

## Gazelle S1006i Series | L2 Manageable Industrial Switch/Serial Device Server



### Product Overview

The Gazelle S1006i Series combines an industrial switch with 4/2/0 RS-232/422/485 serial ports. The switch part is a Layer 2 Din-Rail manageable industrial switch designed to satisfy the requirements of data transmission in areas of smart grid (IEC 61850-3, IEEE 1613), transportation (EN50121-4), energy and industrial automation. The design enables maximum flexibility among electrical and ST/SC interfaces. It supports 2 FE ST/SC uplinks, and 4 FE downlinks. Network redundancy and reliability are guaranteed with LACP, G.8032 ERPS (<50ms switch-over time), and 12VDC, 24/48 VDC or 220 VDC/VAC power supply.

### Highlights

- 4/2/0 RS-232/422/485 serial ports
- Compliant with IEC 61850-3 and IEEE 1613 (power substations) as well as EN50121-4 (railway applications)
- Support standardized G.8032 Ethernet ring protection switching with a recovery time less than 50ms
- LACP for optimizing bandwidth utilization
- VLAN and flexible QinQ
- Wide operating temperature range
- IP40 protection level
- Rugged Din-Rail design
- MTBF >35 years

### Specifications

#### Interface:

- 2\*FE 1x9 SC/ST optical ports
- 4\*10/100Base-TX RJ45 electrical ports
- 4/2/0 RS-232/422/485 serial ports (**optional**)

Ports SNMP/Console: 1\*RJ45

Relay alarm output: 1\*1 S.P.D.T.

Dimensions: 121mm(D)\*80mm(W)\*155mm(H)

Weight: 1Kg

Installation: Din-Rail, wall mountable, rack-mountable(tray installed)

Operating temperature: - 40 to 85°C

Storage temperature: -40 to 85°C

Humidity: 5% to 95%, non-condensing

Power supply (input Voltage):

-DC 12 (10-36V)

- DC 24/48V (20-72V)

- AC/DC 220V (AC: 85-264V; DC: 88-300V)

Power consumption: <11W

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### Access Capacity

- MTU: 1632 byte
- Switching buffer size: 1Mbit

### Ethernet

- Up to 8k MAC
- Support 4,094 VLANs, basic QinQ
- IEEE 802.3x and back pressure flow controls
- N:1 port-based mirror and Vlan-based mirror

### IP Services

- DHCP client/snooping/option82
- IGMP snooping v1/v2/v3, GMRP, GARP, multicast filtering, unknown multicast discard, static multicast group and 1024 multicast groups

### Traffic Management

- Service classification per port/VLAN/CoS (DSCP)
- Support 802.1p CoS, DSCP and port priority
- Support SP( Strict Priority ), WRR( Weighted Round Robin ) , 1SP+3WRR, and 2SP+2WRR scheduling modes, and up to 4 queues per port

### Security

- Secure MAC address
- RADIUS, TACACS+
- User management and password protection
- PPPoE Agent
- dot1x, port protection
- Storm control (broadcast, multicast, DLF)

### Reliability

- Link aggregation group (LAG) – up to 16 groups with maximum 8 ports in each group, and load balancing mode based on MAC
- STP/RSTP/MSTP, G.8032 ERPS (recovery time less than 50ms), and IEC62439-6 redundant ring protections
- Port-based Ethernet local loop detection: auto shutdown and recover individual port upon fault signals

### Ethernet OAM

- IEEE 802.1ah EFM-OAM link management
- Dying gasp message in case of power failure

### Serial Interface

- Number of Ports: 4 / 2 / 0
- Serial Standard: RS-232/422/485
- Connector: DB9 male
- Serial Line Protection:
  - 15 kV ESD protection for all signals
  - 2 kV isolation protection
- Pull High/Low Resistor for RS-485: 1 K $\Omega$ , 150 K $\Omega$
- Terminator for RS-485: 120  $\Omega$
- RS-485 Data Direction Control: automatic data direction control

### Serial Communication Parameters

Data Bits: 5, 6, 7, 8

Stop Bits: 1, 1.5, 2

Parity: None, Even, Odd, Space, Mark

Flow Control: RTS/CTS and XON/XOFF

Baudrate: 60 bps to 921.6 Kbps

### Serial Operation Mode

Real COM, TCP Server, TCP Client, UDP, RFC2217

### System Management

- Remote management via SNMP v1/v2c/v3, Telnet, CLI and SSH v1/v2
- Local management via console interface
- Raisecom Nview NMS/EMS
- KeepAlive, RMON, Syslog
- Relay output alarm, Dry contact alarm, and trap alarm management

### Standard Compliance

- IEEE 802.1Q (VLAN), 802.1ad (QinQ), 802.1D (STP), 802.1w (RSTP), 802.1s (MSTP), 802.1p (QoS/CoS Priority), 802.1x (Security), 802.3ad (LAG), 802.1ah (EFM), 802.3x (Flow control), 1613(sub-station)
- ITU-T G.8032 (ERPS)
- IEC61000-4-2 (ESD), 61000-4-3 (RS), 61000-4-4 (EFT), 61000-4-5 (Surge), 61000-4-6(RF transmission), 61000-4-8 (Power frequency magnetic fields), 61000-4-9 (Pulsed magnet field),

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61000-4-10 (Damped oscillation), 61000-4-12/18 (Shockwave), 61000-4-16 (Common-mode conduction), 61000-6-2 (General industrial standard), 60068-2-6 (Anti-vibration), 60068-2-27

(Shock resistance), 60068-2-32 (Free falling), 61850-3 (transformer substation)

- FCC Part 15/CISPR22 (EN55022): Class A
- In compliance with KEMA, CE and ROHS

**Ordering Information**

Model	Description
GazelleS1006i-2FX-4FE-4R-M-DC12 GazelleS1006i-2FX-4FE-4R-S1-DC12 GazelleS1006i-2FX-4FE-4R-S2-DC12 GazelleS1006i-2FX-4FE-4R-M-ST-DC12 GazelleS1006i-2FX-4FE-4R-S1-ST-DC12 GazelleS1006i-2FX-4FE-4R-S2-ST-DC12	L2 Din-Rail manageable industrial switch with 2*100Base-FX SC/ST optical ports, 4*10/100Base-TX ports, 4 Serial ports, and DC 12V (10-36V) power supply
GazelleS1006i-2FX-4FE-4R-M-DCW48 GazelleS1006i-2FX-4FE-4R-S1-DCW48 GazelleS1006i-2FX-4FE-4R-S2-DCW48 GazelleS1006i-2FX-4FE-4R-M-ST-DCW48 GazelleS1006i-2FX-4FE-4R-S1-ST-DCW48 GazelleS1006i-2FX-4FE-4R-S2-ST-DCW48	L2 Din-Rail manageable industrial switch with 2*100Base-FX SC/ST optical ports, 4*10/100Base-TX ports, 4 Serial ports, and DC 48V (20-72V) power supply
GazelleS1006i-2FX-4FE-4R-M-AC GazelleS1006i-2FX-4FE-4R-S1-AC GazelleS1006i-2FX-4FE-4R-S2-AC GazelleS1006i-2FX-4FE-4R-M-ST-AC GazelleS1006i-2FX-4FE-4R-S1-ST-AC GazelleS1006i-2FX-4FE-4R-S2-ST-AC	L2 Din-Rail manageable industrial switch with 2*100Base-FX SC/ST optical ports, 4*10/100Base-TX ports, 4 Serial ports, and AC220V/DC220V (AC: 85-264V; DC: 88-300V) power supply
GazelleS1006i-2FX-4FE-2R-M-DC12 GazelleS1006i-2FX-4FE-2R-S1-DC12 GazelleS1006i-2FX-4FE-2R-S2-DC12 GazelleS1006i-2FX-4FE-2R-M-ST-DC12 GazelleS1006i-2FX-4FE-2R-S1-ST-DC12 GazelleS1006i-2FX-4FE-2R-S2-ST-DC12	L2 Din-Rail manageable industrial switch with 2*100Base-FX SC/ST optical ports, 4*10/100Base-TX ports, 2 Serial ports, and DC 12V (10-36V) power supply
GazelleS1006i-2FX-4FE-2R-M-DCW48 GazelleS1006i-2FX-4FE-2R-S1-DCW48 GazelleS1006i-2FX-4FE-2R-S2-DCW48 GazelleS1006i-2FX-4FE-2R-M-ST-DCW48 GazelleS1006i-2FX-4FE-2R-S1-ST-DCW48 GazelleS1006i-2FX-4FE-2R-S2-ST-DCW48	L2 Din-Rail manageable industrial switch with 2*100Base-FX SC/ST optical ports, 4*10/100Base-TX ports, 2 Serial ports, and DC 48V (20-72V) power supply
GazelleS1006i-2FX-4FE-2R-M-AC	L2 Din-Rail manageable industrial switch with 2*100Base-FX SC/ST optical ports,



<p>GazelleS1006i-2FX-4FE-2R-S1-AC GazelleS1006i-2FX-4FE-2R-S2-AC GazelleS1006i-2FX-4FE-2R-M-ST-AC GazelleS1006i-2FX-4FE-2R-S1-ST-AC GazelleS1006i-2FX-4FE-2R-S2-ST-AC</p>	<p>4*10/100Base-TX ports, 2 Serial ports, and AC220V/DC220V (AC: 85-264V; DC: 88-300V) power supply</p>
<p>GazelleS1006i-2FX-4FE-M-DC12 GazelleS1006i-2FX-4FE-S1-DC12 GazelleS1006i-2FX-4FE-S2-DC12 GazelleS1006i-2FX-4FE-M-ST-DC12 GazelleS1006i-2FX-4FE-S1-ST-DC12 GazelleS1006i-2FX-4FE-S2-ST-DC12</p>	<p>L2 Din-Rail manageable industrial switch with 2*100Base-FX SC/ST optical ports, 4*10/100Base-TX ports, and DC 12V (10-36V) power supply</p>
<p>GazelleS1006i-2FX-4FE-M-DCW48 GazelleS1006i-2FX-4FE-S1-DCW48 GazelleS1006i-2FX-4FE-S2-DCW48 GazelleS1006i-2FX-4FE-M-ST-DCW48 GazelleS1006i-2FX-4FE-S1-ST-DCW48 GazelleS1006i-2FX-4FE-S2-ST-DCW48</p>	<p>L2 Din-Rail manageable industrial switch with 2*100Base-FX SC/ST optical ports, 4*10/100Base-TX ports, and DC 48V (20-72V) power supply</p>
<p>GazelleS1006i-2FX-4FE-M-AC GazelleS1006i-2FX-4FE-S1-AC GazelleS1006i-2FX-4FE-S2-AC GazelleS1006i-2FX-4FE-M-ST-AC GazelleS1006i-2FX-4FE-S1-ST-AC GazelleS1006i-2FX-4FE-S2-ST-AC</p>	<p>L2 Din-Rail manageable industrial switch with 2*100Base-FX SC/ST optical ports, 4*10/100Base-TX ports, and AC220V/DC220V (AC: 85-264V; DC: 88-300V) power supply</p>

Optical ports support single-mode or multi-mode ST/SC

M: 1310nm, FE multi-mode, <2km transmission distance, SC interface

S1: 1310nm, FE single-mode, <20km transmission distance, SC interface

S2: 1310nm, FE single-mode, <40km transmission distance, SC interface

M-ST: 1310nm, FE multi-mode, <2km transmission distance, ST interface

S1-ST: 1310nm, FE single-mode, <20km transmission distance, ST interface

S2-ST: 1310nm, FE single-mode, <40km transmission distance, ST interface

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