RAISECOM
Raisecom Technology Co., Ltd

Gazelle S1020i-LI Series

The Gazelle S1020i-LI is specially designed for data backhaul and the Automatic Control System (ACS) in the industrial field, which can operate stably for a long time in harsh environments. The Gazelle S1020i-LI features industry-leading ring network technologies, supports multiple redundant ring network protocols through which any interface can form a ring with other devices, and supports ring, tangent ring, intersecting ring, and coupling ring networking, with sub-50ms self-healing performance of the ring network. Featuring high reliability, security, and manageability, the Gazelle S1020i-LI ensures secure transmission of key data. It also supports remote management and can work with Raisecom NView NNM system for cluster management, implementing comprehensive network management (without blind spots) during the whole process.

The Gazelle S1020i-LI is highly adaptive (such as mechanical stability, climate adaptability, and electromagnetic environment adaptability) to industrial environments. It is IP40 rated, and supports dual redundant power supplies, adopts low-power fanless cooling technology, and ensures up to 35-year Mean Time Between Failures (MTBF) and a 3-year warranty. The Gazelle S1020i-LI can be widely used in electric power, transportation, maritime transport, coal, petroleum, metallurgy, water treatment and other industries.

Gazelle S1020i-2GF-4GE-LI-DCW24

Gazelle S1020i-2GF-8GE-LI-DCW24
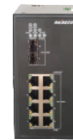
Gazelle S1020i-4GF-8GE-LI-DCW24

Highlights >>

- Industrial standard ERPS solution, 50ms service switching, carrier-grade reliability
- Protection grade: IP40
- Digital Input (DI) and relay alarms
- DHCP-based zero configuration, configuration LED provided
- SNMP v1/v2c/v3, Raisecom Network Management System (NMS), CLI, Web management, and Telnet
- Operating temperature: -40 to 85°C
- MTBF ≥ 35 years

Application >>

Figure 1 Monitoring solution
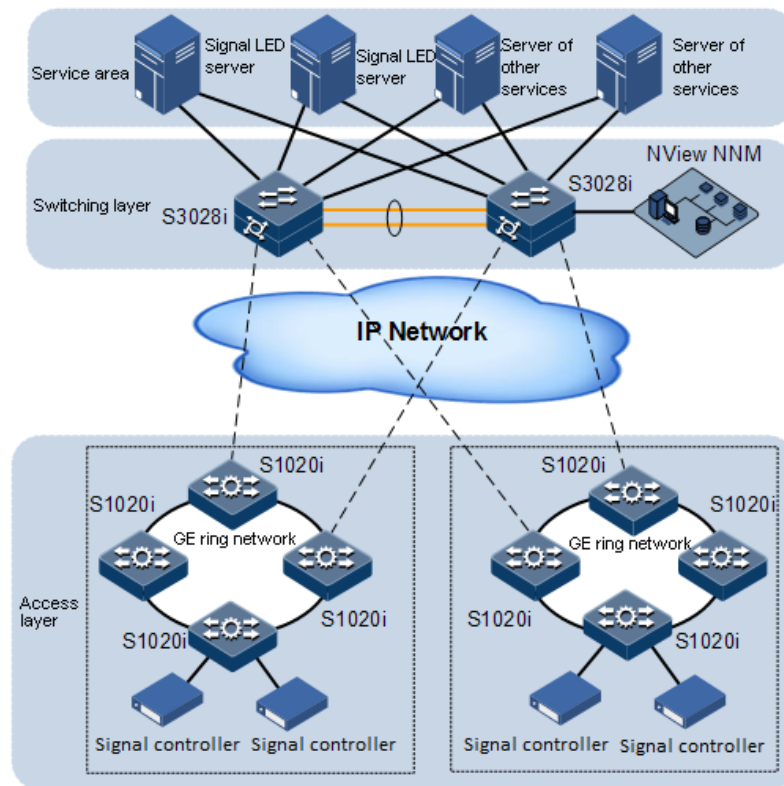
Monitoring solution

The Gazelle S1020i devices generally function as the access switches and form a ring network or star network to access industrial devices or cameras. The Gazelle S3028i series devices can be used at the aggregation layer or you can use L2/L3 aggregation switches from other vendors.

Key features >>

Interface type	● GF: 100/1000 Mbit/s auto-negotiation SFP optical interface
	● GE: 10/100/1000 Mbit/s auto-negotiation Ethernet electrical interface
Switching capacity/Packet forwarding rate	● S1020i-2GF-4GE-LI-DCW24: 12Gbps/8.93Mpps
	● S1020i-2GF-8GE-LI-DCW24: 20Gbps/14.89Mpps
	● S1020i-4GF-8GE-LI-DCW24: 20Gbps/17.86Mpps
MAC address table	● 8K MAC addresses
	● MAC automatic learning, MAC aging, and static MAC

RAISECOM

Raisecom Technology Co., Ltd

	• Static, dynamic, blackhole MAC entries
	• MAC address limits based on VLAN and interface
	• Suppression of MAC address flapping
VLAN	• 4K VLANs
	• MAC/Protocol/IP subnet/Interface-based VLAN
	• Basic QinQ and selective QinQ
	• VLAN mapping
Jumbo Frame	• 10Kbytes
Ring network protection	• ERPS (G.8032)
	• STP/RSTP/MSTP
	• BPDU protection and root protection
	• Loop detection
Reliability	• Manual aggregation and static LACP
	• Interface backup
	• ERPS (G.8032)
	• Loop detection
IPv6	• IPv6 Ping, IPv6 Tracert, IPv6 Telnet, and IPv6 FTP/TFTP/SFTP
	• IPv6 SNMP, Raisecom NView IPv6 network management
	• IPv6 Radius, IPv6 TACACS+, IPv6 NTP, and SNTP
	• IPv6 ACL
Multicast	• IGMP v1/v2/v3 Snooping and immediate leave
	• Immediate leave based on interface and user
	• Static multicast group
	• MLD Snooping v1/v2
DHCP	• DHCP Client
	• DHCP Snooping
	• DHCP Relay
	• DHCP Server, supporting option43
	• DHCP Snooping option61, 82/DHCP Relay option82
Mirroring	• Flow mirroring
	• Local and remote port mirroring
QoS/ACL	• Simple traffic classification based on interface, IEEE 802.1p priority, and DHCP priority
	• Rate limiting in the ingress direction of the interface and traffic shaping in the egress direction of the interface
	• SP, WRR, DRR, SP+WRR, and SP+DRR scheduling modes, 8 queues supported by each interface
	• ACL (MAC, IP, MAC+IP, IPv6, and user-defined)
	• Traffic policy (redirection, mirroring, adding and modifying VLANs, modifying (802.1p/DSCP) priority, and modifying egress queues, gathering statistics, and so on)
	• Flow-based single-rate dual-color CAR
	• Traffic policy applied based on physical interface in the ingress direction, statistics viewing and clearing
Security	• User hierarchical management and password protection

- IEEE 802.1x authentication based on interface and MAC
- CPU protection and ARP attack prevention
- Binding of IP, MAC, interface, and VLAN
- Blackhole MAC address
- MAC address limits
- AAA, Radius, and TACACS+
- Interface isolation
- Secure MAC
- SSH V2.0
- SFTP
- HTTPS
- DHCP Snooping, anti-proofing DHCP server
- Dynamic ARP inspection, MITM prevention and ARP DoS prevention
- BPDU guard and Root guard

Management and maintenance	
	- Console interface and out-of-band interface management
	- SNMPv1/v2c/v3, CLI, Web management, TELENET, SSH2.0, and so on
	- Raisecom Nview NMS
	- RMON
	- LLDP/LLDP-MED
	- Syslog and hierarchical alarms
	- Ping and Tracert
	- Dying gasp
	- NTP and SNTP
	- Virtual Cable Test
	- Interface loopback
	- Zero configuration, configuration downloading, and software upgrade through DHCP Sever
	- Interface loop detection
	- Optical module DDM
	- Link-state tracking
	- DLDP unidirectional link detection
	- Dual systems

Specifications >>

Power supply	DCW24: 12/24 VDC (9–36 VDC)
Maximum power consumption	Maximum power consumption: 7W - S1020i-2GF-4GE-LI-DCW24 - S1020i-2GF-8GE-LI-DCW24 Maximum power consumption: 9W - S1020i-4GF-8GE-LI-DCW24
Alarm terminal	3-pin SPDT relay alarm terminal (Dying Gasp

Standard and protocol >>

Standard and protocol	
	- IEEE 802.3
	- IEEE 802.3u for 100BaseT(X) and 100Base FX
	- IEEE 802.3ab for 1000BaseT(X) 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

	and device failure alarms)	
Digital input	The following model does not support digital input: ● S1020i-2GF-4GE-LI-DCW24 The following two models support one digital input: ● S1020i-2GF-8GE-LI-DCW24 ● S1020i-4GF-8GE-LI-DCW24 The digital input supports status 1 and status 2. Status 1: 13–30V voltage input Status 2: -30 to 1V voltage input Maximum input current: 6mA	
Dimension mm (width × height × depth) and Weight	● S1020i-2GF-4GE-LI-DCW24: 56 × 135 × 105mm, 0.7 Kg ● S1020i-2GF-8GE-LI-DCW24 and S1020i-4GF-8GE-LI-DCW24: 80 × 150 × 130mm, 1.0 Kg	
Environment requirement	● Operating temperature: -40 to 85℃, 5%–95% ● Storage temperature: -40 to 85℃, 5%–95% ● Relative humidity: 5%–90% (non-condensing)	

- 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): ±6kV contact discharge; ±8kV air discharge
- IEC61000-4-3 (RS-): 10V/m (80–1000MHz)
- IEC61000-4-4 (EFT): power cable: ±4kV; data cable: ±4kV (5kHz, 100kHz)
- IEC61000-4-5 (Surge): power cable: CM±6kV/DM±6kV; data cable: CM±4 kV
- IEC61000-4-6 (RF Conducted Immunity): 10V (150–80 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 oscillatory 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 drop)
- CE, FCC, UL, and ROHS-compliant

Raisecom Technology Co., Ltd

Ordering information >>

Gazelle S1020i-2GF-4GE-LI-DCW24	• Two 100/1000 Mbit/s auto-negotiation SFP optical interfaces • Four 10/100/1000Base-T electrical interfaces • 1 relay alarm output • 12/24 VDC, dual inputs
Gazelle S1020i-2GF-8GE-LI-DCW24	• Two 100/1000 Mbit/s auto-negotiation SFP optical interfaces • Eight 10/100/1000Base-T electrical interfaces • 1 DI input • 1 relay alarm output • 12/24 VDC, dual inputs
Gazelle S1020i-4GF-8GE-LI-DCW24	• Four 100/1000 Mbit/s auto-negotiation SFP optical interfaces • Eight 10/100/1000Base-T electrical interfaces • 1 DI input • 1 relay alarm output • 12/24 VDC, dual inputs