

# 24 GE + 4 GE Combo SFP L2 Managed Switch



GEL-2870

H/W Version: 1

## Product Overview

LevelOne GEL-2870 is a standalone Layer 2 SNMP Gigabit Ethernet switch with 24 1000Base-T Gigabit Ethernet ports, 4 Gigabit Ethernet RJ-45 Combo ports which associated with SFP (Small Form Factor Pluggable) slots. It is a fully managed switch that supports power saving, sophisticated QoS and VLAN to provide great scalability for mission-critical applications. The ports can be aggregated to create a high-bandwidth pipe to the network. GEL-2870 provides comprehensive network management functions such as STP/RSTP/MSTP protocol for standard bridging, SNMP, RMON and advanced security features are supported.

## High Availability

GEL-2870 supports IEEE 802.3ad Link Aggregation Control Protocol (LACP) to increase the bandwidth by automatically aggregating several links together as one logical trunk. It offers load balancing and fault tolerance for uplink connections. IGMP snooping prevents flooding of IP multicast traffic and limits bandwidth intensive video traffic to the subscribers only.

## Comprehensive QoS (Quality of Service)

Offers advanced QoS for marketing, classification, and scheduling to deliver best possible performance for data, voice and video traffic at wire speed. Traffic is prioritized according to IEEE 802.1p, DSCP, IP precedence and TCP/UDP port number to provide optimal performance to real-time applications.

IEEE 802.1Q-in-Q allows service providers to offer differentiate services, such as Internet access for specific customers with specific VLANs, or to assign several VLANs to other customers for specific services.

## Simplified Management

For IP multicast traffic, GEL-2870 enables IGMP snooping to provide fast joins and leaves of multicast streaming clients. It prevents flooding of IP multicast traffic, and limits bandwidth intensive video traffic to the subscribers only. It also supports IPV6 management in SNMP/Telnet/TFTP.

## Key Features

- 28 Gigabit Ethernet ports with 4 shared SFP slots
- 10/100/1000Mbps wire speed transmission and reception
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) and port mirroring
- IEEE 802.3ad LACP for auto port aggregation of up to 14 groups, 16 ports per group
- IP Multicast Filtering through IGMP Snooping V1/ V2
- Supports IPv4/IPv6 network operation
- RS-232 console, Telnet, SNMP V1, V2c & V3, RMON, Web Browser, and TFTP Management
- Supports port-based VLAN, IEEE 802.1Q VLAN Tagging and GVRP
- Supports Dual Firmware Image which protects against failed firmware upgrade
- Supports Simple Network Time Protocol (SNTP) time server
- IEEE 802.1x Access Control to improve network security
- Supports LevelOne Green power saving technology

## Related Product



**FGL-2870**  
24 FE + 4 GE Combo SFP L2 SNMP Switch



**GTL-2690**  
20 GE + 4 GE Combo SFP + 2 x 10 GE XFP Module slot L3 SNMP Stackable Switch

## Technical Specification

### Performance

#### Standards Compliance

IEEE 802.3 Ethernet, IEEE 802.3u Fast Ethernet, IEEE802.3z Gigabit  
 IEEE 802.1D MAC Bridges  
 IEEE802.1p priority tags  
 IEEE802.1Q VLAN  
 IEEE802.1ac VLAN tagging  
 IEEE802.1ad Link aggregation control protocol  
 IEEE802.1w Fast Spanning Tree  
 IEEE802.1x authentication  
 802.3x Flow Control  
 802.1Q-2005 Multiple Spanning Tree (phase 2 feature)

#### Switch Capability

24 Gigabit Ethernet ports with non-blocking wire speed performance  
 8K MAC address entries with auto-learning function  
 Packet Buffer: 1.75MB  
 Jumbo frame up to 9kB

#### Network Interface

24x RJ-45 10/100/1000BASE-T ports  
 4x Gigabit RJ-45/SFP (Mini-GBIC) shared ports

### Software

#### Layer 2 Features

Auto-negotiation for port speed and duplex mode  
 Flow Control: IEEE 802.3x & Back-Pressure  
 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  
 Root guard  
 Auto Edge  
 VLANs:  
 255 IEEE 802.1Q VLANs, Port-based VLANs, GVRP  
 IEEE 802.1v Protocol-based VLANs  
 Private VLAN  
 Link Aggregation:  
 Static Trunk, IEEE 802.3ad Link Aggregation Control Protocol  
 Trunk groups: 32, Trunk links: 2~8  
 IGMP Snooping:  
 IGMP v1, v2 snooping  
 IGMP Queried  
 IGMP snooping leave proxy  
 IGMP filtering/throttling  
 IGMP immediate leave  
 Stream Control  
 Broadcast  
 Multicast  
 Unknown Unicast  
 Q in Q

#### IPv6 Features

IPv4/IPv6 Dual Protocol stack  
 IPv6 Address Types Stack: Multicast / Unicast  
 IPv6 Neighbor Discovery  
 ICMPv6 Redirect (host)  
 IPv6 SNMP/HTTP/Telnet/SSH/RADIUS/TACACS+  
 IPv6 ACL and DSCP remapping

### QoS

Priority Queues: 8 hardware queues per port  
 Traffic classification based on IEEE 802.1p CoS, IP Precedence, DSCP,  
 TCP/UDP port number and Access Control List  
 Scheduling: WRR and strict priority  
 DiffServ  
 Bandwidth Control:  
 Egress rate limiting: 1Mbps granularity  
 Ingress rate limiting: 1Mbps granularity

### Security

IEEE 802.1x port-based/MAC-based access control  
 RADIUS authentication  
 IP Source Guard  
 TACACS+  
 Access Control List  
 SSH v2  
 Web Authentication  
 Mac Authentication  
 HTTPS / SSL

### Management

Switch Management:  
 CLI via console port or Telnet  
 WEB management  
 SNMP v1, v2c, v3  
 Firmware & Configuration:  
 Dual firmware images  
 Firmware upgrade via TFTP server  
 Multiple configuration files  
 Configuration file: upload/download via TFTP server  
 RMON (groups 1, 2, 3 and 9)  
 BOOTP, DHCP for IP address assignment  
 DHCP snooping  
 DHCP option 82 relay  
 IP Source guard  
 SNTP  
 Event / Error Log / Syslog  
 Dynamic ARP Inspection (DAI)  
 LLDP

### Hardware

#### LEDs

Power, CPU ACT, LINK/ACT, 10/100/1000Mbps, SFP

#### Dimension

440mm(W) \* 230mm(D) \* 44mm(H)

#### Weight

2.22kg

#### Power Supply

Internal power supply: 110~240VAC, 50/60Hz

#### Temperature

Operating: 0°C ~ 45°C

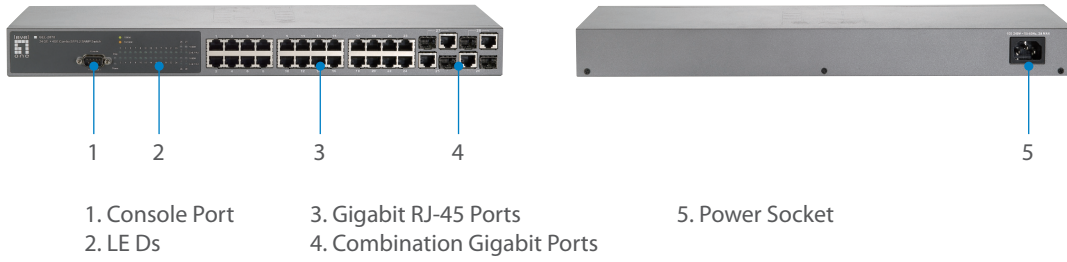
#### Humidity

Operating: 10% ~ 90% (Non-condensing)

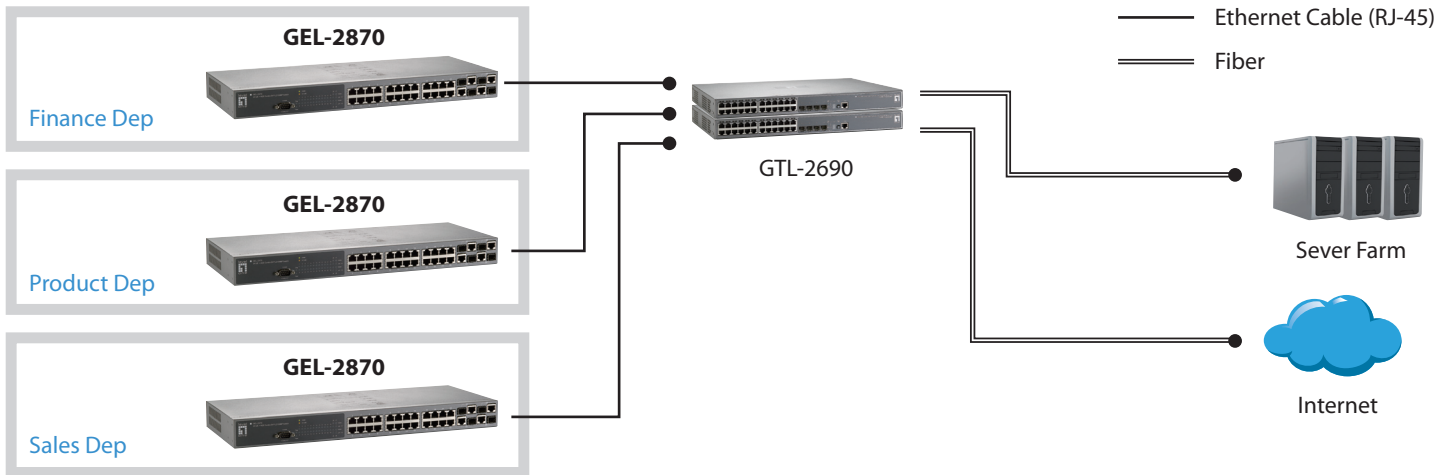
#### EMI and Safety

CE Mark Class A  
 EN50081-1:  
 EN55022 Class A  
 EN50082-1:  
 IEC 1000-4-2/3/4/6)  
 EN60555-2 Class A  
 EN60555-3  
 FCC Class A  
 VCCI Class A

## Front & Rear View



## Product Diagram



## Order Information

**GEL-2870:** 24 GE + 4 GE Combo SFP L2 Managed Switch

## Package Contents

GEL-2870, Power Cord, Console Cable, 19" Rackmount Kit, CD - User Manual

## Optional Accessories



**GVT-0300**  
1.25Gbps SFP Transceiver,  
Duplex LC connector (550m)



**GVT-0301**  
1.25Gbps SFP Transceiver,  
Duplex LC connector (10km)



**GVT-0302**  
1.25Gbps SFP Transceiver,  
Duplex LC connector (80km)



**SFP-3001**  
1.25Gbps SFP Transceiver,  
Duplex LC connector (550m)



**SFP-3211**  
1.25Gbps SFP Transceiver,  
Duplex LC connector (10km)



**SFP-3611**  
1.25Gbps SFP Transceiver,  
Duplex LC connector (80km)



**SFP-3111**  
1.25Gbps SFP Transceiver,  
Duplex LC connector, MLX  
(2km)



**SFP-3411**  
1.25Gbps SFP Transceiver, SM,  
EZX, Duplex LC connector  
(120km)



**SFP-3711**  
1.25Gbps SFP Transceiver,  
SM, EZX, Duplex LC  
connector (120km)



**SFP-9221**  
1.25G BIDI, (SM 10km  
1310/1550), Simplex LC



**SFP-9231**  
1.25G BIDI, (SM 10km  
1550/1310), Simplex LC



**SFP-9321**  
1.25G BIDI, (SM 20km  
1310/1550), Simplex LC



**SFP-9331**  
1.25G BIDI, (SM 20km  
1550/1310), Simplex LC



**SFP-9421**  
1.25G BIDI, (SM 40km  
1310/1550), Simplex LC



**SFP-9431**  
1.25G BIDI, (SM 40km  
1550/1310), Simplex LC

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