

IS-DG510-PN Series

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



The IS-DG510-PN Series are all Gigabit PROFINET Switches with 10 Gigabit Ethernet ports, perfect for upgrading an existing network to a full Gigabit speed Infrastructure. With the built-in PROFINET optimized function, the IS-DG510-PN can support both client, client/server mode for the PLC/SCADA system. The IS-DG510-PN's easy-to-use, seamless integration can help your system to perform with high availability and multi-direction operation. The IS-DG510-PN Series can easily handle mix of video, voice, and data stream in the traffic flow. With powerful S/W, H/W features, the IS-DG510-PN Series prioritize, partition and optimize user's network while provide reliable and quality services. The IS-DG510-PN 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 ports
- ▶ Support Profinet Class 2, optional MRP (MRM, MRC)
- ▶ Support 9K Jumbo frames
- ▶ Support Profinet client mode, client/server mode operation.
- ▶ 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 (12~58 VDC) & Reverse power protection
- ▶ SNMP v1/v2c/v3, Trap / Inform, RMON
- ▶ Din-Rail and Wall Mount Installation
- ▶ Port Power Saving
- ▶ -40~75°C operating temperature
- ▶ Loop Protection
- ▶ IP 30 Protection
- ▶ 2KV surge immunity on RJ45 Copper port
- ▶ 1.5KV Hipot
- ▶ Rugged Fan-less 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

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|--------------------------|--|
| 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

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|----------------------|--|
| 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

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|-------------------------------------|--|
| 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) |

Fieldbus protocol

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|--------------------|--|
| Profinet | Class 2 |
| Redundant function | MRC, MRM(Optional, please contact sales for more detailed information) |

Bridge, VLANs, Protocols

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|---------------------|--|
| 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

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|---------------------------|--|
| 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

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|---------------|---|
| 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

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|----------------------------|--|
| 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

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|--------------------------|--|
| 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-PN 11.6 Watt, IS-DG510-2F-PN 12.5Watt, IS-DG510-4F-PN 13.9 Watt |

Indicators

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

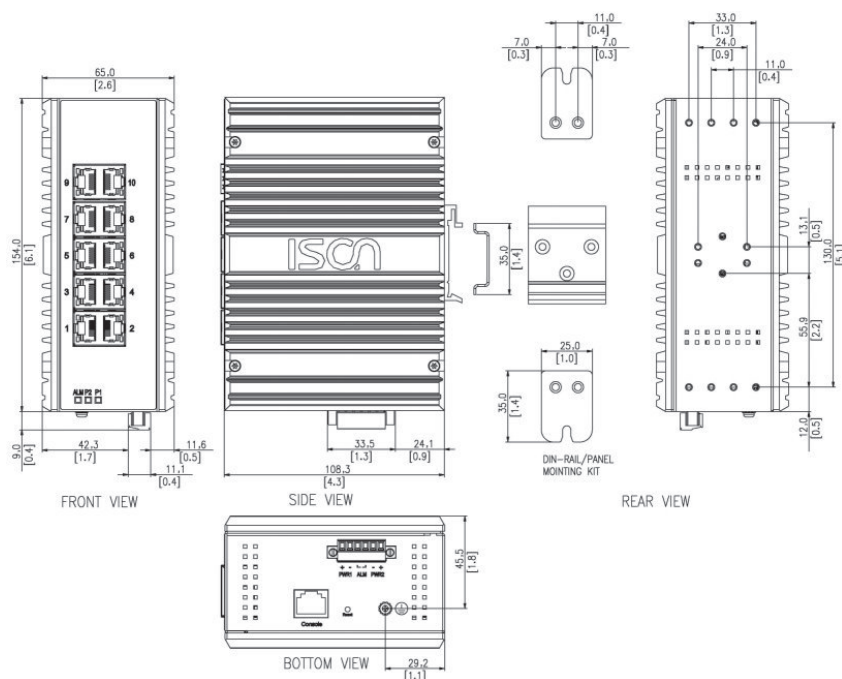
Environmental and Compliances

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|-----------------------------|--|
| 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

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|--------------|-----------------------------|
| 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-DG510-4F-PN-MRC | Industrial 10 port Gigabit Layer 2/4 Managed Ethernet Switch, -40~75°C (Profinet support) | 6 | 4 |

| | | | |
|--|---|----|---|
| IS-DG510-2F-PN-MRC | Industrial 10 port Gigabit Layer 2/4 Managed Ethernet Switch, -40~75°C (Profinet support) | 8 | 2 |
| IS-DG510-PN-MRC | Industrial 10 port Gigabit Layer 2/4 Managed Ethernet Switch, -40~75°C (Profinet support) | 10 | |
| IS-DG510-4F-PN-MRM (Please contact sales for more detailed information) | Industrial 10 port Gigabit Layer 2/4 Managed Ethernet Switch, -40~75°C (Profinet support) | 6 | 4 |
| IS-DG510-2F-PN-MRM (Please contact sales for more detailed information) | Industrial 10 port Gigabit Layer 2/4 Managed Ethernet Switch, -40~75°C (Profinet support) | 8 | 2 |
| IS-DG510-PN-MRM (Please contact sales for more detailed information) | Industrial 10 port Gigabit Layer 2/4 Managed Ethernet Switch, -40~75°C (Profinet support) | 10 | |

Accessories

1. 100 Mb SFP Modules
2. Gigabit SFP Modules