2 YEAR
EXCLUSIVE WARRANTY

All ports PoE+ with up to 760W PoE budget
and Remote Management option
Select your new network engine!

As a leading provider of network equipment for SMBs, Benchu group understands the importance of providing a great choice of PoE port counts and power budgets that can adapt to your business' needs, whether in the hospitality, catering, education or retail domains.

The SP7500-48PGE4GF-L2M and SP7500-48PGE4GF-L2M-800W Gigabit Ethernet Switches with PoE+ and 4 SFP Ports join the Benchu group Standalone Smart Switches family, adding full 48 port PoE+

support for deployment of modern high-power PoE devices. Cautious spender organizations can now deploy denser PoE+ devices connected to a cost-effective switch, with a reasonable PoE power budget of 460W over 48-port. Organizations who buy infrastructure for the long term and want future proofing for the unforeseeable can now select a switch with a PoE power budget of 760W over 48-port providing more headroom.

Support 4 Ports 1.25G SFP Uplink，provides greater bandwidth and powerful processing capacity. It offers a maximum 5Gbps uplink bandwidth through the Four 1.25Gbps SFP ports. In addition, the administrator can flexibly choose the suitable SFP transceiver according to the transmission distance or the transmission speed required to extend the network efficiently.

Highlights

The Benchu group PoE+ gigabit smart switches with remote management provides a great value, with configurable L3 network features like VLANs and PoE operation scheduling, allowing SMB customers to deploy PoE-based VoIP phones, IP cameras, video-over-IP endpoints and Wireless access points simply and securely. Advanced features such as IPv4/IPv6 Layer 3 static routing, LACP link aggregation, DiffServ QoS, Private VLANs, Multicast VLAN and Spanning Tree will satisfy even the most advanced small business networks.

Key features include:

- Layer 3 static routing (IPv4 and IPv6)

- IPv4 / IPv6 Dual stack and switch virtual interfaces (SVIs)

- Advanced VLAN and Private VLAN support for better network segmentation

- L2/L3/L4 access control lists (ACLs) for granular network access control including 802.1x port authentication

- Advanced per port PoE controls for remote power management of PoE connected devices including operation scheduling (e.g. Wireless APs, IP security cameras, LED lighting, secure access door locks, IoT devices…)

- Advanced QoS (Quality of Service) for traffic prioritization including port-based, 802.1p and L2/L3/L4 DSCP-based

- Auto "denial-of-service" (DoS) prevention

- IGMP Snooping and Querier for multicast optimization

- Dynamic ARP for increased security targeting a class of Man in the Middle attack

- Rate limiting and priority queuing for better bandwidth allocation

- Port mirroring for network monitoring

- Energy Efficient Ethernet (IEEE 802.3az) for maximum power savings

- SNMP v1, v2c and RMON remote monitoring

Build a future-proof network with BENCHU:

- Solid performance with non-blocking architecture, 32K MAC addresses, 100 shared (ingress) ACLs and 512 Multicast groups

- Comprehensive IPv6 supporting management, QoS, ACL and routing, ensuring investment protection and a smooth migration to IPv6-based network

- PoE+ support on all models and on all ports

- 4 Dedicated SFP, not only providing fiber uplinks, but also uplink redundancy and failover, improving reliability and availability for the network

Four Gigabit High-speed SFP Fiber Uplink

- The swith with four SFP uplink ports with 1.25G adjustable transfer rate to ensure high-speed data and video transmission, reliable assurance for connection between the surveillance system and outside network.The SFP slot meaning the administrator now can flexibly choose the suitable SFP transceiver based on the transmission distance or the transmission speed required to extend the network efficiently. The distance can be extended from 100 meters to 300 meters (multi-mode fiber) and 10/20/30/40/50/60/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications to uplink to backbone switch in long distance and high-speed.

BENCHU Quality and Reliability

- Low power consumption, with fan.
- high redundancy design, providing a long termand stable PoE power output.
- CE, FCC, RoHS,CB.
- The user-friendly panel can show the device status through the LED indicator of PWR, Link.

Easy operation and maintenance management

- Web management, CLI command line (Console, Telnet), SNMP (V1/V2).
- HTTPS, and SSHV1/V2.
- RMON, system log, LLDP, and port traffic statistics.
- CPU monitoring, memory monitoring, Ping test, and cable diagnose.

Hardware at a Glance

FRONT					REAR	SIDE
Model Name	10/100/1000Base-T RJ45 ports	1.25GBASE-X Fiber SFP Ports	PoE+ 802.3at Ports	Power Budget	Power Supply	Fans
SP7500-48PGE4GF-L2M	48	4	48 PoE+	500W	1 internal PSU, fixed	2 internal fans, fixed
SP7500-48PGE4GF-L2M-800W	48	4	48 PoE+	800W	1 internal PSU, fixed	2 internal fans, fixed

Software at a Glance

LAYER 2+ / LAYER 3 LITE FEATURES							
Management	IPv4/IPv6 ACL and QoS	IPv4/IPv6 Multicast Filtering	G.8032 ERPS STP/RSTP/MSTP	IEEE (802.3az) Energy Efficient Ethernet	VLANs	Convergence	IPv4 & IPv6 Static Routing RIP/OSPF/VRRP
Web Browser-based GUI (HTTP/HTTPS), PC-Based Smart Control Center Utility (SCC) , RMON, SNMP	L2, L3, L4, ingress	IGMP and MLD Snooping	Yes	Yes	Static Dynamic, Voice, MAC, Protocol-based	LLDP-MED, RADIUS, 802.1X	Yes

Performance at a Glance

| Model Name	Packet buffer	CPU	ACLs	MAC Address Table ARP Table VLANs	Fabric	Latency (Max Connection Speed)	Static Routes (IPv4 & IPv6)	Multicast IGMP Group
SP7500-48PGE4GF-L2M	16MB	Realtek	100 shared	32K MAC 1024 ARP 4K VLANs QinQ	360Gbps 131Mpps line-rate	1G Copper: <3.35µs 1G Fiber: <2.96µs	IPv4: 100 IPv6: 100	512
SP7500-48PGE4GF-L2M-800W								

Features and Benefits

Hardware Features	
1000BASE-T Copper Ethernet PoE+ connections	Support high-density VoIP, Surveillance and Wi-Fi AP deployments, scal-able for future growth. Never face the risk of running out of PoE ports.
1.25GBASE-X Fiber SFP ports	Four dedicated 1.25G SFP ports for aggregation to the network core. Support for Fiber and Copper modules. Can also build dual redundancy by a trunked uplink with link aggregation.
Great choice of PoE port counts and PoE power budgets that can adapt to the business's needs	460W or 760W PoE budget available across 48 Gigabit PoE+ ports (802.3at) – Connect multiple power demanding devices to your network with a single wire for power and connectivity.
Energy Efficient Ethernet (IEEE 802.3az)	Maximum power reduction for onging operational cost savings.
Software Features	
Comprehensive IPv6 Support for Management, ACL and QoS	Build current network with future in mind. Ensure investment protection and a smooth migration to an IPv6-based network without switch replacement.
IPv4 & IPv6 Static Routing	A simple way to provide segmentation of the network with internal routing through the switch – reserving the router for external traffic routing only, making the entire network more efficient.
Robust security features: • 802.1x authentication (EAP) • Port-based security by locked MAC • ACL filtering to permit or deny traffic based on MAC and IP addresses	Build a secured, converged network with all types of traffic by preventing external attacks and blocking malware while allowing secure access for authorized users.
Comprehensive QoS features: • Port-based or 802.1p-based prioritization • Layer 3-based (DSCP) prioritization • Port-based ingress and egress rate limiting	Advanced controls for optimized network performance and better delivery of mission-critical traffic such as voice and video.
IGMP (IPv4) and MLD (IPv6) Snooping and Querier modes with Fast Leave	Facilitate fast receiver joins and leaves for multicast streams. Save cost and improve network efficiency by ensuring multicast traffic only reaches desig-nated receivers without the need of an extra multicast router.

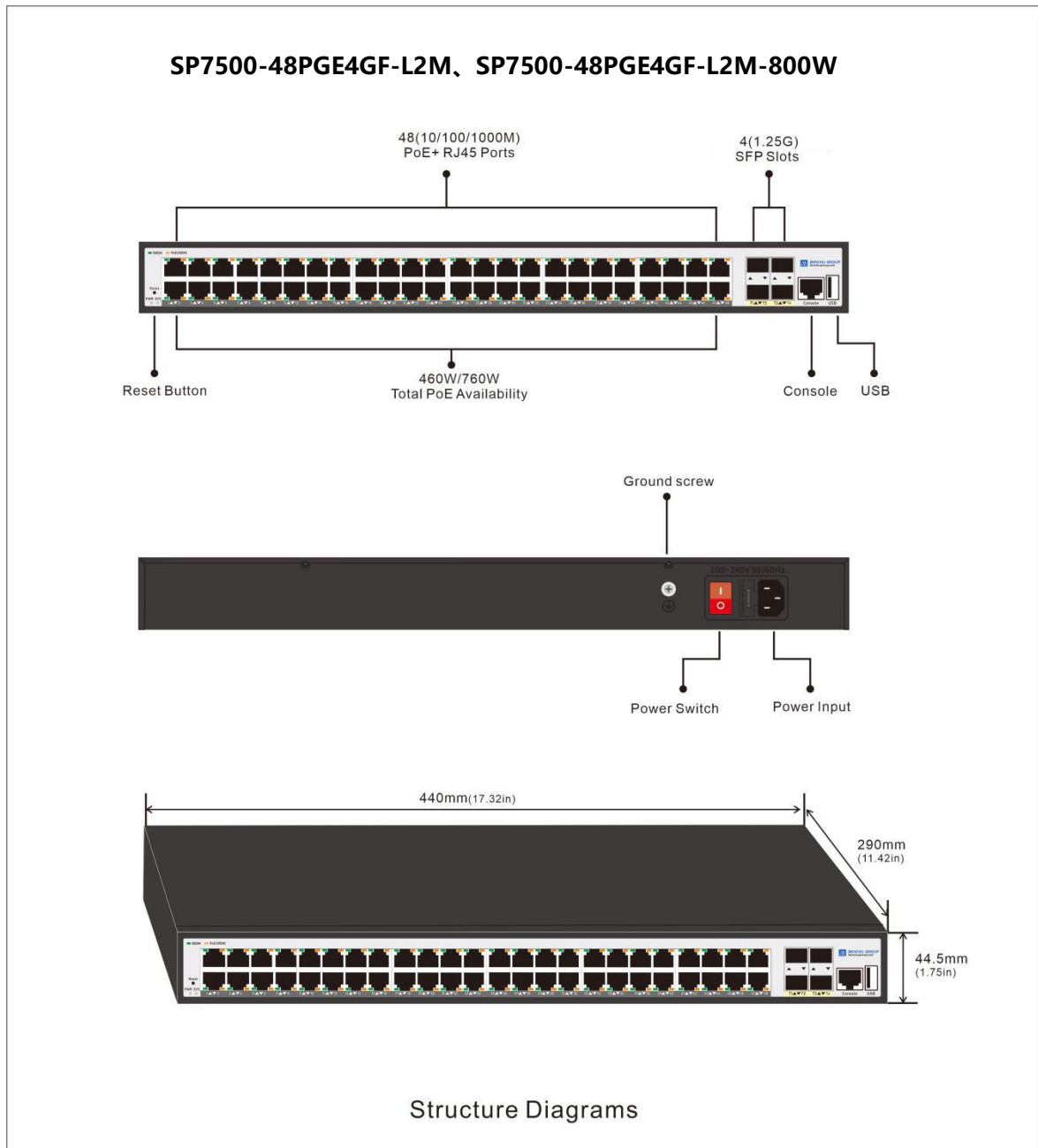| Software Features (continued)	
Protected Ports	Ensure no exchange of unicast, broadcast, or multicast traffic between the protected ports on the switch, thereby improving the security of your converged network. This allows your sensitive phone conversations to stay private and your surveillance video clips can be forwarded to their designated storage device without leakage or alteration.
DHCP Snooping and Dynamic ARP Inspection	Ensure IP address allocation integrity by only allowing DHCP messages from trusted DHCP servers and dropping malformed DHCP messages with a port or MAC address mismatch. Use the DHCP snooping bindings database per port and per VLAN to drop incoming packets that do not match any binding and to enforce source IP/MAC addresses for malicious users traffic elimination.
Dynamic VLAN Assignment (RADIUS)	IP phones and PCs can authenticate on the same port but under different VLAN assignment policies. Users are free to move around and enjoy the same level of network access regardless of their physical location on the network.

Target Application

Network Convergence
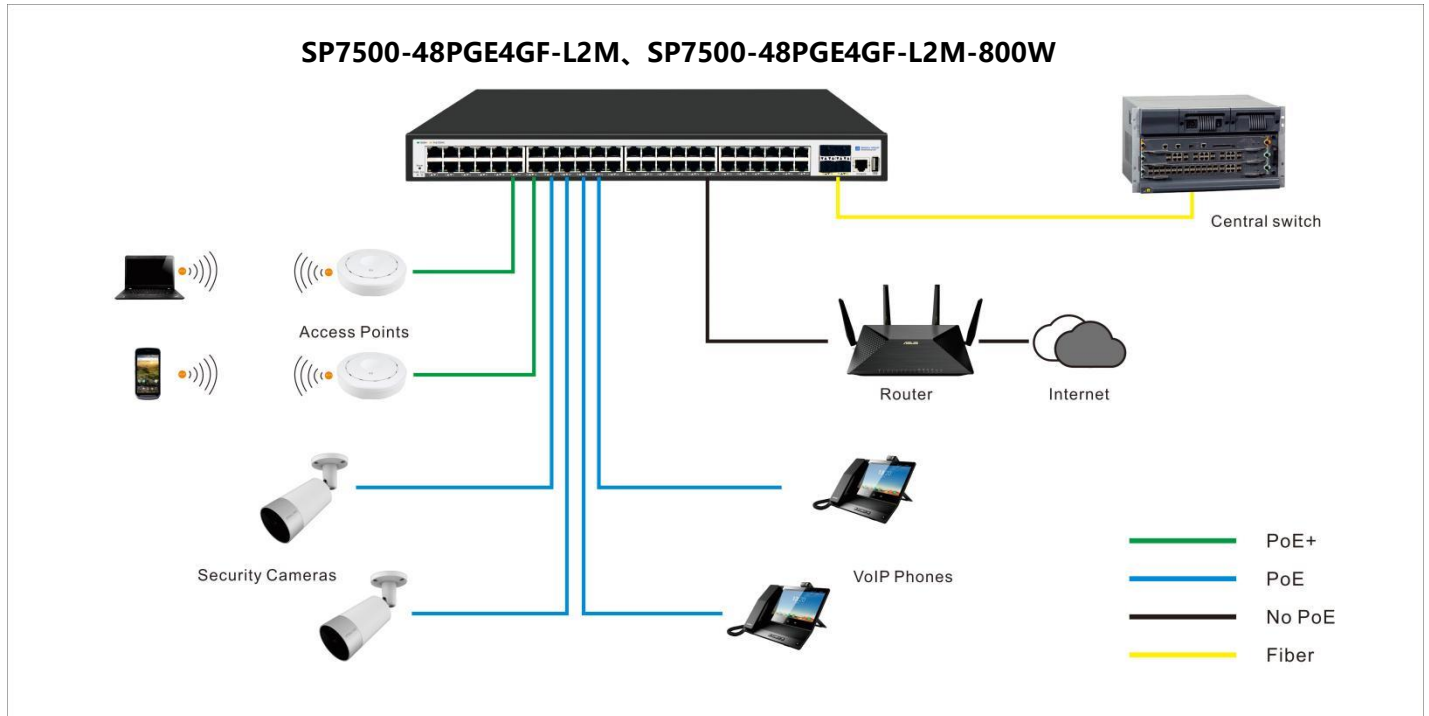
Within small and medium-sized organizations — especially in the hospitality, catering, education, and retail industries — there is growing deployment of VoIP phones, IP security cameras, video-over-IP endpoints, proximity sensors, LED lighting, secure access door locks, and other IoT devices. The dense proximity of these devices requires network switches capable of supporting PoE so a network manager can add power-hungry devices to the network with a single wire for power AND connectivity. Wave 2 802.11ac wireless access points and pan-tilt-zoom HD surveillance cameras with features such as night vision and built-in motion tracking also require PoE+ power (802.3at), increasing the power demands on PoE switches.

The new 48-port BENCHU GROUP Smart Switches support dense deployments of these modern high-power PoE+ devices. They offer powerful Layer 2 and Layer 3 features for IPv4 and IPv6 with enhanced performance and a focus on usability within SMB environments:

- 460W (SP7500-48PGE4GF-L2M) or 760W (SP7500-48PGE4GF-L2M-800W) PoE budget across 48 Gigabit PoE+ ports
- 4 dedicated 1.25G SFP fiber ports for aggregation to the network core
- Layer 3 static routing (IPv4 and IPv6) for interVLAN local routing
- Layer 3 RIPv1、v2, OSPFv1、v2, VRRP for multiple routing
- IGMP Snooping, IGMP Querier and IGMP Fast Leave for multicast optimization
- ERPS(G.8032) STP/FSTP/MSTP for Ring network and Link protection
- Include VLANs, PoE scheduling, ACLs, DiffServ, LACP, MVR and DHCP
- Easy-to-use Web browser-based management GUI — No need for an IT expert
- Limited Lifetime* Warranty, Tech support

Structure Diagrams

SP7500-48PGE4GF-L2M、SP7500-48PGE4GF-L2M-800W

48(10/100/1000M)
PoE+ RJ45 Ports

4(1.25G)
SFP Slots

Reset Button

460W/760W
Total PoE Availability

Console   USB

Ground screw

100-240V 50/60Hz

Power Switch   Power Input

440mm(17.32in)

290mm
(11.42in)

44.5mm
(1.75in)

Structure Diagrams

Technical Specifications	SP7500-48PGE4GF-L2M	SP7500-48PGE4GF-L2M-800W
10M/100M/1G RJ-45 copper ports	48	48
PoE / PoE+ ports	48 PoE+ (460W PoE budget)	48 PoE+ (760W PoE budget)
1.25G SFP (fiber) ports	4 (dedicated)	4 (dedicated)
Console Port (For config)	Yes	Yes
USB port (for config file upload/backup & firm-ware updates)	Yes	Yes
Performance Specification		
CPU	Realtek	
Packet buffer memory (Dynamically shared across only used ports)	16 MB	
Forwarding modes	Store-and-forward	
Bandwidth	360 Gbps	
Priority queues	8	
MAC address database size (48-bit MAC ad-dresses)	32K	
Multicast groups	1K	
Number of IPv4 static routes	100	
Number of IPv6 static routes	100	
Number of VLANs	4094	
Number of VLANs(Open QinQ)	16,760,836(4094*4094)	
Number of ARP cache entries	1024 ARP	
Number of DHCP snooping bindings	512	
Access Control Lists (ACLs)	100 shared for MAC, IP and IPv6 ACLs (ingress)	
Packet forwarding rate (64 byte packet size) (Mpps)	131	131
Jumbo frame support (bytes)	Up to 12K packet size	
Mean Time Between Failures (MTBF) @ 25°C	137,411 hours	117,549 hours
100M Copper Latency (64-byte; 1518-byte; 9216-byte frames)	8.314µs; 8.612µs; 8.451µs	8.314µs; 8.612µs; 8.451µs
1G Copper Latency (64-byte; 1518-byte; 9216-byte frames)	3.614µs; 3.545µs; 3.628µs	3.614µs; 3.545µs; 3.628µs
1G Fiber Latency (64-byte; 1518-byte; 9216-byte frames)	2.980µs; 3.101µs; 3.179µs	2.980µs; 3.101µs; 3.179µs

L2 Services - VLANs	SP7500-48PGE4GF-L2M	SP7500-48PGE4GF-L2M-800W
IEEE 802.1Q VLAN tagging	Yes	
QinQ VLAN tagging	Yes	
IP-based VLANs	Yes	
MAC-based VLANs	Yes	
Protocol-based VLAN	Yes	
Voice VLAN	Yes	
VLAN mapping	Yes	
L2 Services - Availability		
Broadcast, multicast, unknown unicast storm control	Yes	
IEEE 802.3ad - LAGs (LACP)	Yes	
IEEE 802.3x (full duplex and flow control)	Yes	
IEEE 802.1D Spanning Tree Protocol	Yes	
IEEE 802.1w Rapid Spanning Tree Protocol	Yes	
IEEE 802.1s Multiple Spanning Tree Protocol	Yes	
ITU-TG.8032 (ERPS)	Yes, Recovery time < 50ms	
L2 Services - Multicast Filtering		
IGMP snooping (v1, v2 and v3)	Yes	
MLD snooping support (v1 and v2)	Yes	
IGMP snooping querier (v2)	Yes	
MLD snooping querier (v1)	Yes	
Multicast VLAN Registration (MVR)	Yes	
L3 Services - DHCP		
DHCP client	Yes	
DHCP snooping	Yes	
DHCP Server	Yes	
L3 Services - Routing		
IPv4 static routing	Yes	
IPv6 static routing	Yes	

Link Aggregation	SP7500-48PGE4GF-L2M	SP7500-48PGE4GF-L2M-800W
IEEE 802.3ad - LAGs (LACP)	Yes	
Manual LAG	Yes	
# of LAGs / # of members in each LAG	8 LAGs with max 8 members in each LAG	
Network Monitoring and Discovery Services		
802.1ab LLDP	Yes	
SNMP	v1, v2c, v3	
RMON group 1,2,3,9	Yes	
Network Security		
IEEE 802.1x	Yes	
RADIUS accounting	Yes	
Access Control Lists (ACLs)	Yes	
IP-based ACLs (IPv4 and IPv6)	L2 / L3 / L4	
MAC-based ACLs	Yes	
TCP/UDP-based ACLs	Yes	
Control MAC # static entries	48	
Port-based security by locked MAC addresses	Yes	
Dynamic ARP inspection	Yes	
Broadcast, unicast, multicast DoS protection	Yes	
DoS attacks prevention	Yes	
Network storm protection, DoS	Yes	
Broadcast, unicast, multicast DoS protection	Yes	
DoS attacks prevention	Yes	
Quality of Service (QoS)		
Port-based rate limiting	Yes ingress and egress	
Port-based QoS	Yes	
Support for IPv6 fields	Yes	
DiffServ QoS	Yes ingress	
IEEE 802.1p COS	Yes	
Destination MAC and IP	Yes	
IPv4 and v6 DSCP	Yes	
TCP/UDP-based	Yes	
Weighted Round Robin (WRR)	Yes	
Strict priority queue technology	Yes	

IEEE Network Protocols	SP7500-48PGE4GF-L2M	SP7500-48PGE4GF-L2M-800W
• IEEE 802.3 Ethernet • IEEE 802.3u 100BASE-T • IEEE 802.3ab 1000BASE-T • IEEE 802.3z 1000BASE-SX/LX • IEEE 802.3af PoE • IEEE 802.3at PoE+ • IEEE 802.3az Energy Efficient Ethernet (EEE) • IEEE 802.3ad Trunking (LACP) • IEEE 802.3x Full-Duplex Flow Control	• IEEE 802.1Q VLAN Tagging • IEEE 802.1AB LLDP with ANSI/TIA-1057 (LLDP-MED) • IEEE 802.1p Class of Service • IEEE 802.1D Spanning Tree (STP) • IEEE 802.1s Multiple Spanning Tree (MSTP) • IEEE 802.1w Rapid Spanning Tree (RSTP) • ITU-TG.8032 Ethernet Ring Protection Switching (ERPS) • IEEE 802.1x RADIUS Network Access Control	

Management, Monitoring & Troubleshooting		
Password management	Yes	
Admin access control via RADIUS and TACACS+	Yes	
IPv6 management	Yes	
SNMP v1/v2c/v3	Yes	
RMON group 1,2,3,9	Yes	
Port mirroring	Yes ingress and egress	
Many-to-one port mirroring	Yes	
Cable test utility	Yes	
TLS/HTTPS Web-based access (version)	Yes (v1.2)	
File transfers (uploads, downloads)	TFTP / HTTP	
HTTP upload/download (firmware)	Yes	
Syslog (RFC 3164)	Yes	
USB port for firmware and config upload/ download	Yes	
Per port LEDs	Speed, Link, Activity; or PoE in different mode	
Per device LEDs	Power, system	

Physical Specifications		
Dimensions	440 x 290 x 44.5 mm (17.32 x 11.42 x 1.75 in)	
Weight	5.1 kg (11.24 lb)	5.3 kg (11.68 lb)
Power Requirements	AC 100~240V 50/60Hz	
Power Consumption (when all ports used, line-rate traffic and max PoE)	460W	760W
Max power (worst case, all ports used, full PoE, line-rate traffic) (Watts)	28W	32W
Iddle power consumption (all ports link-down standby) (Watts)	22W	22W
Energy Efficient Ethernet (EEE) IEEE 802.3az	Yes (deactivated by default)	

Environmental Specifications	SP7500-48PGE4GF-L2M	SP7500-48PGE4GF-L2M-800W
Operating		
Operating Temperature	-20° to 50°C (-4° to 122°F)	
Humidity	90% maximum relative humidity (RH), non-condensing	
Altitude	10,000 ft (3,000 m) maximum	
Storage		
Storage Temperature	−30° to 70°C (− 22° to 158°F)	
Humidity (relative)	95% maximum relative humidity, non-condensing	
Altitude	10,000 ft (3,000 m) maximum	
Electromagnetic Emissions and Immunity		
Certifications	CE mark, commercial FCC Part 15 Class A, VCCI Class A Class A EN 55022 (CISPR 22) Class A Class A C-Tick EN 55024 CCC 47 CFR FCC Part 15, SubpartB, Class A ICES-003: 2016 Issue 6, Class A ANSI C63.4:2014 IEC 60950-1:2005 (ed.2)+A1:2009+A2:2013 AN/NZS CISPR 22:2009+A1:2010 CLASS A	
Safety		
Certifications	CB mark, commercial CSA certified (CSA 22.2 #950) EN 60950-1: 2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 IEC 60950-1:2005 (ed.2)+A1:2009+A2:2013 AN/NZS 60950.1:2015 CCC (China Compulsory Certificate)	
Warranty and Support		
Hardware Limited Warranty	Limited Lifetime*	
Technical Support via Phone and Email*	Limited Lifetime*	
Limited Lifetime* 24x7 Online Chat Technical Support	Limited Lifetime*	
Package Contents		
All models	Smart PoE Managed Switch AC Power cord with C13 connector (localized to region of sale) Brackets and screws for rack mounting Rubber protection caps, which are already installed in the SFP sockets Installation guide User's manual	

CE FC

SP7500-48PGE4GF-L2M
SP7500-48PGE4GF-L2M-800W

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