



Gazelle S(T)3028i | L3 Modular Manageable Industrial Switch

Product Overview

The Gazelle S(T)3028i is a Layer 3 19" rack-mount manageable industrial switch designed to satisfy broadband backbone transportation in areas of smart grid (IEC 61850-3, IEEE 1613), transportation (EN50121-4), energy and industrial automation. It supports additional L3 functions including static routing, RIP, OSPF and VRRP and better aggregation capabilities. The full modular design enables maximum flexibility among electrical, SFP and ST/SC interfaces. It supports up to 4 GE uplinks, 24/20¹ FE downlinks and optional 1588v2 PTP^{1,2} function. Network redundancy and reliability are guaranteed with LACP, G.8032 ERPS (<50ms switch-over time), and 24/48 VDC or 110/220 VDC/VAC dual power supplies.

Highlights

- Compliant with IEC 61850-3 and IEEE 1613 (power substations) as well as EN50121-4 (railway applications)
- Layer 3 static routing, RIP, OSPF and VRRP
- Support standardized G.8032 Ethernet ring protection switching with a recovery time less than 50ms
- LACP for optimizing bandwidth utilization
- VLAN and flexible QinQ
- 1588v2 PTP for time synchronization¹
- Wide operating temperature range
- IP40 protection level
- Redundant AC/DC power supplies
- Rugged rack-mount design
- MTBF: 306,600 hours

Specifications

Interface/Modules:

2xGE uplink slots: 2x10/100/1000Base-TX, or 2xGE SFP ports
6(5¹)xFE downlink slots: 4x10/100Base-TX, or 4xFE SC/ST ports
1¹xtime synchronization slot: PTP

SNMP/Console: 1 x RJ45

Relay alarm output: 1x1 S.P.D.T.

Dimensions: 440(L)× 360(W) ×44(H) mm

Weight: 7Kg

Installation: rack-mount

Operating temperature: - 40 to 85°C

Storage temperature: -40 to 85°C

Humidity: 5% to 95%, non-condensing

Power supply (input Voltage):

- DC 24/48V (18-72V)

- AC/DC 110/220V (AC: 85-264V; DC: 77-370V)

Power consumption: <30W (full electrical ports), <40W (full optical ports)

Access Capacity

- MTU: 16K byte
- Switching buffer size: 16Mbit

Synchronization^{1,2}

- Support IEEE 1588v2 PTP

Ethernet

- Up to 32k MAC
- Support 4,094 VLANs, flexible QinQ and GVRP

- IEEE 802.3x and back pressure flow controls
- N:1 port-based mirror and flow-based mirror

IP Services

- Static routing, multicast routing
- RIPv1/v2, OSPFv2, VRRP
- DHCP server/client/relay/snooping/option82
- IGMP snooping v1/v2/v3, MVR, GMRP, PIM-SM², PIM-DM, multicast filtering, unknown multicast

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discard, static multicast group and 1K multicast groups

Traffic Management

- Service classification per port/VLAN/CoS (DSCP)
- Support SP, WRR and SP+WRR scheduling modes, and up to 8 queues per port
- Flow statistics and flow-based mirroring
- Rate limit per port/VLAN/CoS (DSCP)
- Traffic shaping in egress direction

Security

- Secure MAC address
- RADIUS, TACACS+
- IEEE 802.1X based on port/MAC/user
- User management and password protection
- PPPoE Agent, PPPoE+
- dot1x, IP Source Guard, DAI (dynamic ARP inspection)
- Storm control (broadcast, multicast, DLF)

Reliability

- Link aggregation group (LAG) – up to 32 groups with maximum 8 ports in each group, and six load balancing mode based on source/destination IP and/or 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 802.3ah EFM-OAM link management

- Dying gasp message in case of power failure

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, LLDP, 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), 802.3ah (EFM), 802.3x (Flow control), 1588v2 (PTP), 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), 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

Notifications

¹ Only available for Gazelle ST3028i

² Available in Q2 2012

Ordering Information

Model	Description
Gazelle S3028i-DC/S, -DC/D	L3 modular rack-mount manageable industrial switch with single/dual DC power supply
Gazelle S3028i-HIP/S, -HIP/D	L3 modular rack-mount manageable industrial switch with single/dual AC-DC compatible power supply
Gazelle S3028i-HIP/DC	L3 modular rack-mount manageable industrial switch with one AC-DC compatible power supply and one DC power supply
Gazelle ST3028i-DC/S, -DC/D ²	L3 modular rack-mount manageable industrial switch with single/dual DC power supply;

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	support 1588v2 PTP
Gazelle ST3028i-HIP/S, -HIP/D ²	L3 modular rack-mount manageable industrial switch with single/dual AC-DC compatible power supply; support 1588v2 PTP
Gazelle ST3028i-HIP/DC ²	L3 modular rack-mount manageable industrial switch with one AC-DC compatible power supply and one DC power supply; support 1588v2 PTP
Gazelle S3028i-SUB-2GE ³	Subcard with 2x10/100/1000Base-TX electrical ports
Gazelle S3028i-SUB-2GF ³	Subcard with 2x1000Base-X SFP ports
Gazelle S3028i-SUB-4FE ³	Subcard with 4x10/100MBase-TX electrical ports
Gazelle S3028i-SUB-4S2ST ³	Subcard with 4x100MBase-FX single-mode ST connectors
Gazelle S3028i-SUB-4MST ³	Subcard with 4x100MBase-FX multi-mode ST connectors
Gazelle S3028i-SUB-PTP ¹	Subcard for 1588v2 PTP

³ Subcards applicable for both Gazelle S3028i and ST3028i

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