



## GEP-2870/GEP-5270

### L2 Gigabit Ethernet Standalone PoE Switch



#### Product Overview

The LevelOne GEP-2870/GEP-5270 are Layer 2 switches featuring 28/52 ports; with 24/48 10/100/1000Base-T ports, and 4 SFP uplink ports that support enterprise-class Layer 2 switching features including advanced QoS, security and simplified and intuitive management features allowing network administrators to build high performing robust networks affordably.

#### Key Features and Benefits

##### Performance and Scalability

GEP-2870/GEP-5270 are high performance Gigabit Ethernet Layer 2 managed switch, with 56/96Gbps switching capacity, it delivers wire-speed switching performance on all Gigabit ports, taking full advantage of existing high-performance on PCs, laptops, significantly improving the responsiveness of applications and file transfer times.

##### Continuous Availability

IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence, to ensure faster recovery from failed links, enhancing overall network stability and reliability.

IEEE 802.1s Multiple Spanning Tree Protocol runs STP per VLAN base, providing Layer 2 load sharing on redundant links up to 32 instances.

The GEP-2870/GEP-5270 support IEEE 802.3ad Link Aggregation Control Protocol (LACP). It increases bandwidth by automatically aggregating several physical links together as a logical trunk and offers load balancing and fault tolerance for uplink connections.

##### Comprehensive QoS

The GEP-2870/GEP-5270 offer advance QoS for marking, classification, and scheduling to deliver best-in-class performance for data, voice, and video traffic at wire speed. 4 egress queues per port enable differentiated management of up to 4 traffic types across the stack. Traffic is prioritized according to 802.1p, DSCP, IP precedence and TCP/UDP port number to provide optimal performance to real-time applications. Weight Round Robin (WRR) and strict priority ensure differential prioritization of packet flows and avoid congestion of ingress and egress queues.

##### PoE Features

The GEP-2870/GEP-5270 can provide up to 30 Watts of power to attached devices, such as VoIP phones, wireless access points, surveillance cameras, etc, all over existing Cat. 5 cables. This eliminates the need for individual power sources for devices in the network, saving on costs for power cables and avoiding power outlet availability issues. If the power demand exceeds the switch's maximum power budget, ports can be prioritized to receive power.

##### Enhanced Security

Port Security limits the total number of devices from using a switch port and protects against MAC flooding attacks.

IEEE 802.1x port-based or MAC-based access control ensures all users are authorized before being granted access to the network. When a user is authenticated, the VLAN, QoS and security policy will be automatically applied the port where the user connected, otherwise it will be grouped to guest VLAN with limited access.

DHCP snooping allows a switch to protect a network from rogue DHCP servers to offer invalid IP address.

Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on source and destination MAC addresses, IP addresses, TCP/UDP ports. This is done by hardware, so switching performance is not compromised.

Security Shell (SSHv1.5/v2.0) and Secure Sockets Layer (SSL/HTTPS) encrypt network management information via Telnet and web, providing secure network management.

DAI (Dynamic ARP Inspection) is a security feature that validates Address Resolution Protocol (ARP) packets in a network. DAI allows a network administrator to intercept, log, and discard ARP packets with invalid MAC address to IP address bindings.

##### Simple Management

Industry standard Command Line Interface (CLI) via console port or Telnet provides a common user interface and command set for users to manipulate the switch.

##### Green Ethernet

The GEP-2870/GEP-5270 switch incorporate a range of green Ethernet technologies to help you save energy costs for your network. The switches can't only use the latest Energy Efficient Ethernet standard to make better use of the Ethernet ports and others can also detect link status and cable length, allowing each port to power down when the port is not connected or using shorter cables.

## Technical Specifications

| Product Model        |  | GEP-2870        | GEP-5270          |
|----------------------|--|-----------------|-------------------|
| <b>Port</b>          | RJ-45 10/100/1000 Ports                            | 24              | 48                |
|                      | SFP Uplink Ports                                   | 4               | 4                 |
|                      | PoE Port   | 24              | 48                |
|                      | RJ-45 Console Port                                 | 0               | 0                 |
| <b>Performance</b>   | Switching Capacity                                 | 56Gbps          | 96Gbps            |
|                      | Forwarding Rate                                    | 39.7Mpps        | 71.4Mpps          |
|                      | Flash Memory                                       | 32M             | 32M               |
|                      | DRAM   | 128M            | 128M              |
|                      | MAC Address Table Size                             | 8K              | 16K               |
|                      | Jumbo Frames                                       | 10K             | 10K               |
|                      | Auto-negotiation, Auto-MDI/MDIX                    | 0               | 0                 |
| <b>PoE</b>           | Support on all Gigabit ports based on IEEE 802.3af | 0               | 0                 |
|                      | PoE+ based on IEEE 802.3at                         | 0               | 0                 |
|                      | Auto disable after exceeding power budget          | 0               | 0                 |
|                      | Dynamic Power Allocation                           | 0               | 0                 |
|                      | PoE Power Budget                                   | 390W            | 410W              |
| <b>Mechanical</b>    | Rack Space   | 19"             | 19"               |
|                      | Dimension (W x D x H)                              | 44 x 28x 4.4 cm | 44 x 37.9 x 44 cm |
|                      | Weight   | 2.68kg          | 5.27kg            |
| <b>Power Supply</b>  | 100-240 VAC, 50/60Hz                               | 0               | 0                 |
|                      | Max Power Consumption (Watts)                      | 31W             | 530W              |
| <b>Environmental</b> | Operating Temperature                              | 0°C to 50°C     | 0°C to 50°C       |
|                      | Storage Temperature                                | -40°C to 70°C   | -40°C to 70°C     |
|                      | Operating Humidity (non-condensing)                | 10% to 90%      | 10% to 90%        |
|                      | Storage Humidity (non-condensing)                  | 10% to 90%      | 10% to 90%        |
|                      | Environmental Regulation Compliance: WEEE          | 0               | 0                 |
|                      | Environmental Regulation Compliance: RoHS          | 0               | 0                 |
| <b>Certification</b> | FCC Class A  | 0               | 0                 |
|                      | CE   | 0               | 0                 |

# Features

## L2 Features

- Auto-negotiation for port speed and duplex mode
- Flow Control:
  - IEEE 802.3x for full duplex mode
  - Back-Pressure for half duplex mode
- Spanning Tree Protocol:
  - IEEE 802.1D Spanning Tree Protocol (STP)
  - IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
  - IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
  - BPDU Guard
  - BPDU filtering
  - Root Guard
- Broadcast/Multicast/Unknown Unicast Storm Control
- VLANs:
  - Supports 4K IEEE 802.1Q VLANs
  - Port-based
  - GVRP
  - IEEE 802.1v Protocol-based VLANs
  - Mac-based VLANs
  - IP based VLAN
  - Private VLAN
  - Guest VLAN
  - Voice VLAN
  - VLAN ACL\*
- Link Aggregation:
  - Static Trunk
  - IEEE 802.3ad Link Aggregation Control Protocol
  - Trunk groups: 12
  - Maximum number of members per group: 8
- IGMP Snooping:
  - IGMP v1/v2/v3 snooping
  - IGMP v1/v2/v3 proxy
  - IGMP Filtering
  - IGMP Throttling
  - IGMP Immediate Leave
  - IGMP Querier
- MVR (Multicast VLAN Registration)
- Supports QinQ

## QoS Features

- Priority Queues: 4 hardware queues per port
- Traffic classification based on IEEE 802.1p CoS, DSCP
- Supports WRR and Strict scheduling
- Rate Limiting (Ingress and Egress, per port base)
- DiffServ
- Marking
- Remarking

## Security

- Port security
- IEEE 802.1X port based and MAC based authentication
- MAC authentication
- Access Control List
- DHCP Snooping
- IP Source Guard
- Dynamic ARP Inspection
- RADIUS authentication
- TACACS + authorization and accounting
- SSH (v1.5/v2.0)
- SSL and HTTPS

## Management

### Switch Management:

- CLI via console port or Telnet
- WEB management
- SNMP v1, v2, v3
- Firmware & Configuration:
  - Firmware upgrade via TFTP server
  - Supports dual image
  - Supports auto configuration provision
  - Supports auto firmware upgrade
- Multiple configuration files
- Configuration file upload/download via TFTP server
- Supports RMON (groups 1, 2, 3 and 9)
- Supports BOOTP, DHCP client for IP address assignment
- Supports DHCP snooping
- Supports SNTP (RFC 2030)
- Supports IP clustering up to 36 switches
- Event/Error Log/Syslog
- Supports MIB
- Supports LLDP (802.1ab)
- Supports IPv6 management

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- ## IEEE Standards
- IEEE 802.1p Priority tags
  - IEEE 802.1x Port Authentication
  - IEEE 802.3x Ethernet frame start and stop requests and timers used for flow control on full-duplex links
  - IEEE 802.3u CSMA/CD access method and physical layer specifications for 100BASETX Fast Ethernet
  - IEEE 802.3z CSMA/CD access method and physical layer specifications for 1000BASE Gigabit Ethernet
  - IEEE 802.1q Virtual LAN
  - IEEE 802.1d Spanning Tree Protocol
  - IEEE 802.3ad Link Aggregation Control Protocol
  - IEEE 802.1s Rapid Spanning Tree Protocol
  - IEEE 802.1w Multiple Spanning Tree Protocol