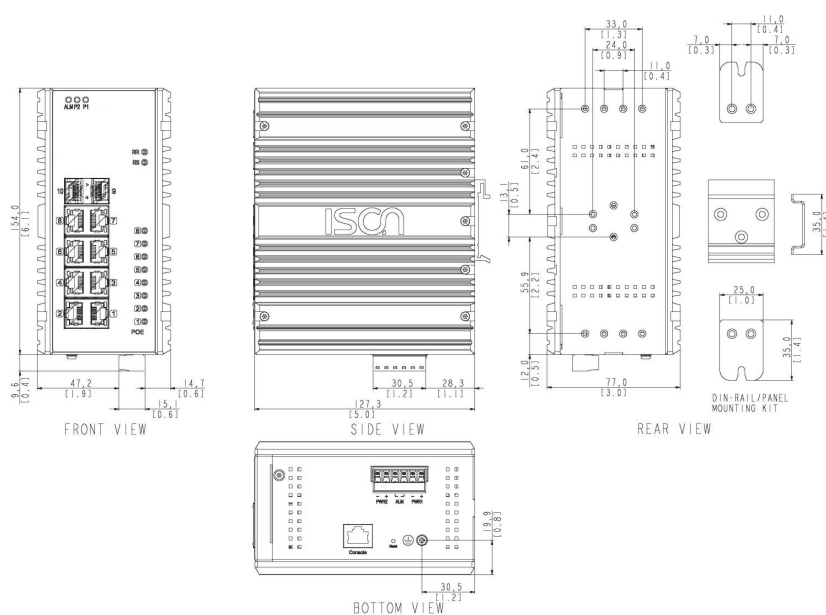
## Environmental and Compliances

|                             |  |
|-----------------------------|--|
| 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<br>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 105mm x 108mm(LxWxD) |
| Weight       | 1.5 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-DG510P-2F-8   | Industrial 10 port Gigabit Layer 2/4 Managed Switch, 8 PoE | 8 (8 PoE)        | 2             |
| IS-DG510P-4F-6   | Industrial 10 port Gigabit Layer 2/4 Managed Switch, 6 PoE | 6 (6 PoE)        | 4             |
| IS-DG510P-8      | Industrial 10 port Gigabit Layer 2/4 Managed Switch, 8 PoE | 10 (8 PoE)       | 0             |

## Accessories

- 100 Mb SFP Modules
- Gigabit SFP Modules