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Gazelle S(T)2028i

Datasheet

Gazelle S(T)2028i | L2 Modular Manageable Industrial Switch

Product Overview

The Gazelle S(T)2028i is a Layer 2 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. The full modular design enables maximum flexibility among electrical, SFP and ST/SC interfaces. It supports up to 4 GE uplinks, 24/20[1] FE downlinks and optional 1588v2 PTP[1] 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)
- 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 synchronization[1]
- Provide OC, BC, P2P TC, E2E TC Clock Modes[1]
- Extended GPS and IRIG-B output interfaces[1]
- Wide operating temperature range
- IP40 protection level
- Redundant AC/DC power supplies
- Rugged rack-mount design
- MTBF>35 years

Specifications

Interface/Modules:

2*GE uplink slots: 2*10/100/1000Base-TX, or 2*GE SFP ports

6(4[1])*FE downlink slots: 4*10/100Base-TX, or 4*FE SC/ST/SFP ports

2[1]*time synchronization slots: PTP, GPS,BI or BO sub-cards

SNMP/Console: 1*RJ45

Relay alarm output: 1*1 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]

- Support IEEE 1588v2 PTP
- Support OC, BC, P2P TC, E2E TC Clock Modes
- Time hack precision is up to 100 ns
- Extended GPS and IRIG-B output interfaces

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

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- DHCP server/client/relay/snooping/option82
- IGMP snooping v1/v2/v3, MVR, GMRP, PIM-SM, PIM-DM, multicast filtering, unknown multicast 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 ST2028i

[2]Subcards applicable for both Gazelle S2028i and ST2028i

Ordering Information

Model	Description
Gazelle S2028i-DC/S, -DC/D	L2 modular rack-mount manageable industrial switch with single/dual DC power supply
Gazelle S2028i-HIP/S, -HIP/D	L2 modular rack-mount manageable industrial switch with single/dual AC-DC compatible

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	power supply
Gazelle S2028i-HIP/DC	L2 modular rack-mount manageable industrial switch with one AC-DC compatible power supply and one DC power supply
Gazelle ST2028i-DC/S, -DC/D	L2 modular rack-mount manageable industrial switch with single/dual DC power supply; support 1588v2 PTP
Gazelle ST2028i-HIP/S, -HIP/D	L2 modular rack-mount manageable industrial switch with single/dual AC-DC compatible power supply; support 1588v2 PTP
Gazelle ST2028i-HIP/DC	L2 modular rack-mount manageable industrial switch with one AC-DC compatible power supply and one DC power supply; support 1588v2 PTP
Gazelle S2028i-SUB-2GE[2]	Subcard with 2*10/100/1000Base-TX electrical ports
Gazelle S2028i-SUB-2GF[2]	Subcard with 2*1000Base-X SFP ports
Gazelle S2028i-SUB-4FE[2]	Subcard with 4*10/100MBase-TX electrical ports
Gazelle S2028i-SUB-4S2ST[2]	Subcard with 4*100MBase-FX single-mode ST connectors Transmission Distance:0-40 Km
Gazelle S2028i-SUB-4MST[2]	Subcard with 4*100MBase-FX multi-mode ST connectors Transmission Distance:0-4 Km
Gazelle S2028i-SUB-4M[2]	Subcard with 4*100MBase-FX multi-mode SC connectors Transmission Distance:0-4 Km
Gazelle S2028i-SUB-4S1[2]	Subcard with 4*100MBase-FX single-mode SC connectors Transmission Distance:0-15 Km
Gazelle S2028i-SUB-4S2[2]	Subcard with 4*100MBase-FX single-mode SC connectors Transmission Distance:0-40 Km
Gazelle S2028i-SUB-4FX[2]	Subcard with 4*100Base-FX SFP ports
Gazelle S2028i-SUB-PTP[1]	Subcard for 1588v2 PTP
Gazelle S2028i-SUB-GPS[1]	Subcard for GPS
Gazelle S2028i-SUB-BO[1]	Subcard for IRIG-B output
Gazelle S2028i-SUB-BI[1]	Subcard for IRIG-B input

[2]Subcards applicable for both Gazelle S2028i and ST2028i

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