

# 10-Gigabit L2+ Managed Switch Datasheet

MODELS: S5500-8XF / S5500-16XF / S5500-8MHP2XF / S5500-24F4XF / S5500-24GP4XF / S5500-48GP4XF



## Overview

TP-Link | Omada Pro L2+ managed switches provide high performance, powerful L2 and L2+ features like static routing, enterprise-level QoS, advanced security strategies and a bundle of ISP features. The 10-gigabit ports ensure high-speed data transfer, and their backward compatility with gigabit products reserves room for network upgrades, therefore guarantees stable and long-term usability. The IP-MAC-Port Binding (IMPB) and Access Control List (ACL) functions protect against broadcast storm, ARP and Denial-of-Service (DoS) attacks, etc. Quality of Service (QoS, L2 to L4) provides enhanced traffic management capabilities to move your data smoother and faster. The OAM function helps facilitate network management. Moreover, the easy-to-use web management interfaces, along with CLI, SNMP and Dual Image mean faster setup and configuration with less downtime. TP-Link | Omada Pro L2+ 10-gigabit managed switches provide a reliable, secure solution for enterprise, campus and ISP networks.

## **Switch Product Features**

### **Networking Security**

The L2+ managed switches provide IP-MAC-Port Binding, Port Security, Storm control and DHCP Snooping which protect against broadcast storms, ARP attacks, etc. It integrates some typical DoS attacks to select. You can protect these attacks more easily ever than before. In addition, the Access Control Lists (ACL, L2 to L4) feature restricts access to sensitive network resources by denying packets based on source and destination MAC address, IP address, TCP/UDP ports and even VLAN ID. Moreover, the switch supports 802.1X authentication, which is used in conjunction with a RADIUS/TACACS+ server to require some authentication information before access to the network is allowed.

#### Advanced QoS features

To integrate voice, data and video service on one traffic based on a variety of means including IP or MAC address, TCP or UDP port number, etc. to ensure that voice and video are always clear, smooth and jitter free. In conjunction with the Voice VLAN the switch supporting, the voice applications will operate with much smoother performance.

#### Abundant L2+ features

The L2+ managed switches support a complete lineup of L2 features, including 802.1Q VLAN, Port Mirroring, STP/RSTP/MSTP, Link Aggregation Control Protocol and 802.3x Flow Control function. Any more, the switch provides advanced features for network maintenance. Such as Loopback 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, L2+ managed 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.

#### **ISP** Features

The L2+ managed switches support a bundle of ISP features such as 802.3ah OAM, DDM, sFlow, QinQ, L2PT PPPoE ID Insertion, IGMP authentication etc. 802.3ah OAM and Device Link Detection Protocol (DLDP) functions improve monitor and troubleshoot Ethernet networks, help facilitate network management. DDM(Digital Diagnostic Monitoring) function helps view the status of SFP modules inserting to the Switch and to configure alarm settings, warning settings, temperature threshold settings, voltage threshold settings, bias current threshold settings, TX power threshold settings, and Rx power threshold settings.

### Enterprise Level Management Features

TP-Link | Omada Pro L2+ managed switches are easy to use and manage. It supports various user-friendly standard management features, such as intuitive web-based Graphical User Interface (GUI), industry-standard Command Line Interface (CLI), SNMP (v1/v2c/v3), and RMON. This allows the switch to provide valuable status information and send reports on abnormal events. It also supports Dual Image and Dual Configuration to provide improved reliability and network uptime.

### IPv6 Support

The L2+ managed switches support various IPv6 functions such as Dual IPv4/IPv6 Stack, MLD Snooping, IPv6 ACL, DHCPv6 Snooping, IPv6 Interface, Path Maximum Transmission Unit (PMTU) Discovery and IPv6 Neighbor Discovery, which guarantees your network is ready for the Next Generation Network (NGN) without upgrading your network equipment.

# Specifications

Hardware F	eatures & Performar	nce	
Product Picture		Open John III - III - III	
	Model	S5500-8XF	S5500-16XF
	Interface	8 10GE SFP+ Slots	16 10GE SFP+ Slots
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port	
General	Flash	32 MB	
	DRAM	256 MB	
	Port Standard	IEEE 802.3z: 1000BASE-X Gigabit Ethernet IEEE 802.3ae: 10 Gigabit Ethernet over fibe	
	Switching Capacity	160 Gbps	320 Gbps
	Packet Forwarding Rate	119.04 Mpps	238.08 Mpps
	MAC Address Table	32K	
	Packet Buffer	16 Mbit	24 Mbit
Performance	Transmission Method	Store and Forward	
	Number of IP Interfaces	128	
	Number of Static Routers	48 (IPv4, IPv6)	
	Jumbo Frame	9 KB	
	Dual Redundant Power Supply	-	2 Fixed AC Power Supply
	Power Supply	100-240 V AC~50/60 Hz	
	Max Power Consumption	15.46 W (220 V/50 Hz)	32.74 W (220 V/50 Hz)
	Max Heat Dissipation	52.75 BTU/hr (220 V/50 Hz)	111.71 BTU/hr (220 V/50 Hz)
Physical &	Standby Power Consumption	5.91 W (110 V/60 Hz)	13.33 W (110 V/60 Hz)
Environment	Dimensions (W x D x H)	17.3 × 7.1 × 1.7 in (440 × 180 × 44 mm)	17.3 × 8.7 × 1.7 in (440 × 220 × 44 mm)
	Fan Quantity	Fanless	1
	Installation	Rack Mountable	
	Operating Temperature	0 °C to 45 °C (32 °F to 113 °F)	
	Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)	
	Operation Humidity	10% to 90% RH, non-condensing	
	Storage Humidity	5% to 90% RH, non-condensing	
	Certification	CE, FCC, RoHS	

Hardware Features & Performance			
Product Picture		Power addition 1 to 1	
Model		S5500-8MHP2XF	
	Interface	8 100/1000Mbps/2.5Gbps RJ45 Ports 2 10GE SFP+ Slots	
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port	
	Flash	32 MB	
General	DRAM	128 MB	
	Port Standard	IEEE 802.3u:100BASE-X Fast Ethernet IEEE 802.3ab:1000BASE-T Gigabit Ethernet IEEE 802.3bz:2.5GBASE-T Ethernet IEEE 802.3z:1000BASE-X Gigabit Ethernet (Optical fiber) IEEE 802.3ae: 10 Gigabit Ethernet over fiber	
	PoE Standard	802.3af/at	
PoE	PoE Ports	8, up to 30 W	
	PoE Power Budget	240 W	
	Switching Capacity	80 Gbps	
	Packet Forwarding Rate	59.52 Mpps	
	Packet buffer	12 Mbit	
	MAC Address Table	16 K	
Performance	Transmission Method	Store and Forward	
	Number of IP Interfaces	32	
	Number of Static Routers	48 (IPv4, IPv6)	
	Jumbo Frame	9 KB	
	Power Supply	100-240 V AC~50/60 Hz	
	Max Power Consumption	285.9 W (110V/60Hz) (with 240 W PD connected)	
	Max Heat Dissipation	975.54 BTU/hr (110V/60Hz) (with 240 W PD connected)	
	Standby Power Consumption	15.6 W (110V/60 Hz)	
Physical &	Dimensions (W x D x H)	17.3 × 7.1 × 1.7 in (440 × 180 × 44 mm)	
Environmet	Fan Quantity	2	
	Installation	Rack Mountable	
	Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)	
	Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)	
	Operation Humidity	10% to 90% RH, non-condensing	
	Storage Humidity	5% to 90% RH, non-condensing	
	Certification	CE, FCC, RoHS	

Hardware Features & Performance			
Product Picture		Publick   Omada EEE	
Model		S5500-24F4XF	
	Interface	20 Gigabit SFP Slots 4 Gigabit RJ45/SFP Combo Ports 4 10GE SFP+ Slots	
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port	
	Flash	32 MB	
General	DRAM	256 MB	
	Port Standard	IEEE 802.3i:10BASE-T Ethernet; IEEE 802.3u:100BASE-X Fast Ethernet; IEEE 802.3ab:1000BASE-T Gigabit Ethernet; IEEE 802.3z:1000BASE-X Gigabit Ethernet (Optical fiber) IEEE 802.3ae: 10 Gigabit Ethernet over fiber	
	Switching Capacity	128 Gbps	
	Packet Forwarding Rate	95.23 Mpps	
	MAC Address Table	16K	
	Transmission Method	Store and Forward	
Performance	Packet Buffer	12 Mbit	
	Number of IP Interfaces	128	
	Number of Static Routers	48 (IPv4, IPv6)	
	Jumbo Frame	9 KB	
	Power Supply	100-240 V AC~50/60 Hz	
	Dual Redundant Power Supply	2 Fixed AC Power Supply	
	Max Power Consumption	35.7 W (110V/60Hz)	
	Max Heat Dissipation	121.81 BTU/hr (110 V/60 Hz)	
Physical &	Standby Power Consumption	17.6 W (110V/60 Hz)	
Environmet	Dimensions (W x D x H)	17.3 × 8.7 × 1.7 in (440 × 220 × 44 mm)	
	Fan Quantity	1	
	Installation	Rack Mountable	
	Operating Temperature	0 °C to 45 °C (32 °F to 113 °F)	
	Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)	
	Operation Humidity	10% to 90% RH, non-condensing	
	Storage Humidity	5% to 90% RH, non-condensing	
	Certification	CE, FCC, RoHS	

S5500-480	GP4XF			
Product Picture		Final Company (Company Company		
Model		S5500-24GP4XF	S5500-48GP4XF	
	Interface	24 10/100/1000Mbps RJ45 Ports 4 10GE SFP+ Slots	48 10/100/1000Mbps RJ45 Ports 4 10GE SFP+ Slots	
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port		
	Flash	32 MB		
General	DRAM	256 MB	512 MB	
	Port Standard	IEEE 802.3i:10BASE-T Ethernet; IEEE 802.3u:100BASE-X Fast Ethernet; IEEE 802.3ab:1000BASE-T Gigabit Ethernet; IEEE 802.3z:1000BASE-X Gigabit Ethernet (Optical fiber) IEEE 802.3ae: 10 Gigabit Ethernet over fiber		
	PoE Standard	802.3af/at		
PoE	PoE Ports	24, up to 30 W	48, up to 30 W	
	PoE Power Budget	384 W	500 W	
	Switching Capacity	128 Gbps	176 Gbps	
	Packet Forwarding Rate	95.23 Mpps	130.94 Mpps	
	MAC Address Table	16 K		
	Transmission Method	Store and Forward		
Performance	Packet Buffer	12 Mbit		
	Number of IP Interfaces	16	128	
	Number of Static Routers	48 (IPv4, IPv6)		
	Jumbo Frame	9 KB		
	Power Supply	100-240 V AC~50/60 Hz		
	Max Power Consumption	30.43 W (110W60Hz) (no PD connected) 486.2 W (110W60Hz) (with 384 W PD connected)	49.19 W (110W60Hz) (no PD connected) 635.70 W (110W60Hz) (with 500 W PD connected)	
	Max Heat Dissipation	103.77 BTU/hr (110 V/60 Hz) (no PD connected) 1658.78 BTU/hr (110 V/60 Hz) (with 384 W PD connected)	167.85 BTU/hr (110 V/60 Hz) (no PD connected) 2169.2 BTU/hr (110 V/60 Hz) (with 500 W PD connected)	
	Standby Power Consumption	17.6 W (110V/60 Hz)	28.61 W (110 V/60 Hz)	
Physical & Environmet	Dimensions (W x D x H)	17.3 × 13.0 × 1.7 in (440 × 330 × 44 mm)		
Environmet	Fan Quantity	2	3	
	Installation	Rack Mountable		
	Operating Temperature	0 °C to 45 °C (32 °F to 113 °F)	0 °C to 40 °C (32 °F to 104 °F)	
	Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)		
	Operation Humidity	10% to 90% RH, non-condensing		
	Storage Humidity	5% to 90% RH, non-condensing		
	Certification	CE, FCC, RoHS		

Software Features	3	
Model	S5500-8XF/S5500-16XF/S5500-8MHP2XF/S	5500-24F4XF / S5500-24GP4XF / S5500-48GP4XF
SDN Support	<ul><li>Support Omada Pro Controller</li><li>Automatic Device Discovery</li><li>Batch Configuration</li><li>Batch Firmware Upgrading</li></ul>	<ul><li>Intelligent Network Monitoring</li><li>Abnormal Event Warnings</li><li>Unified Configuration</li><li>Reboot Schedule</li></ul>
L3 Features	<ul> <li>16 IPv4/IPv6 Interfaces (32 IPv4/IPv6 Interfaces for S5500-8MHP2XF)</li> <li>Static Routing - 48 static routes</li> <li>Static ARP - 128 static entries</li> <li>512 ARP Entries</li> </ul>	<ul> <li>Proxy ARP</li> <li>Gratuitous ARP</li> <li>DHCP Server</li> <li>DHCP Relay</li> <li>DHCP interface relay</li> <li>DHCP VLAN relay</li> <li>DHCP L2 Relay</li> </ul>
L2 Features	Link Aggregation Static link aggregation 802.3ad LACP Up to 8 aggregation groups and up to 8 ports per group Spanning Tree Protocol 802.1d STP 802.1w RSTP 802.1s MSTP STP Security: TC Protect, BPDU Filter, BPDU Protect, Root Protect, Loop Protect	<ul> <li>Loopback Detection</li> <li>Port based</li> <li>VLAN based</li> <li>Flow Control</li> <li>802.3x Flow Control</li> <li>HOL Blocking Prevention</li> <li>Mirroring</li> <li>Port Mirroring</li> <li>CPU Mirroring</li> <li>One-to-One</li> <li>Many-to-One</li> <li>Tx/Rx/Both</li> </ul>
L2 Multicast	Supports 1000 (IPv4, IPv6) IGMP groups (511 groups for S5500-8MHP2XF)  IGMP Snooping IGMP v1/v2/v3 Snooping Fast Leave IGMP Snooping Querier IGMP Authentication  IGMP Authentication  MVR	<ul> <li>MLD Snooping</li> <li>MLD v1/v2 Snooping</li> <li>Fast Leave</li> <li>MLD Snooping Querier</li> <li>Static Group Config</li> <li>Limited IP Multicast</li> <li>Multicast Filtering: 256 profiles and 16 entries per profile</li> </ul>
VLAN	VLAN Group (802.1q VLAN)  - Max 4K VLAN Groups  802.1Q Tagged VLAN  MAC VLAN entries: 30 (256 for S5500-8MHP2XF)  Protocol VLAN: Protocol Template 16, Protocol VLAN 16 (Protocol Template 16 and Protocol VLAN 12 for S5500-8XF and S5500-16XF)	<ul> <li>Private VLAN (except for S5500-8MHP2XF)</li> <li>GVRP</li> <li>VLAN VPN</li> <li>VLAN Mapping</li> <li>VLAN Replace</li> <li>Voice VLAN</li> <li>OUI-based VLAN</li> </ul>
QoS	<ul> <li>8 priority queues</li> <li>802.1p CoS/DSCP priority</li> <li>Queue scheduling</li> <li>SP (Strict Priority)</li> <li>WRR (Weighted Round Robin)</li> <li>SP+WRR</li> </ul>	<ul> <li>Bandwidth Control</li> <li>Port/Flow based Rating Limiting</li> <li>Smoother Performance</li> <li>Action for Flows</li> <li>QoS remark (802.1P Remark, DSCP Remark)</li> </ul>

Software Features	5	
Model	S5500-8XF / S5500-16XF / S5500-8MHP2XF	/ S5500-24F4XF / S5500-24GP4XF / S5500-48GP4XF
ACL	• MAC ACL - Source MAC - Destination MAC - VLAN ID - User Priority - Ether Type • IP ACL - Source IP - Destination IP - Fragment - IP Protocol - TCP Flag	- TCP/UDP Port - DSCP/IP TOS • Combined ACL • IPv6 ACL • Policy - Mirroring - Redirect - Rate Limit - QoS Remark • ACL apply to Port/VLAN • Time-based ACL
Security	IP-MAC-Port Binding  -512 Entries  - DHCP Snooping  - ARP Inspection  - IPv4 Source Guard  IPv6-MAC  -Port Binding  -512 Entries  - DHCPv6 Snooping  - ND Detection  - ND Snooping  - IPv6 Source Guard  DOS Defend  DHCP Filter  Static/Dynamic Port Security  - Up to 64 MAC addresses per port  Broadcast/Multicast/Unknown-unicast Storm Control  - kbps/ratio/pps control mode	<ul> <li>802.1X</li> <li>Port base authentication</li> <li>Mac base authentication</li> <li>VLAN Assignment</li> <li>MAB</li> <li>Guest VLAN</li> <li>Support RADIUS authentication and accountability</li> <li>AAA (including TACACS+)</li> <li>Port Isolation</li> <li>Secure web management through HTTPS with SSLv3/TLS 1.2</li> <li>Secure Command Line Interface (CLI) management with SSHv1/SSHv2</li> <li>IP/Port/MAC based access control</li> </ul>
ISP Features	802.3ah Ethernet Link OAM     L2PT (Layer 2 Protocol Tunneling)     PPPoE ID Insertion     ERPS	<ul><li>Device Link Detect Protocol (DLDP)</li><li>sFlow</li><li>DDM</li></ul>
Management	Web-based GUI Command Line Interface (CLI) through consoleport, telnet SNMPv1/v2c/v3 Trap/Inform RMON (1, 2, 3, 9 groups) SDM Template DHCP/BOOTP Client 802.1ab LLDP/LLDP-MED	<ul> <li>DHCP Auto Install</li> <li>Dual Image, Dual Configuration</li> <li>CPU Monitoring</li> <li>Cable Diagnostics</li> <li>EEE* (\$5500-8XF and \$5500-16XF do not support this feature)</li> <li>Password Recovery</li> <li>SNTP</li> <li>System Log</li> <li>Remote Packet Capture</li> </ul>

Software Features	3	
Model	S5500-8XF/S5500-16XF/S5500-8MHP2XF/S5500-24F4XF/S5500-24GP4XF/S5500-48GP4XF	
IPv6 Support	IPv6 Dual IPv4/IPv6  Multicast Listener Discovery (MLD) Snooping  IPv6 ACL  IPv6 Interface  Static IPv6 Routing  IPv6 neighbor discovery (ND)  Path maximum transmission unit (MTU) discovery  Internet Control Message Protocol (ICMP)  version 6  TCPv6/UDPv6	<ul> <li>IPv6 applications</li> <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>
MIBs	<ul> <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> <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 MIB</li> </ul>

# Ordering Information

Host Switch		
Model	Description	
S5500-8XF	Omada Pro 8-Port SFP+ L2+ Managed Switch	
S5500-16XF	Omada Pro 16-Port SFP+ L2+ Managed Switch	
S5500-8MHP2XF	Omada Pro 8-Port PoE+ 2.5G L2+ Managed Switch with 2 SFP+ Slots	
S5500-24F4XF	Omada Pro 24-Port SFP L2+ Managed Switch with 4 SFP+ Slots	
S5500-24GP4XF	Omada Pro 24-Port PoE+ Gigabit L2+ Managed Switch with 4 SFP+ Slots	
S5500-48GP4XF	Omada Pro 48-Port PoE+ Gigabit L2+ Managed Switch with 4 SFP+ Slots	

SFP/SFP+ Module	S
Model	Description
SM311LS	Gigabit SFP module, Single-mode, LC interface, Up to 20km distance
SM311LM	Gigabit SFP module, Multi-mode, LC interface, Up to 550m distance
SM321A	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1550 nm/RX: 1310 nm, 20 km
SM321A-2	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1550 nm/RX: 1310 nm, 2 km
SM321B	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1310 nm/RX: 1550 nm, 20 km
SM321B-2	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1310 nm/RX: 1550 nm, 2 km
SM5110-LR	10GBase-LR SFP+ LC Transceiver, single-mode, LC connector, 1310nm, 10 km
SM5110-SR	10GBase-SR SFP+ LC Transceiver, multi-mode, LC connector, 850nm, 300 m

RJ45 SFP/SFP+ Modules		
Model	Description	
SM331T	1000BASE-T RJ45 SFP Module	
SM5310-T	10GBASE-T RJ45 SFP+ Module	

MC Series Media Converter		
Model	Description	
MC210CS	Gigabit Single-Mode Media Converter, up to 20 km, chassis mountable	
MC200CM	Gigabit multi-mode SC SFP Transceiver, up to 550 m, chassis mountable	
MC200L	Gigabit SFP slot supporting mini-GBIC modules, chassis mountable	
MC1400	14-slot power supply chassis for MC Series Media Converter, 19-inch rack-mountable	

FC Series Media Converter		
Model	Description	
FC111A-20	100Mbps Single-Mode WDM Media Converter, up to 20 km, TX:1550nm, RX:1310nm, chassis mountable	
FC111B-20	100Mbps Single-Mode WDM Media Converter, up to 20 km, TX:1310nm, RX:1550nm, chassis mountable	
FC311A-2	Gigabit Single-Mode WDM Media Converter, up to 2 km, TX:1550nm, RX:1310nm, chassis mountable	
FC311B-2	Gigabit Single-Mode WDM Media Converter, up to 2 km, TX:1310nm, RX:1550nm, chassis mountable	
FC311A-20	Gigabit Single-Mode WDM Media Converter, up to 20 km, TX:1550nm, RX:1310nm, chassis mountable	
FC311B-20	Gigabit Single-Mode WDM Media Converter, up to 20 km, TX:1310nm, RX:1550nm, chassis mountable	
FC1400	14-slot power supply chassis for FC Series Media Converter, 19-inch rack-mountable	

Some models featured in this guide may be unavailable in your country or region. Visit TP-Link website for local sales information: www. tp-link.com.

PoE budget calculations are based on laboratory testing. Actual PoE power budget is not guaranteed and will vary as a result of client limitations and environmental factors.

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