



Gazelle S1000i-LI Industrial Ethernet Switch

Overview

The Gazelle S1000i-LI industrial Ethernet switch, specially designed for video surveillance in safe cities and smart transportation, can operate stably for a long time in harsh environments. The Gazelle S1000i-LI series switch, with improved performance, is specially designed for high-definition video surveillance. With a large cache, the Gazelle S1000i-LI can guarantee continuous and smooth video transmission. It also supports flexible Ethernet networking modes, various security control policies, easy management, mature IPv6 features, smart PoE, and zero-configuration (plug and play).

The Gazelle S1000i-LI is highly adaptive to industrial environments in terms of mechanical stability, environment adaptability, EMC, and so on. It is IP40 rated, adopts low-power fanless cooling technology, and ensures more than 35-year Mean Time Between Failures (MTBF).

Models

Gazelle S1000i-LI 100 Mbit/s series



Uplink interface: two/four 100/1000 Mbit/s auto-negotiation SFP optical interfaces or four 1000 Mbit/s Combo interfaces

Downlink interface: four/eight/sixteen 100 Mbit/s electrical interfaces

220 VAC power supply

Gazelle S1000i-LI 1000 Mbit/s series



Uplink interface: two/four 100/1000 Mbit/s auto-negotiation SFP optical interfaces

Downlink interface: four/eight 1000 Mbit/s electrical interfaces

220 VAC power supply

Gazelle S1000i-LI 1000 Mbit/s PoE series

Uplink interface: two 100/1000 Mbit/s auto-negotiation SFP

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optical interfaces

Downlink interface: eight 1000 Mbit/s electrical interfaces, PoE/PoE+

48 VDC, dual inputs

Support up to 240 W PoE (an external power adapter is required)

Features

1000 Mbit/s uplink and wire-speed switching

The Gazelle S1000i-LI supports a bus bandwidth of 56 Gbit/s, enabling all interfaces with Layer 2 wire-speed switching capabilities. All interfaces are GE interfaces, meeting the high bandwidth requirements of the current multi-service big data.

Flexible Ethernet networking

The Gazelle S1000i-LI not only supports traditional STP/RSTP/MSTP, but also the industry standard ERPS solution which supports multiple networking modes, such as single ring, tangent ring, and intersecting ring. It offers 50ms fast service switching to implement carrier-grade reliability.

The Gazelle S1000i-LI supports interface backup dual-homed protection, manual and static LACP link aggregation, which implements uplink backup, greatly enhancing the reliability of devices at the access side. It also supports IEEE G.8031 for end-to-end linear protection.

The Gazelle S1000i-LI supports loop detection through which it can automatically discover and eliminates loops to ensure stable network operation.

Various security control policies

The Gazelle S1000i-LI supports multiple access control technologies and user authentication technologies, such as ACL, Dot1X, RADIUS, and TACACS+, meeting multi-authentication requirements of different network

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scenarios.

ARP attacks and ARP viruses are the major threats to the security of the LAN. The Gazelle S1000I-LI supports a variety of ARP defense functions, such as dynamic ARP detection, to check the legitimacy of users and the validity of ARP packets. It also supports ARP rate limiting to prevent the CPU from being flooded by a large number of ARP packets.

After the DHCP snooping binding table is created and maintained, the illegal packets that do not match the binding entries are directly discarded. Through DHCP Snooping trusted interface, the Gazelle S1000I-LI ensures the legitimacy of the DHCP server.

Easy management and maintenance

The Gazelle S1000i-LI supports SNMPv1/v2c/v3 and various management modes, such as Raisecom NView NNM system, CLI, Web network management, Telnet, and in-band and out-of-band management. It also supports SSHv2.0, which makes management more secure, and supports RMON and interface traffic statistics for network optimization and transformation.

The Gazelle S1000i-LI can automatically download configurations from the DHCP Server and upgrade software. Upgrade can be also implemented in batches remotely through Raisecom NView NNM system to reduce operation and maintenance costs.

With complete IPv6 management and authentication functions, it is suitable for the IPv6 network management environment.

Powerful and flexible PoE (supported by PoE models only)

The Gazelle S1000i-LI supports IEEE 802.3af and IEEE 802.3at standards, with each interface offering up to 30 W.

It is compatible with a wide range of PDs and supports the forcible power supply mode for non-standard PDs.

It supports PoE smart power management, including enabling/disabling configurations of interface power supply, interface output power, power priority, power overload protection, and over temperature protection.

It supports PoE smart power supply, including timed power supply, periodical restart of the PD, monitoring of PD

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connectivity status, and restart when disconnected.

Technical specifications

Model	S1000i-2GF-4FE-LI-AC S1000i-2GF-8FE-LI-AC S1000i-4GF-16FE-LI-AC S1000i-4GX-16FE-LI-AC	S1000i-2GF-4GE-LI-AC S1000i-2GF-8GE-LI-AC S1000i-4GF-8GE-LI-AC	S1000i-2GF-8GE-PW R-LI-DC48
Interface	GF: 100/1000 Mbit/s auto-negotiation SFP optical interfaces GX: 1000 Mbit/s Combo interface FE: 100 Mbit/s electrical interface	GF: 100/1000 Mbit/s auto-negotiation SFP optical interfaces GX: 1000 Mbit/s Combo interface GE: 1000 Mbit/s electrical interface	GF: 100/1000 Mbit/s auto-negotiation SFP optical interfaces GE: 1000 Mbit/s electrical interface, PoE/PoE+
Switching capacity	56 Gbit/s	56 Gbit/s	56 Gbit/s
Packet forwarding rate	3.57/41.7/8.33/8.33 Mbit/s	8.93/14.88/17.86 Mbit/s	14.88 Mbit/s
MAC address table	<ul style="list-style-type: none"> • 8K MAC addresses • Automatic learning and aging of MAC address, and static MAC address • Static, dynamic, and blackhole MAC entries • MAC address limit based on interface and VLAN • Management over MAC address flapping 		
VLAN	<ul style="list-style-type: none"> • 4K VLANs • MAC/Protocol/IP subnet/Interface-based VLAN • Basic QinQ and selective QinQ • VLAN Mapping • Private VLAN • Voice VLAN • GVRP 		
Jumbo Frame	10KB		

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Ring network protection	<ul style="list-style-type: none">• ERPS (G.8032)• STP/RSTP/MSTP and MRSTP• BPDU protection and root protection• Loop detection
Reliability	<ul style="list-style-type: none">• Manual aggregation and static LACP• Interface backup• ELPS (G.8031)• ERPS (G.8032)• Interface backup• Loop detection
IPv6	<ul style="list-style-type: none">• IPv6 Ping, IPv6 Tracert, IPv6 Telnet, and IPv6 FTP/TFTP/SFTP• IPv6 SNMP and Raisecom Nview IPv6 network management• IPv6 RADIUS, IPv6 TACACS+, IPv6 NTP and SNTP• IPv6 ACL
Multicast	<ul style="list-style-type: none">• IGMPv1/v2/v3 Snooping and fast leave• Interface and user-based immediate leave• Static multicast group• MLD Snooping v1/v2
DHCP	<ul style="list-style-type: none">• DHCP Client• DHCP Snooping• DHCP Relay• DHCP Server and Option 43• DHCP Snooping Option 61 and Option 82/DHCP Relay Option 82
Mirroring	<ul style="list-style-type: none">• Traffic mirroring• Local and remote port mirroring

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<p>QoS/ACL</p>	<ul style="list-style-type: none"> • Rate limiting in the ingress and egress directions of the interface • 8 queues for each interface • SP, WRR, DRR, SP+WRR, and SP+DRR queue scheduling algorithms • Packet redirection • Re-marking of the 802.1p priority and DSCP priority • Interface-based traffic monitoring and two-rate three-color CAR • Packet filtering at Layer 2 to Layer 4, filtering out invalid packets based on source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, and VLAN ID
<p>Security</p>	<ul style="list-style-type: none"> • Hierarchical user management and password protection • IEEE 802.1x authentication based on interface and MAC address • CPU protection and anti-ARP attack • A combination binding of IP address, MAC address, interface, and VLAN • Blackhole MAC address • MAC address limit • AAA, RADIUS, and TACACS+ • Interface isolation • Port security MAC • SSHv2.0 • SFTP • HTTPS • DHCP Snooping and anti-spoofing DHCP server • Dynamic ARP detection, man-in-the-middle attack defense, and ARP DoS defense • BPDU guard and root guard
<p>Management and maintenance</p>	<ul style="list-style-type: none"> • Management through the Console interface and out-of-band interface • SNMPv1/v2c/v3 and various management modes, such as CLI, Web, Telnet, and SSHv2.0 • Raisecom NView NNM system • RMON • LLDP/LLDP-MED • Syslog and hierarchical alarm reporting • Ping and Tracert • Dying Gasp alarm • NTP and SNTP • Virtual cable test • Interface loopback • Auto-Provisioning, through which configuration downloading and software upgrade can be implemented automatically from the DHCP server

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	<ul style="list-style-type: none"> • Interface loop detection • Optical module DDM • Link-state tracking • DLDP unidirectional link detection • Dual systems 	
PoE (for PoE models only)	<ul style="list-style-type: none"> • IEEE 802.3af and IEEE 802.3at standards with each interface offering 30 W • Forcible power supply mode for non-standard PDs • Smart PoE management, including enabling/disabling configurations of interface power supply, interface output power, power priority, power overload protection, and over temperature protection • PoE timed power supply, periodical restart of the PD, monitoring of PD connectivity status, and restart when disconnected 	
Input voltage	AC: 110/220 VAC (100–240 VAC) and 220 VDC(170–300 VDC) DC48: 48 VDC (44–57 VDC) PoE model PoE input power 44–57 VDC----IEEE 802.1af 51–57 VDC----IEEE 802.1at	
Maximum power consumption	Maximum power consumption: 7 W <ul style="list-style-type: none"> • S1000i-2GF-4FE-LI-AC • S1000i-2GF-4GE-LI-AC • S1000i-2GF-8FE-LI-AC • S1000i-2GF-8GE-LI-AC Maximum power consumption: 9 W S1000i-4GF-8GE-LI-AC Maximum power consumption: 12 W S1000i-4GF-16FE-LI-AC S1000i-4GX-16FE-LI-AC	System power consumption: 7 W Maximum output PoE power consumption: 240 W
Dimensions (Width × Height × Depth) and weight	S1000i-2GF-4FE-LI-AC S1000i-2GF-4GE-LI-AC 56 × 135 × 105 mm, 1.7 kg S1000i-2GF-8FE-LI-AC S1000i-2GF-8GE-LI-AC S1000i-4GF-8GE-LI-AC S1000i-2GF-8GE-PWR-LI 80 × 121 × 150 mm, 1.0 kg S1000i-4GF-16FE-LI-AC S1000i-4GX-16FE-LI-AC	

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	98 × 177 × 155 mm, 0.7 kg
Environment requirements	-40 °C to +75 °C, 5%–95% -40 °C to +85 °C, 5%–95% Relative humidity: 5%–90% (non-condensing)
Compliance standard	<ul style="list-style-type: none"> • IEEE 802.3 • IEEE 802.3u for 100BaseT(X) and 100Base FX • IEEE 802.3ab for 1000BaseT(X) • IEEE 802.3z for 1000BaseSX/LX/LHX/ZX • IEEE 802.3x for Flow Control • IEEE 802.1d for Spanning Tree Protocol • IEEE 802.1w for Rapid STP • IEEE 802.1s for MSTP • IEEE 802.1q for VLAN Tagging • IEEE 802.1p for Quality of Service • IEEE 802.1X for Security • IEEE 802.3ad for Port Trunk with LACP • IEC61000-4-2 (ESD): ± 6 kV contact discharge; ± 8 kV air discharge • IEC61000-4-3 (RS-): 10V/m (80–1000 MHz) • IEC61000-4-4 (EFT): power cable: ± 4 kV; data cable: ± 4 kV (5 kHz, 100 kHz) • IEC61000-4-5 (Surge): power cable: CM ± 6 kV/DM ± 6 kV; data cable: CM ± 4 kV • IEC61000-4-6 (RF Conducted Immunity): 10V (150 kHz–80 MHz) • IEC61000-4-8 (Power Frequency Magnetic Field): 10A/m continuous; 300A/m, 1s to 3s • IEC61000-4-9 (Pulse magnetic field): 100A/m • IEC61000-4-10 (Damped oscillation magnetic field): 10A/m@1MHz • FCC Part 15/CISPR22 (EN55022): Class A • IEC61000-6-2 (general industrial standard) • IEC60068-2-6 (anti-vibration) • IEC60068-2-27 (anti-shock) • IEC60068-2-32 (free falling) • IEC61850-3 (electrical substation) • IEEE1613 (electrical substation) • CE, FCC, RoHS, and Network Access License for Telecommunications Equipment (Ministry of Industry and Information Technology, P.R.C)

Features marked with * is being planned. For details, contact the product manager.

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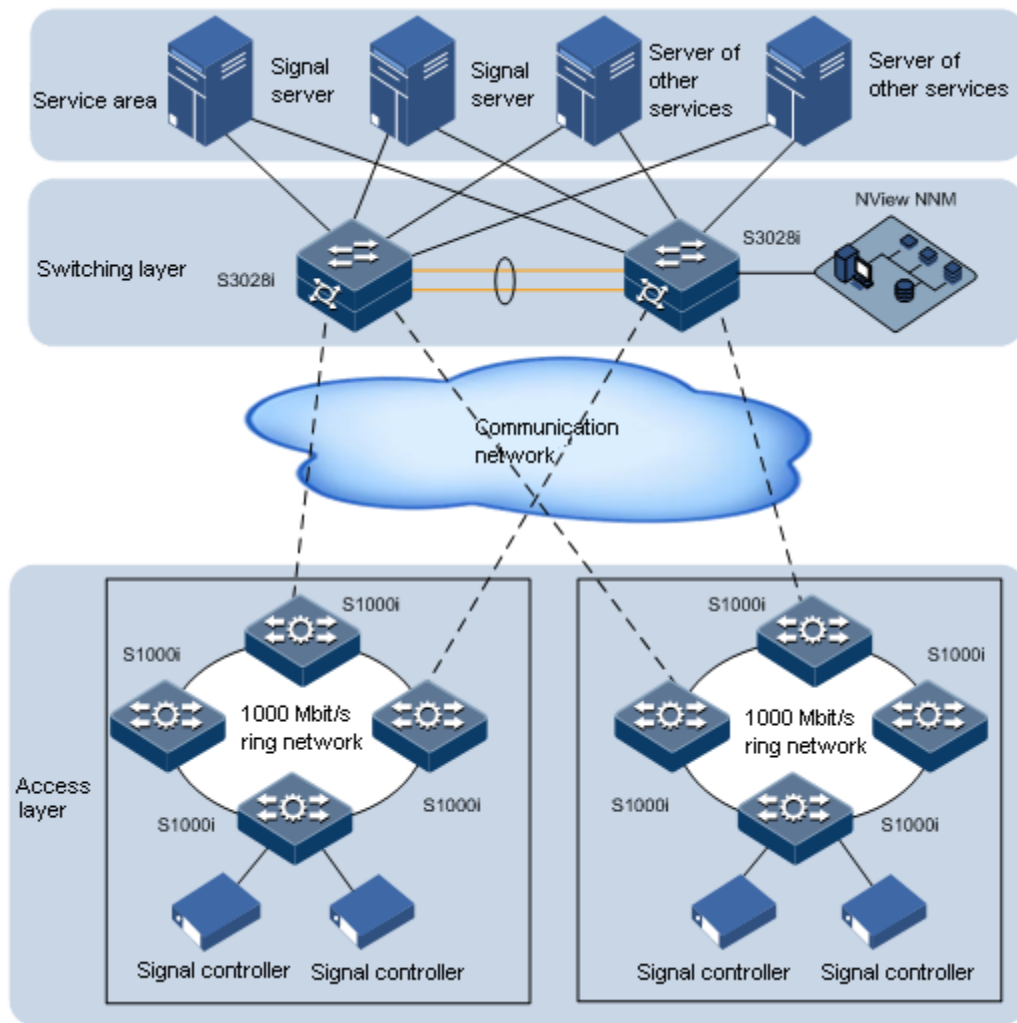
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Networking application



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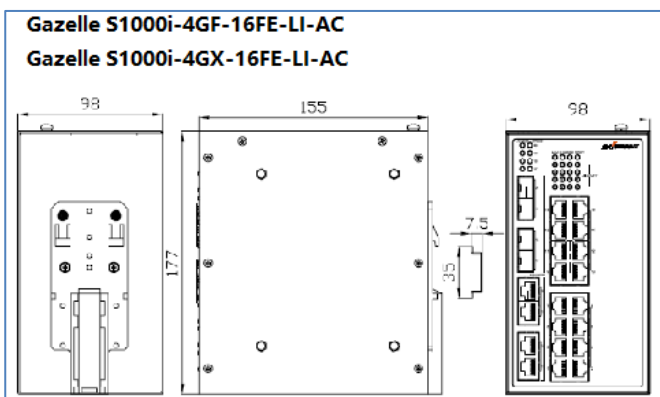
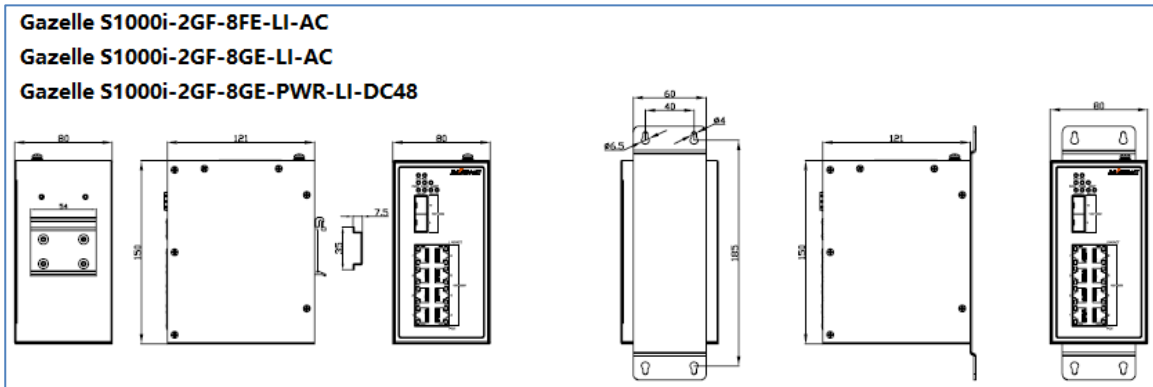
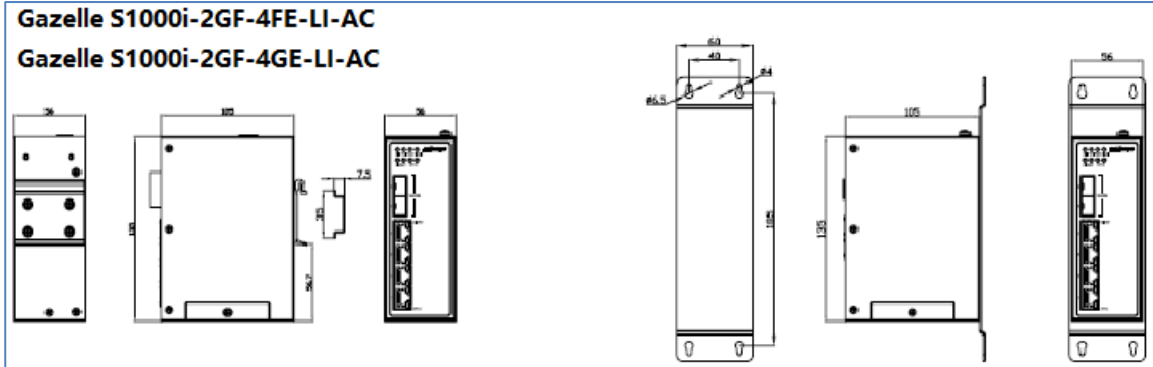
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Dimensions



Ordering information

Model	Description
Gazelle S1000i-2GF-4FE-LI-AC	<ul style="list-style-type: none"> 2 uplink 100/1000 Mbit/s SFP optical interfaces

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	<ul style="list-style-type: none"> • 4 downlink 10/100Base-T Ethernet RJ45 electrical interfaces • 1 RJ45 Console interface • Single 220 VAC power supply
Gazelle S1000i-2GF-8FE-LI-AC	<ul style="list-style-type: none"> • 2 uplink 100/1000 Mbit/s SFP optical interfaces • 8 downlink 10/100Base-T Ethernet RJ45 electrical interfaces • 1 RJ45 Console interface • Single 220 VAC power supply
Gazelle S1000i-4GF-16FE-LI-AC	<ul style="list-style-type: none"> • 4 uplink 100/1000 Mbit/s SFP optical interfaces • 16 downlink 10/100Base-T Ethernet RJ45 electrical interfaces • 1 RJ45 Console interface • Single 220 VAC power supply
Gazelle S1000i-4GX-16FE-LI-AC	<ul style="list-style-type: none"> • 4 uplink 1000 Mbit/s Combo interfaces • 16 downlink 10/100Base-T Ethernet RJ45 electrical interfaces • 1 RJ45 Console interface • Single 220 VAC power supply
Gazelle S1000i-2GF-4GE-LI-AC	<ul style="list-style-type: none"> • 2 uplink 100/1000 Mbit/s SFP optical interfaces • 4 downlink 1000 Mbit/s electrical interfaces • 1 RJ45 Console interface • Single 220 VAC power supply
Gazelle S1000i-2GF-8GE-LI-AC	<ul style="list-style-type: none"> • 2 uplink 100/1000 Mbit/s SFP optical interfaces • 8 downlink 1000 Mbit/s electrical interfaces • 1 RJ45 Console interface • Single 220 VAC power supply
Gazelle S1000i-4GF-8GE-LI-AC	<ul style="list-style-type: none"> • 4 uplink 100/1000 Mbit/s SFP optical interfaces • 8 downlink 1000 Mbit/s electrical interfaces • 1 RJ45 Console interface • Single 220 VAC power supply
Gazelle S1000i-2GF-8GE-PWR-LI-DC48	<ul style="list-style-type: none"> • 2 uplink 100/1000 Mbit/s SFP optical interfaces • 8 downlink 1000 Mbit/s electrical interfaces (PoE/PoE+) • 1 RJ45 Console interface • Single 48 VDC and dual inputs

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Accessory	Description
<p>RS232 serial cable</p>	<p>You need to purchase this serial cable additionally.</p> <p>Note:</p> <ul style="list-style-type: none"> The Console interface is compatible with the serial cables from vendors, such as Cisco, Huawei, H3C, and Ruijie. The device supports debugging through Web page, Telnet, and so on. The code needed for configuring the serial cable is 20.62.10.0022.03 (can be flexibly configured according to a certain ratio)
<p>Compatible wall-mount plate</p>	<p>Wall-mount plate, for securing the switch to the wall</p> <p>Wall-mount plate K3 code: 20.07.08.0132.02 1/unit (suitable for models with less than 16 interfaces)</p> <p>Or 20.08.03.0197.01 1/unit (suitable for models with less than 16 interfaces)</p> <p>Screw K3 code: 20.04.00.0006.02 6/unit</p>
<p>Compatible tray</p>	<p>Cabinet-mount tray, for installing the switch to a standard 19-inch cabinet</p> <p>Tray K3 code: 20.07.03.0134.01 1/unit</p> <p>Screw K3 code: 20.04.00.0033.01 6/unit</p>

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