



# 20 GE + 4 GE Combo SFP + 2 10GE XFP Module slot L3 SNMP Stackable Switch



GTL-2690

## H/W Version: 1

GTL-2690, a member of LevelOne's Managed Switch 9 Series, is a professional Gigabit Ethernet Layer 3 stackable Switch that delivers flexible expansion, robust security, Quality of Service (QoS) and redundant power option. This is ideal for aggregating servers in the distribution layer of three-tier networks, providing high performance, wire speed L2 switching and L3 routing.

### Performance and Scalability

GTL-2690 supports 16K MAC address sized table and 128Gbps switching capacity. 2 physical stacking ports and up to 8 devices per stack enlarge the stacking backplane to 384Gbps, which will fulfill any bandwidth-eager customers demands is suitable for a multitude of applications.

GTL-2690 features Head of Line (HoL) blocking prevention that is to ensure the traffic with high priority can be transmitted in time. MSTP with 32 instances enhances the network stability by providing multiple forwarding paths for data traffic and enables load balancing. 802.3ad Link Aggregation Control Protocol (LACP) increases the bandwidth by combing physical network links into a single logical link.

GTL-2690 supports IGMP v1/v2 to fulfill the requirements of frequently used in IPTV applications. It also offers 4K VLANs with Port-based and Protocol-based VLAN support. Moreover, for some specific

applications that need to cross different Networks, GTL-2690 offers Q-in-Q (Double VLAN) which supports different type of tags at same physical port

### Comprehensive QoS

GTL-2690 offers 8 egress queues per port that enable differentiated management of up to 8 traffic types. Traffic is prioritized according to 802.1p, DSCP, IP precedence and TCP/UDP port number, giving optimal performance to real-time applications such as voice and video. Bidirectional rate-limiting, per port or traffic class, preserves network bandwidth and allows full control of network resources.

### L3 Features

GTL-2690 delivers high-performance hardware based IPv4 routing. RIP and OSPF provides dynamic routing by exchanging routing information with other Layer 3 switches or routers. VRRP prevents your system from failing by dynamically backing up multiple L3 switches for routing.

### Security

GTL-2690 offers many enhanced security features. Port Security can limit the number of accessible users and blocks unauthorized users by locking their MAC addresses. Also it supports Port-based 802.1X, web-based Access Control and RADIUS/TACAS+ Authentication which are especially ideal for enterprise users.

### Key Features

- Hardware stacking backplane up to 384Gbps
- Hot-Swappable Redundant Power Supply and 10GE XFP slots supported
- 16K MAC Address and Double VLAN (Q-in-Q)
- Supports Hardware based IPv4 Routing capability
- Supports Web-base Access Control and Port-base 802.1X
- Supports RADIUS/TACACS+ Authentications

### Works Well With



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



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



## Technical Specification

### Physical Interfaces

20 RJ-45 10/100/1000Base-T ports  
 4 Combo GE ports (RJ-45/SFP)  
 2 Hardware Stacking ports  
 2 Optional Slots for 10GE uplink models  
 1 RJ-45 console port  
 1 Redundant Power Supply Connector

### Performance

Switching Capacity: 128Gbps  
 Forwarding Rate: 95.2Mpps  
 MAC Address Table Size: 16K  
 Packet Buffer Size: 2MB

### L2 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)  
 - MSTP support 32 Instances  
 VLANs:  
 - Supports 4K IEEE 802.1Q VLANs, port-based VLANs, GVRP  
 - Support 802.1v Protocol-base VLAN  
 - Double VLAN (Q-in-Q)  
 Private VLAN  
 Link Aggregation:  
 - Static Trunk, IEEE 802.3ad Link Aggregation Control Protocol  
 - Trunk groups: 8  
 - Trunk links: 2~8 for Gigabit Ethernet port  
 - Trunk links: 2~4 for 10 Gigabit Ethernet port  
 IGMP Snooping: IGMP v1, v2  
 Jumbo Frame: 9K  
 DHCP/BootP relay, DHCP server

### L3 Features

Routing Table: 2K  
 L3 Forwarding Table Size: 256  
 Static Routes: 64  
 RIPv1, RIPv2  
 OSPF  
 VRRP  
 Policy based routing

### QoS Features

Priority Queues: 8 hardware queues per port  
 Traffic classification based on physical port, IEEE 802.1p, IP address, DSCP, TCP/UDP port number, IPv6 Traffic Class  
 Supports WRR, Strict priority and WRR + Strict Bandwidth Control (min. granularity): 1Mbps

### Access Control List (ACL)

Access Control by Ingress with Max. 192 rules  
 ACL based on 802.1p, MAC Address, VLAN ID, Ether Type, TOS/DSCP, IPv4/IPv6 Address, Protocol Type, TCP/UDP Port

### Security

Port Security  
 Traffic Segmentation  
 Supports IEEE 802.1X port-based and MAC based access control  
 RADIUS authentication  
 SSH/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/FTP/Xmodem server  
 - Multiple configuration files  
 - Configuration file upload/download via TFTP/FTP server  
 Supports RMON v1/v2  
 Supports BOOTP, DHCP for IP address assignment  
 DHCP Server/DHCP Relay option 82  
 LLDP  
 Supports SNTp  
 Support CPU Monitoring  
 Event/Error Log/Syslog  
 IPv6:  
 - SNMP/HTTP/Telnet/SSH/ICMP/RADIUS/TACACS+/SMTP/ACL/  
 Dual Stack/Neighbor discover/QoS remapping/

### Mechanical

Dimensions (H x W x D): 4.4 x 44 x 41.5 cm (1RU)  
 LED Indicators: Port, Uplink, System, Diagnostic,

### Safety

CSA/NRTL (UL60950, CSA 22.2.No 60950-00)  
 TUV/GS (EN60950)  
 CB

### Electromagnetic Compatibility

CE Mark  
 FCC Class A  
 VCCI Class A

### Environmental Specifications

Temperature:  
 - 0°C to 50°C (Standard Operating)  
 - -40°C to 70°C (Non-Operating)  
 Humidity: 5% to 95% (Non-condensing)  
 Vibration: IEC 68-2-36, IEC 68-2-6  
 Shock: IEC 68-2-29  
 Drop: IEC 68-2-32

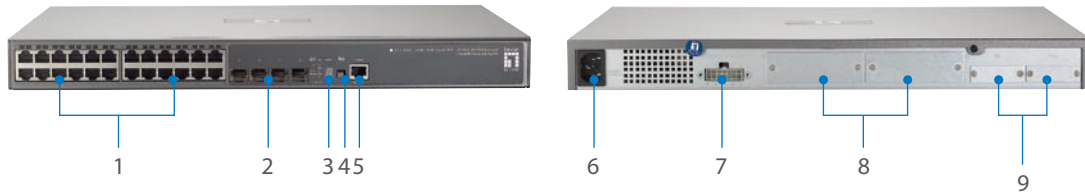
### Power Specifications

Internal Power Supply: 100-240V~50-60Hz 2A

### Power Consumption:

49.68 Watts (without expansion XFP modules)  
 66.36 Watts (with two expansion XFP modules)  
 29.64Watts (without expansion XFP modules, and no cable connection on all ports)  
 39.6Watts (with two expansion XFP modules, and no cable connection on all ports)

## Physical Interface

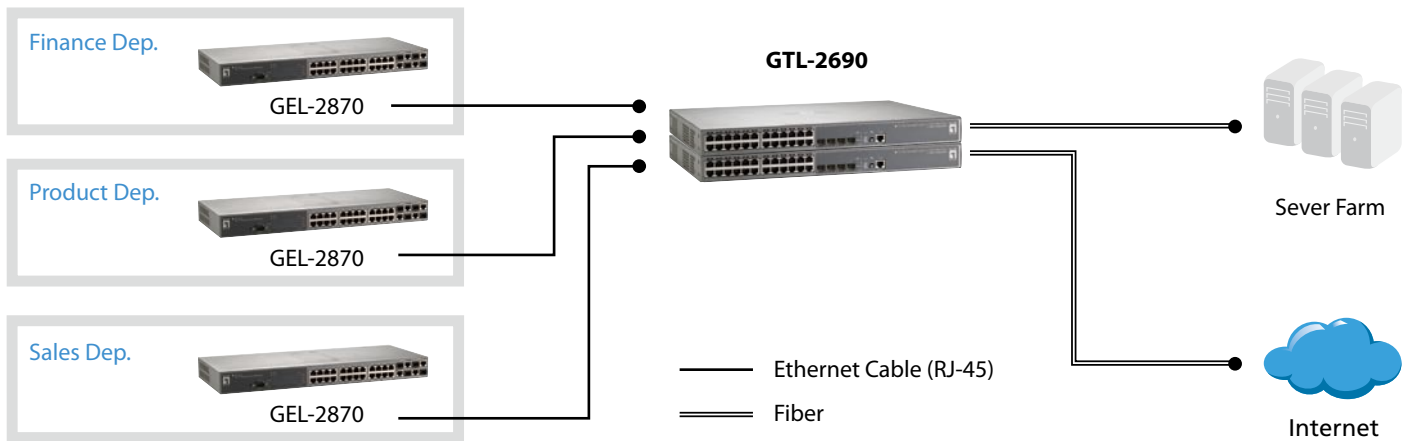


1. Gigabit RJ-45 Ports
2. SFP Slots
3. System Status LEDs

4. Stack ID
5. Serial Console Port
6. Power Socket

7. Redundant Power Socket
8. 10G Module Slots
9. Hardware Stacking Ports

## Product Diagram



## Order Information

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

## Package Contents

GTL-2690, Mounting Accessory (for 19" Rack Shelf), RS-232 cable, Power Cord, CD User Manual

## Optional Accessories



**GVT-0300/GVT-0301/GVT-0302**  
1.25Gbps SFP Transceiver,  
Duplex LC connector  
(550m/10km/80km)



**SFP-3001/SFP-3211/SFP-3611**  
1.25Gbps SFP Transceiver,  
Duplex LC connector  
(550m/10km/80km)



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



**SFP-3411/SFP-3711**  
1.25Gbps SFP Transceiver, SM,  
EZC, Duplex LC connector  
(120km)



**SFP-9221/SFP-9231**  
1.25Gbps Bi-Di SFP  
Transceiver, SM, Simplex LC  
connector (10km)



**SFP-9321/SFP-9331**  
1.25Gbps Bi-Di SFP  
Transceiver, SM, Simplex LC  
connector (20km)



**SFP-9421/SFP-9431**  
1.25Gbps Bi-Di SFP  
Transceiver, SM, Simplex LC  
connector (40km)



**XFP-5901**  
10Gbps Transceiver, SR,  
Duplex LC Connector (MMF  
300m)



**XFP-5211**  
10Gbps Transceiver, LR,  
Duplex LC Connector (SMF  
10km)



**MDU-0162**  
10GE XFP Module



**ACP-03K2**  
30cm Physical Stacking Cable



**ACP-13K2**  
130cm Physical Stacking  
Cable



**RPS-04A2**  
600W with 4 Redundant  
Power Supply ports

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