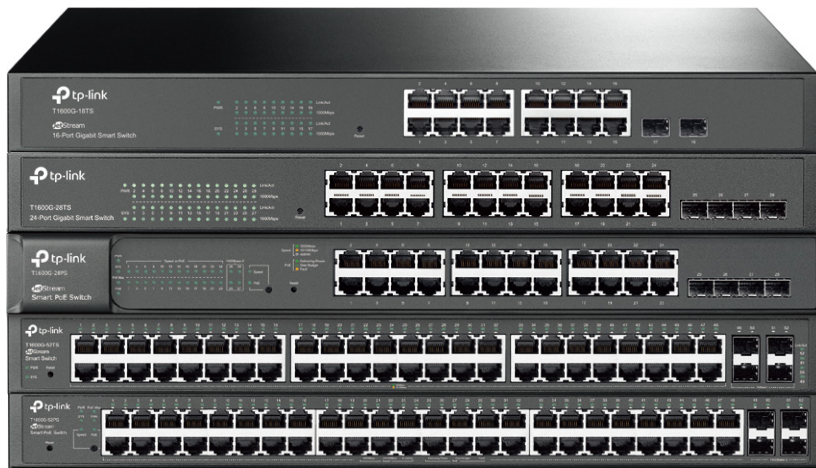# JetStream T1600 Series Smart Switches Datasheet

MODELS: T1600G-18TS (TL-SG2216)/T1600G-28TS (TL-SG2424)
T1600G-28PS (TL-SG2424P)/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

-Dual Firmware Image improves reliability and up-time of your network

Overview

TP-Link's new JetStream T1600 series gigabit smart switches feature significant upgrades, when compared with previous models. Integrated with useful L2 and L2+ features such as static routing, 802.1Q VLAN, QoS, IGMP Snooping, they provide cost-effective networking solutions for small and medium-sized businesses, offering enhanced usability and better performance.

Abundant L2 and L2+ Features

For more application of L2 switches, T1600 series switches supports a complete lineup of L2 features, including 802.1Q tag VLAN, Port Isolation, Port Mirroring, STP/RSTP/MSTP, Link Aggregation Group and 802.3x Flow Control function. Besides, the switch provides advanced features for network maintenance such as Loop Back Detection, Cable Diagnostics and IGMP Snooping. IGMP snooping ensures the switch intelligently forward the multicast stream only to the appropriate subscribers while IGMP throttling & filtering restrict each subscriber on a port level to prevent unauthorized multicast access. Moreover, these switches support L2+ feature—static routing, which is a simple way to provide segmentation of the network with internal routing through the switch and helps network traffic for more efficient use.

Advanced QoS Features

To integrate voice, data and video service on one network, the switch applies rich QoS policies. Administrator can designate the priority of the traffic based on a variety of means including Port Priority, 802.1P Priority and DSCP Priority, to ensure that voice and video are always clear, smooth and jitter free. In conjunction with the Voice VLAN the switch supports, the voice applications will operate with much smoother performance.

IPv6 Support

T1600 series switches support comprehensive IPv6 features including management, ACL and QoS, all helps to ensure investment protection and a smooth migration to IPv6-based network without switch replacement.

Enterprise Level Management Features

The switches are easy to use and manage. It supports various user-friendly standard management features, such as intuitive web-based Graphical User Interface (GUI) or industry-standard Command Line Interface (CLI), SNMP (v1/2/3) and RMON support enables the switch to be polled for valuable status information and send traps on abnormal events. And it also supports Dual Image, which provides reduced down-time for the switches, when the image is being upgraded / downgraded.

Specifications

Hardware Features & Performance

		T1600G-18TS (TL-SG2216)	T1600G-28TS (TL-SG2424)	T1600G-28PS (TL-SG2424P)	T1600G-52TS (TL-SG2452)	T1600G-52PS (TL-SG2452P)
Product Picture						
Model		T1600G-18TS (TL-SG2216)	T1600G-28TS (TL-SG2424)	T1600G-28PS (TL-SG2424P)	T1600G-52TS (TL-SG2452)	T1600G-52PS (TL-SG2452P)
General PoE	Standards and Protocols	IEEE 802.3i 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX/FX IEEE 802.3ab 1000BASE-T, IEEE 802.3z 1000BASE-X IEEE 802.3x Flow control, IEEE 802.3ad Link Aggregation IEEE 802.1d Spanning Tree Protocol (STP), IEEE 802.1s Rapid Spanning Tree (RSTP) IEEE 802.1w Multiple Spanning Tree (MSTP), IEEE 802.1q VLAN IEEE 802.1x Port-based Network Access Control, IEEE 802.1p QoS IEEE 802.3af Power over Ethernet, IEEE 802.3at Power over Ethernet				
	Network Media	100BASE-TX/1000Base-T: UTP category 5, 5e or above cable (maximum 100m) 10GBase-T: UTP CAT 5e, 6 (Maximum 55m) or above cable (Maximum 100m) 1000BASE-X: MMF, SMF				
	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, 32 IPv6				
	Jumbo Frame	9KB				
Physical & Environment	Power Supply	100-240V AC, 50/60Hz				
	Maximum Power Consumption (220V/50Hz)	12.3W	23.2W	264.8W	32.8W	470.4W
	Dimensions (W × D × H)	17.3 × 7.1 × 1.7 in. (440 × 180 × 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		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	• 16 IP Interfaces
	  - Support IPv4 interface
	  - Support IPv6 interface
	• DHCP Relay
		• Static Routing
		  - 32 IPv4 static routes
		  - 32 IPv6 static routes

L2 Features	• Link Aggregation
	  - static link aggregation
	  - 802.3ad LACP
	  - Up to 14 aggregation groups,
	    containing 8 ports per group
	• Spanning Tree Protocol
	  - 802.1D STP
	  - 802.1w RSTP
	  - 802.1s MSTP
	  - STP Security: Loop back detection,
	TC Protect, BPDU Filter/Protect, Root Protect
		• Loopback Detection
		• Flow Control
		  - 802.3x Flow Control
		  - HOL Blocking Prevention
		• Port Mirroring
		  - One-to-One
		  - Many-to-One
		  - Flow-Based
		  - Tx/Rx/Both
		• LLDP, LLDP-MED

L2 Multicast	• 512 IPv4,IPv6 shared IGMP groups (For T1600G-18TS)
	• 1000 IPv4,IPv6 shared IGMP groups (For T1600G-28TS/28PS/52TS/52PS)
	• IGMP Snooping
	  - IGMP v1/v2/v3 Snooping
	  - IGMP Fast Leave
	  - Multicast VLAN
	  - IGMP Snooping Querier
	  - Limited IP Multicast(256 profiles and 16 entries per profile)
	  - Static Multicast Forwarding
		• MLD Snooping
		  - MLD v1/v2 Snooping
		  - MLD Snooping Querier
		  - Fast Leave
		  - Limited IP Multicast (256 profiles and 16 entries per profile)
		  - Static Multicast Forwarding

VLAN	• VLAN Group - Max. 4K VLAN Groups • 802.1Q tag VLAN	• MAC VLAN • Protocol VLAN

QoS	• 802.1p CoS/DSCP priority
	• 8 priority queues
	• Queue scheduling
	  - SP (Strict Priority)
	  - WRR (Weighted Round Robin)
	  - SP+WRR
	• Bandwidth Control
	  - Port/Flow based Rating Limiting
		• Smoother Performance
		• Actions for flows
		  - Mirror (to supported interface)
		  - Redirect (to supported interface)
		  - Rate Limit
		  - QoS Remark
		• Voice VLAN
		• IPv6 QoS

ACL	• Supports up to 180 or 300 entries (Can be adjusted in SDM template)
	• MAC ACL
	  - Source MAC
	  - Destination MAC
	• Standard IP ACL
	  - Source IP
	  - Destination IP
		• ACL apply to Port/VLAN
		• IPv6 ACL
		• Extended IP ACL
		  - Source IP
		  - Destination IP
		  - IP Protocol
		  - TCP/UDP Port

Software Features

Security	• AAA
	• DHCP Snooping
	• IP-MAC-Port Binding
	• Dynamic ARP Inspection
	• Static/Dynamic Port Security
	  - Up to 64 MAC addresses per port
	• Broadcast/Multicast/Unicast Storm Control
	  - kbps/ratio/pps control mode
	• IP/Port/MAC based access control
	• DoS Defend
		• 802.1X
		  - Port based authentication
		  - MAC(Host) based authentication
		  - Guest VLAN
		  - Support Radius authentication and accountability
		• Port Isolation
		• Secure web management through HTTPS with SSLv3/TLS1.0
		• Secure Command Line Interface(CLI) management with SSHv1/SSHv2

IPv6 Support	• IPv6 Static Routing, QoS and ACL
	• IPv6 Dual IPv4/IPv6
	• Multicast Listener Discovery(MLD) Snooping
	• IPv6 neighbor discovery (ND)
	• Path maximum transmission unit (MTU) discovery
	• Internet Control Message Protocol (ICMP) version 6
	• TCPv6/UDPv6
		• IPv6 applications
		  - DHCPv6 Client
		  - Ping6
		  - Tracert6
		  - Telnet(v6)
		  - IPv6 SNMP
		  - IPv6 SSH
		  - IPv6 SSL
		  - Http/Https
		  - IPv6 TFTP

Management	• Web-based GUI • Command Line Interface(CLI) through console port, telnet • SNMPv1/v2c/v3 • SNMP Trap/Inform • RMON (1,2,3,9 groups) • DHCP Option82	• CPU Monitoring • Cable Diagnostics • Access Control • SNTP • System Log • Dual Image
MIBs	• MIB II (RFC1213) • Interface MIB (RFC2233) • Ethernet Interface MIB (RFC1643) • Bridge MIB (RFC1493) • P/Q-Bridge MIB (RFC2674) • RMON MIB (RFC2819)	• RMON2 MIB (RFC2021) • Radius Accounting Client MIB (RFC2620) • Radius Authentication Client MIB (RFC2618) • Remote Ping, Traceroute MIB (RFC2925) • Support TP-Link private MIBs

Ordering Information

Host Switch	
Product Model	Description
T1600G-18TS(TL-SG2216)	JetStream 16-Port Gigabit Smart Switch with 2 SFP Slots
T1600G-28TS (TL-SG2424)	JetStream 24-Port Gigabit Smart Switch with 4 SFP Slots
T1600G-28PS (TL-SG2424P)	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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