

intelbras

Intelbras Industrial Switches SI 3100 Series



Product Overview

Intelbras Industrial Ethernet SI 3100 switch series is Intelbras’s latest industrial Ethernet switches designed for rugged environment and wide operating temperature. SI 3100 switch series adhere to industrial grade hardware design and adopts highly reliable industrial grade components, while using the highly developed and tested Comware platform to provide a trustworthy Ethernet solution in wide operating temperature scenarios. SI 3100 industrial switch series offer extensive industrial environmental compliance and certifications, and can be widely used in public transport, traffic management, smart building and other extreme temperature scenarios.

Intelbras SI 3100 Industrial switch series come in the following models:

Product Description	Product Photograph
<ul style="list-style-type: none"> • SI 3100-8G-4S <p>Intelbras SI 3100-8G-4S: 8 10/100/1000 BASE-T Ethernet ports + 4 1000 BASE-X SFP optical ports;</p>	
<ul style="list-style-type: none"> • SI 3100-8GP-4S <p>Intelbras SI 3100-8GP-4S: 8 10/100/1000 BASE-T Ethernet ports (POE+)+ 4 1000 BASE-X SFP optical ports;</p>	

Features and Benefits

Exceptional Quality, Solid as a Rock

- The SI 3100 industrial switch series are the latest Ethernet switches developed with industrial compliance and wide operating temperature in mind. All models are built with industrial grade components, with reliability significantly higher than commercial counterparts running under the same conditions.
- Fanless natural cooling design. Multiple heat dissipation components such as embedded heatsink and thermal adhesive make it perform consistently under harsh environment. Operating temperature ranges from -40°C to 75°C.
- Shock and vibration resistant, dust proof, IP40 compliant.
- Support high level electromagnetic shielding, capable of withstanding electrostatic discharge, surge/burst/electrical fast transients, pulse magnetic field, radiated electrical field.

Rich Software Features

- SI 3100 industrial switch series integrated the switching, routing, ring network protection and security.

Support full layer-2 Ethernet feature sets, with 802.1Q VLAN, protocol based VLAN, Voice VLAN, Guest VLAN, Q-in-Q, flexible Q-in-Q encapsulation and multicast VLAN. STP/RSTP/MSTP, 802.3x Ethernet flow control protocol; support QoS congestion management through data classification and prioritization to ensure transmission of mission critical data; support Link Layer Discovery Protocol (LLDP), Link Aggregation Control Protocol (LACP), Device Link Detection Protocol (DLDP), Generic Attribute Registration Protocol (GARP), multicasting at layer 2 and layer 2 features such as VLAN registration protocol and broadcast storm suppression.

- SI 3100 switch series supports IPv4 and IPv6 dual stack protocols as well as IPv4 and IPv6 forwarding at full line speed on hardware. It supports IPv4/v6 static routing, routed port, RIP and OSPF (in small scale). In addition, it supports IGMP Snooping, DHCP Server, DHCP Client, DHCP Snooping, DHCP Relay (option 82) and Domain Name System (DNS).
- SI 3100 switch series supports Rapid Ring Protection Protocol (RRPP). The Rapid Ring Protection Protocol (RRPP) is a link layer protocol dedicated to Ethernet rings. It prevents broadcast storms caused by data loops when an Ethernet ring is healthy, and rapidly restores the communication paths between the nodes after a link is disconnected on the ring by bringing up the backup link. Compared with STP, RRPP has the following advantages: fast topology convergence (within 50 milliseconds); convergence time independent of Ethernet

ring size. On intersecting rings, topology update of an RRPP ring does not ripple to other rings, data transmission thus becomes more stable. RRPP also supports load balancing in Ethernet rings, which improves physical link bandwidth utilization.

- SI 3100 industrial switch series implements full Ethernet security features. By enforcing multiple sets of security mechanisms, they effectively limit malware spread and traffic flow attack. The switches supports layer 2 to 4 ACL control, block CPU, ARP and DoS attacks. IEEE 802.1x port-based authentication is a client-server based access control and authentication protocol that restricts unauthorized clients from connecting to a LAN through publicly accessible ports. TACACS+ and RADIUS authentication can implement centralized management for switches, and prevent unauthorized change in user allocation. They also support rapid deployment of End-point Admission Domination (EAD), as well as SAVI-based IPv6 source address validation.
- Ethernet Ring Protection Switching(ERPS) is a ring network protection protocol defined by ITU, G.8032. It is a link layer protocol specially applied to the Ethernet ring network. When the Ethernet ring network is complete, it can prevent broadcast storms caused by the data loop, and when a link on the Ethernet ring network is disconnected, it can quickly restore the communication between various nodes on the ring network.

Visualization

- Intelbras SI 3100 series industrial switches support Telemetry technology. The real-time resource information and alarm information of the switch can be sent to the operation and maintenance platform through the GRPC protocol. The operation and maintenance platform analyzes real-time data, which can realize network quality backtracking, troubleshooting, risk warning, structure optimization and other functions to accurately guarantee user experience.

Green Features

- SI 3100 switch series implements a variety of green energy saving features, including auto-power-down (port automatic energy saving). If the interface status is always down for a period of time, the system automatically stops the interface power and the system enters power-saving mode. They also support EEE energy feature, by which if a port stays idle for a period of time, the system will set the port to energy-saving mode. The switches are also compliant with material environmental protection and the EU RoHS safety standard.

Comprehensive Authentication Strategies

- SI 3100 industrial switch series supports AAA, RADIUS authentication, user based account, IP, MAC, VLAN and port based dynamic or static user identification and binding. The switches also support Intelbras On-premise centralized software to implement real-time user management, diagnose and remove illicit network attack.

Outstanding Management

- SI 3100 industrial switch series management interface supports SNMPv1/V2/v3, On-premise centralized software Command Line Interface (CLI), Web based management, TELNET and FTP configuration. They also support SSH2.0 and SSL encryption to make management safer.

Power Failure Alarms

- Intelbras SI 3100 industrial switch series provides redundant power supply* and support alarms based on power failure.

Intelbras SI 3100 industrial Switch Series support IEEE Dying Gasp for alarms when a power outage occurs.

Specifications

Hardware Specifications

Feature	Intelbras SI 3100-8G-4S	Intelbras SI 3100-8GP-4S
Switching capacity	24Gbps	24Gbps
Forwarding capacity	17Mpps	17Mpps
Dimensions (W × D × H)	149*129.8*44mm	149*129.8*44mm
Weight	≤ 1kg	≤1kg
10/100/1000 Base-T port	8	8
SFP port	4	4
Input voltage	Rated voltage range: 100 to 240 VAC @ 50 or 60 Hz Max voltage range: 85 to 264 VAC @ 45 to 65 Hz	Rated DC voltage: 54 - 57V Max DC voltage: 48 – 57V

Feature	Intelbras SI 3100-8G-4S	Intelbras SI 3100-8GP-4S
Power consumption	MIN: 7W MAX: 12W	MIN: Single DC: 11W Dual DC: 14W MAX: Single DC: 141W Dual DC: 144W
POE	/	Single DC: 125W Dual DC: 125W
Operating temperature	-40 ~ 75°C	
Storage temperature	-40 ~ 75°C	
Operating relative humidity(noncondensing)	5 ~ 95%RH	
Operating Environment	<ul style="list-style-type: none"> · International Protection Marking IP40 · Lightning-proof Ethernet Port · Electro Static Discharge · Air Discharge: $\geq \pm 8.0kV$ · Contact Discharge: $\geq \pm 6.0kV$ 	<ul style="list-style-type: none"> · International Protection Marking IP40 · Lightning-proof Ethernet Port · Electro Static Discharge · Air Discharge: $\geq \pm 8.0kV$ · Contact Discharge: $\geq \pm 6.0kV$

Note: power supplies do not follow the PoE model by default

Software Specifications

Feature	SI 3100 switch series
Cluster Management	Support
Port Aggregation	Support
Ethernet Switching	Store-and-Forward
Jumbo Frame	Support
MAC Address Table	<ul style="list-style-type: none"> · 16K MAC Address · Static MAC Address · Black hole MAC Address · MAC Address Learning Limit
VLAN	<ul style="list-style-type: none"> · Port-based VLAN · MAC-based VLAN · Protocol-based VLAN · Voice VLAN · Guest VLAN

Feature	SI 3100 switch series
	<ul style="list-style-type: none"> · QinQ and Selective QinQ · VLAN Mapping
ACL	<ul style="list-style-type: none"> · Time Range-based ACL · Layers 2-4 ACL · IPv4/IPv6 ACL · Ingress ACL · Rate-limited ACL
QoS	<ul style="list-style-type: none"> · Diff-Serv QoS · Flexible queue scheduling algorithms based on ports and queues, including SP, WRR and SP+WRR · 802.1p DSCP remarking
DHCP	<ul style="list-style-type: none"> · DHCP Client · DHCP Snooping · DHCP Snooping Trust · DHCP Snooping option 82 / DHCP Relay option 82
ARP	<ul style="list-style-type: none"> · Static ARP · Gratuitous ARP · ARP anti-attack · ARP Rate Limiting
IP Routing	<ul style="list-style-type: none"> · Routed Port · IPv4 Routing: Static Route, RIP · IPv6 Routing: Static Route, Unicast Route
Multicast	<ul style="list-style-type: none"> · IGMP v1/v2/v3 Snooping · IGMP Snooping Fast-leave · IGMP Snooping Group-policy · IGMP Snooping Proxy · IPv4/IPv6 Multicast VLAN · MLD v1/v2 Snooping · MVR
Spanning Tree	<ul style="list-style-type: none"> · STP / RSTP / MSTP · STP Root Guard · BPDU Guard · Loop Guard
Mirroring	<ul style="list-style-type: none"> · Port Mirroring · Remote SPAN (RSPAN)
Security	<ul style="list-style-type: none"> · Hierarchical User Management and Password Protection · 802.1X Authentication · AAA Authentication

Feature	SI 3100 switch series
	<ul style="list-style-type: none"> · Public Key Infrastructure (PKI) · HWTACACS · SSH 2.0 · IP/MAC/Port/VLAN Binding · IP Source Guard · HTTPs · SSL · Dynamic ARP Inspection, Preventing Man-in-the-Middle Attacks and ARP DoS Attacks · SAVI
IEEE	<ul style="list-style-type: none"> IEEE 802.3x IEEE 802.3ad IEEE 802.3af IEEE 802.3at IEEE 802.1p IEEE 802.1x IEEE 802.1q IEEE 802.1d IEEE 802.1w IEEE 802.1s
Management and maintenance	<ul style="list-style-type: none"> · Loading and Upgrading through Xmodem / FTP / TFTP · Configuration through CLI, Telnet and Console Port · TR069 · 802.1ag and 802.3ah · SNMPv1/v2/v3 · INC – Intelbras Network Center · INC Cloud – Intelbras Network Center Cloud · Web-based · System Log, Alarms based on Severities, and Output of Debugging Information · Alarms based on Power Failure · NTP · Temperature Alarm · Ping, Tracert, Telnet
Reliability	<ul style="list-style-type: none"> Alarms based on Power Failure (only for SI 3100 switch series) ERPS (G.8032)

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Intelbras SI 3100-8G-4S	8 10/100/1000 BASE-T Ethernet ports + 4 1000 BASE-X SFP optical ports;
Intelbras SI 3100-8GP-4S	8 10/100/1000 BASE-T Ethernet ports (POE)+ 4 1000 BASE-X SFP optical ports;
DG-240-5502	AC EXTERNAL POWER SUPPLY DG-240-5502 (only for SI 3100-8GP-4S)