

# JetStream T1600G Series Smart Switches Datasheet

MODELS: T1600G-18TS(TL-SG2216)/T1600G-28TS/T1600G-28PS  
T1600G-52TS(TL-SG2452)/T1600G-52PS(TL-SG2452P)



## Highlights

- Gigabit Ethernet connections on all ports provide full speed of data transferring
- L2+ Feature ——Static Routing, helps route internal traffic for more efficient use of network resources
- Advanced security features include IP-MAC-Port Binding, ACL, Port Security, DoS Defend, Storm Control, DHCP Snooping, 802.1X and Radius Authentication
- L2/L3/L4 QoS and IGMP Snooping optimize voice and video applications
- Comprehensive IPv6 support for management, QoS and ACL
- Web/CLI managed modes, SNMP, RMON and Dual Image bring abundant management features

## Overview

TP-Link's brand new JetStream T1600G series gigabit smart switches provide huge upgrade comparing with previous versions. New Web UI design features better operating experience. Small and medium sized businesses can get cost-effective networking solutions without sacrificing enhanced usability and strong performance because of the integrated L2 and L2+ features such as 802.1Q VLAN, QoS, IGMP Snooping and Static Routing.

## Abundant L2 and L2+ Features

T1600G series smart switches supports a complete lineup of L2 features, including IGMP Snooping/ MLD Snooping, 802.1Q/MAC/ Protocol VLAN, STP/RSTP/MSTP, Link Aggregation Group(LAG), Port Isolation, Port Mirroring, and 802.3x Flow control function. IGMP Snooping ensures the multicast stream be forwarded intelligently to the appropriate subscribers by the switch, while IGMP Throttling & Filtering restricts each subscriber on a certain level to prevent unauthorized multicast access. Besides, these T1600G series switches also support L2+ features like static routing. It is a simple way to provide segmentation of the network with internal routing through the switch and helps network traffic to be more efficiency.

## Advanced QoS Features

To integrate voice, data and video service on one network, the switch applies abundant QoS policies. Administrator can designate the priority of the traffic based on a variety of functions including Port Priority, 802.1P Priority and DSCP Priority, which can ensure that voice and video are always clear, smooth and jitter free. In conjunction with the Voice VLAN that the switches support, Voice Applications will perform better and smoother.

## IPv6 Support

T1600G series switches support comprehensive IPv6 features including IPv6 management, ACL, QoS and MLD Snooping, all of these features help to ensure a smooth migration to IPv6-based network without changing switches in the future.

## Enterprise Level Management Features

T1600G series switches supports multiple user-friendly standard management features such as intuitive web-based Graphical User Interface (GUI), industrially standard Command Line Interface (CLI) and SNMP (v1/2/3). These switches support RMON (Remote Network Monitoring), which enables the administrator to obtain valuable status information and also enables the switch to send traps when encountering abnormal events. Also, this series of switches support Dual Image function, which makes there be less 'down-time' when switches are being upgraded/downgraded.

# Specifications

## Hardware Specifications & Performance

Product Picture						
Model		T1600G-18TS (TL-SG2216)	T1600G-28TS	T1600G-28PS	T1600G-52TS (TL-SG2452)	T1600G-52PS (TL-SG2452P)
General	Interfaces	16 10/100/1000Mbps RJ45 ports 2 Gigabit SFP Slots	24 10/100/1000Mbps RJ45 ports 4 Gigabit SFP Slots		48 10/100/1000Mbps RJ45 ports 4 Gigabit SFP Slots	
	PoE	PoE Standard	802.3af/at		802.3af/at	
	PoE Ports	/	24, up to 30W		/	48, up to 30W
	PoE Power Budget		192W			384W
Performance	Switching Capacity	32Gbps	56Gbps		104Gbps	
	Packet Forwarding Rate	26.8Mbps	41.7Mpps		77.4Mpps	
	MAC Address Table	8K			16K	
	Packet Buffer	4.1Mbit			12Mbit	
	Number of IP Interfaces	16				
	Number of Static Routes	32 (IPv4, IPv6)				
	Jumbo Frame	9KB				
Physical & Environment	Power Supply	100-240V AC, 50/60Hz				
	Maximum Power Consumption (220V/50Hz)	12.3W	20.4W	235.8W	32.8W	470.4W
	Dimensions (W × D × H)	17.3 × 7.1 × 1.7 in. (440 × 180 × 44 mm)	17.3 × 7.1 × 1.7 in. (440 × 180 × 44 mm)	17.3 × 8.7 × 1.7 in. (440 × 220 × 44 mm)	17.3 × 8.7 × 1.7 in. (440 × 220 × 44 mm)	17.3 × 13 × 1.7 in. (440 × 330 × 44 mm)
	Fan Quantity	Fanless	Fanless	2	Fanless	3
	Operating Temperature	0°C~40°C (32°F~104°F)				
	Storage Temperature	-40°C~70°C (-40°F~158°F)				
	Operating Humidity	10%~90%RH non-condensing				
	Storage Humidity	5%~90%RH non-condensing				
	Certification	CE, FCC				

## Software Features

L2+ Features	<ul style="list-style-type: none"> <li>• 16 IP Interfaces               <ul style="list-style-type: none"> <li>- Support IPv4/IPv6 Interface</li> </ul> </li> <li>• Static Routing               <ul style="list-style-type: none"> <li>- 32 IPv4/IPv6 Static Routes in Total</li> </ul> </li> <li>• DHCP Server</li> <li>• DHCP Relay               <ul style="list-style-type: none"> <li>- DHCP Interface Relay</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- DHCP VLAN Relay</li> <li>• DHCP L2 Relay</li> <li>• Static ARP</li> <li>• Proxy ARP</li> <li>• Gratuitous ARP</li> </ul>
L2 Features	<ul style="list-style-type: none"> <li>• Link Aggregation               <ul style="list-style-type: none"> <li>- static link aggregation</li> <li>- 802.3ad LACP</li> <li>- Up to 8 ports per group</li> <li>- Up to 14 aggregation groups (T1600G-52TS/52PS)</li> <li>- Up to 8 aggregation groups (T1600G-18TS/28TS/28PS)</li> </ul> </li> <li>• Spanning Tree Protocol               <ul style="list-style-type: none"> <li>- 802.1D STP</li> <li>- 802.1w RSTP</li> <li>- 802.1s MSTP</li> <li>- STP Security: Loop back detection, TC Protect, BPDU Filter/Protect, Root Protect</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Loopback Detection</li> <li>• Flow Control               <ul style="list-style-type: none"> <li>- 802.3x Flow Control</li> <li>- HOL Blocking Prevention</li> </ul> </li> <li>• Mirroring               <ul style="list-style-type: none"> <li>- Port Mirroring</li> <li>- CPU Mirroring</li> <li>- One-to-One</li> <li>- Many-to-One</li> <li>- Flow-Based</li> <li>- Ingress/Egress/Both</li> </ul> </li> <li>• Device Link Detect Protocol(DLDP)</li> </ul>
L2 Multicast	<ul style="list-style-type: none"> <li>• 512 IPv4,IPv6 shared multicast groups (T1600G-18TS/28TS/28PS)</li> <li>• 1024 IPv4,IPv6 shared multicast groups (T1600G-52TS/52PS)</li> <li>• IGMP Snooping               <ul style="list-style-type: none"> <li>- IGMP v1/v2/v3 Snooping</li> <li>- Fast Leave</li> <li>- IGMP Snooping Querier</li> <li>- Static Group Config</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• MLD Snooping               <ul style="list-style-type: none"> <li>- MLD v1/v2 Snooping</li> <li>- Fast Leave</li> <li>- MLD Snooping Querier</li> <li>- Static Group Config</li> </ul> </li> <li>• Limited IP Multicast(256 profiles and 16 entries per profile)</li> <li>• Multicast VLAN Registration(MVR)</li> <li>• Multicast Filtering</li> </ul>
VLAN	<ul style="list-style-type: none"> <li>• VLAN Group               <ul style="list-style-type: none"> <li>- Max. 4K VLAN Groups</li> </ul> </li> <li>• 802.1Q tag VLAN</li> <li>• MAC VLAN</li> </ul>	<ul style="list-style-type: none"> <li>• Protocol VLAN</li> <li>• GVRP</li> <li>• Voice VLAN</li> </ul>
QoS	<ul style="list-style-type: none"> <li>• 8 priority queues</li> <li>• Priority Schedule Mode               <ul style="list-style-type: none"> <li>- SP (Strict Priority)</li> <li>- WRR (Weighted Round Robin)</li> </ul> </li> <li>• Queue Weight Config</li> <li>• Bandwidth Control               <ul style="list-style-type: none"> <li>- Port/Flow based Rating Limiting</li> </ul> </li> <li>• Smoother Performance</li> </ul>	<ul style="list-style-type: none"> <li>• Actions for flows               <ul style="list-style-type: none"> <li>- Mirror (to supported interface)</li> <li>- Redirect (to supported interface)</li> <li>- Rate Limit</li> <li>- QoS Remark</li> </ul> </li> <li>• Storm Control               <ul style="list-style-type: none"> <li>- Multiple Control Modes(kbps/ratio/pps)</li> <li>- Broadcast/Multicast/Unknown-Unicast Control</li> </ul> </li> </ul>

## Software Features

ACL	<ul style="list-style-type: none"> <li>• Support up to 230 entries(T1600G-18TS/28TS/28PS)</li> <li>• Support up to 350 entries(T1600G-52TS/52PS)</li> <li>• Time-Range               <ul style="list-style-type: none"> <li>- Time Slice</li> <li>- Week Time-Range</li> <li>- Absolute Time-Range</li> <li>- Holiday</li> </ul> </li> <li>• Time-based ACL</li> <li>• MAC ACL               <ul style="list-style-type: none"> <li>- Source MAC</li> <li>- Destination MAC</li> <li>- VLAN ID</li> <li>- User Priority</li> <li>- Ether Type</li> </ul> </li> <li>• IP ACL               <ul style="list-style-type: none"> <li>- Source IP</li> <li>- Destination IP</li> <li>- Fragment</li> <li>- IP Protocol</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- TCP Flag</li> <li>- TCP/UDP Source Port</li> <li>- TCP/UDP Destination Port</li> <li>- DSCP/IP TOS</li> <li>- User Priority</li> <li>• IPv6 ACL</li> <li>• Combined ACL</li> <li>• Rule Operation               <ul style="list-style-type: none"> <li>- Permit/Deny</li> </ul> </li> <li>• Policy Action               <ul style="list-style-type: none"> <li>- Mirror</li> <li>- Rate Limit</li> <li>- Redirect</li> <li>- QoS Remark</li> <li>- Destination IP</li> </ul> </li> <li>• ACL Rules Binding               <ul style="list-style-type: none"> <li>- Port Binding</li> <li>- VLAN Binding</li> </ul> </li> </ul>
Security	<ul style="list-style-type: none"> <li>• AAA</li> <li>• 802.1X               <ul style="list-style-type: none"> <li>- Port based authentication</li> <li>- MAC(Host) based authentication</li> <li>- VLAN Assignment</li> <li>- MAB</li> <li>- Guest VLAN</li> <li>- Support Radius authentication and accountability</li> </ul> </li> <li>• IP-MAC-Port Binding               <ul style="list-style-type: none"> <li>- 512 Binding Entries</li> <li>- DHCP Snooping</li> <li>- ARP Inspection</li> <li>- IP Source Gurad</li> </ul> </li> <li>• IPv6-MAC-Port Binding               <ul style="list-style-type: none"> <li>- 512 Binding Entries</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- DHCPv6 Snooping</li> <li>- ND Detection</li> <li>- IPv6 Source Gurad</li> <li>• DoS Defend</li> <li>• Static/Dynamic/Permanent Port Security               <ul style="list-style-type: none"> <li>- Up to 64 MAC addresses per port</li> </ul> </li> <li>• Broadcast/Multicast/Unicast Storm Control               <ul style="list-style-type: none"> <li>- kbps/ratio/pps control mode</li> </ul> </li> <li>• Port Isolation</li> <li>• Secure web management through HTTPS with SSLv3/TLS1.0</li> <li>• Secure Command Line Interface (CLI) management with SSHv1/SSHv2</li> <li>• IP/Port/MAC based access control</li> </ul>
Management	<ul style="list-style-type: none"> <li>• Web-based GUI</li> <li>• Command Line Interface(CLI) through telnet</li> <li>• SNMPv1/v2c/v3</li> <li>• SNMP Trap/Inform</li> <li>• RMON (1,2,3,9 groups)</li> <li>• SDM Template</li> <li>• DHCP/BOOTP Client</li> </ul>	<ul style="list-style-type: none"> <li>• Dual Image, Dual Configuration</li> <li>• CPU Monitoring</li> <li>• Cable Diagnostics</li> <li>• EEE</li> <li>• SNTP</li> <li>• System Log</li> <li>• 802.1ab LLDP/ LLDP-MED</li> </ul>

## Software Features

IPv6 Support	<ul style="list-style-type: none"> <li>• IPv6 Static Routing and ACL</li> <li>• IPv6 Dual IPv4/IPv6</li> <li>• IPv6 Interface</li> <li>• Multicast Listener Discovery(MLD) Snooping</li> <li>• IPv6 neighbor discovery (ND)</li> <li>• Path maximum transmission unit (MTU) discovery</li> <li>• Internet Control Message Protocol (ICMP) version 6</li> <li>• TCPv6/UDPv6</li> </ul>	<ul style="list-style-type: none"> <li>• IPv6 applications               <ul style="list-style-type: none"> <li>- DHCPv6 Client</li> <li>- Ping6</li> <li>- Tracert6</li> <li>- Telnet(v6)</li> <li>- IPv6 SNMP</li> <li>- IPv6 SSH</li> <li>- IPv6 SSL</li> <li>- Http/Https</li> <li>- IPv6 TFTP</li> </ul> </li> </ul>
MIBs	<ul style="list-style-type: none"> <li>• MIB II (RFC1213)</li> <li>• Interface MIB (RFC2233)</li> <li>• Ethernet Interface MIB (RFC1643)</li> <li>• Bridge MIB (RFC1493)</li> <li>• P/Q-Bridge MIB (RFC2674)</li> <li>• RMON MIB (RFC2819)</li> </ul>	<ul style="list-style-type: none"> <li>• RMON2 MIB (RFC2021)</li> <li>• Radius Accounting Client MIB (RFC2620)</li> <li>• Radius Authentication Client MIB (RFC2618)</li> <li>• Remote Ping, Traceroute MIB (RFC2925)</li> <li>• Support TP-Link private MIBs</li> </ul>

\*Some specifications in the table above only apply to certain versions of T1600G Series switches. (T1600G-18TS V2.0, T1600G-28TS/28PS/52TS/52PS V3.0)

## Ordering Information

Host Switch	
Product Model	Description
T1600G-28TS	JetStream 24-Port Gigabit Smart Switch with 4 SFP Slots
T1600G-28PS	JetStream 24-Port Gigabit Smart PoE+ Switch with 4 SFP Slots
T1600G-52TS (TL-SG2452)	JetStream 48-Port Gigabit Smart Switch with 4 SFP Slots
T1600G-52PS (TL-SG2452P)	JetStream 48-Port Gigabit Smart PoE+ Switch with 4 SFP Slots
SFP Modules	
Product Model	Description
TL-SM311LS	Gigabit SFP module, Single-mode, LC interface, Up to 10km distance
TL-SM311LM	Gigabit SFP module, Multi-mode, LC interface, Up to 550m distance
TL-SM321A	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX:1550nm/RX:1310nm, 10km
TL-SM321B	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX:1310nm/RX:1550nm, 10km
Router	
Product Model	Description
TL-ER6120	SafeStream Gigabit Dual-WAN VPN Router
TL-ER5120	Gigabit Load Balance Broadband Router
Media Converter	
Product Model	Description
MC210CS	Gigabit single-mode SC SFP Transceiver, up to 15Km, chassis mountable
MC200CM	Gigabit multi-mode SC SFP Transceiver, up to 550m, chassis mountable
MC220L	Gigabit SFP slot supporting mini-GBIC modules, chassis mountable
MC1400	14-slot power supply chassis for TP-LINK Media Converter, 19-inch rack-mountable

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