



24 ports 1.25G SFP and 4 Ports 1.25G/2.5G/10G SFP+ for Fiber and Copper modules.
Select your new network engine!

The Benchu Group S7500-24GF8GEC4TF-L3M Smart Fiber Switch Series delivers L2/L3/L4 and IPv4/IPv6 cost-effective services for mid-enterprise edge and SMB core deployments with unrivalled ease of use. S7500-24GF8GEC4TF-L3M is ideal for server aggregation, wireless access, unified communications and Video-over-IP.

The S7500-24GF8GEC4TF-L3M Fiber Switch is perfect for wireless access, unified communications and professional AV-over-IP installations. Benchu group Intelligent Edge Switch solutions combine latest advances in hardware and software engineering for higher flexibility, lower complexity and stronger investment protection, at a high-value price point.

Support 4 Ports 1G/2.5G/10G SFP+ Uplink, provides greater bandwidth and powerful processing capacity. It offers a maximum 40Gbps uplink bandwidth through the Four 10Gbps SFP+ ports. In addition, the administrator can flexibly choose the suitable (1.25G/2.5G/10G) SFP/SFP+ transceiver according to the transmission distance or the transmission speed required to extend the network efficiently.

Highlights

The Benchu group Gigabit Smart Fiber Switches with Remote Management provides a great value, Support 4 Ports 1G/2.5G/10G SFP+ Uplink, provides greater bandwidth and powerful processing capacity. It offers a maximum 40Gbps uplink bandwidth through the Four 10Gbps SFP+ ports. with configurable L3 network features like IPv4/IPv6 Layer 3 static routing, RIP, OSPF, VRRP, G.8032 ERPS, LACP link aggregation, DiffServ QoS, Private VLANs, Multicast VLAN and Spanning Tree will satisfy even the most advanced business networks.

Key features include:

- 16 Ports 1.25G SFP and 8 Ports Gigabit RJ45/SFP Combo and 4 Ports 1G/2.5G/10G SFP+ Uplink
- Layer 3 static routing (IPv4 and IPv6) for interVLAN local routing
- Layer 3 routing, RIP v1/V2, OSPF V1/V2, VRRP
- 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 QoS (Quality of Service) for traffic prioritization including port-based, 802.1p and L2/L3/L4 DSCP-based
- 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, 16K 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
- 4 Dedicated SFP+, not only providing fiber uplinks, but also uplink redundancy and failover, improving reliability and availability for the network

Redundant Ring, Fast Recovery for Critical Network Applications

- The S7500-24GF8GEC4TF-L3M supports redundant ring technology and features strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced ITU-T G.8032 ERPS (Ethernet Ring Protection Switching) technology, Spanning Tree Protocol (802.1s MSTP), and redundant power input system into customer's industrial automation network to enhance system reliability and uptime in harsh factory environments. In a certain simple Ring network, the recovery time of data link can be as fast as 10ms.

BENCHU Quality and Reliability

- Low power consumption, with fan.
- CE, FCC, RoHS.
- 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 | Form-Factor | 1.25GBASE-X Fiber SFP Ports | Gigabit RJ45/SFP combo ports | 1.25G/2.5G/10GB ASE-X Fiber SFP+ Ports | Power Supply | Fans |
| S7500-24GF8GEC4TF-L3M | Rackmount | 16 | 8 Pair | 4 | 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 |
| 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, and Private VLAN | 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) | Routes (IPv4 & IPv6) | Multicast IGMP Group |
|-----------------------|---------------|--|------------|---|---------------------------------|---|------------------------|----------------------|
| S7500-24GF8GEC4TF-L3M | 12MB | Dual-Core 1GHz MIPS InterActive CPU subsystem 4GB DDR3 RAM | 100 shared | 16K MAC 1024 ARP 4K VLANs QinQ | 256Gbps 128Mpps line-rate | 1G Copper: <3.35µs 10G Fiber: <2.5µs | IPv4: 100 IPv6: 100 | 512 |

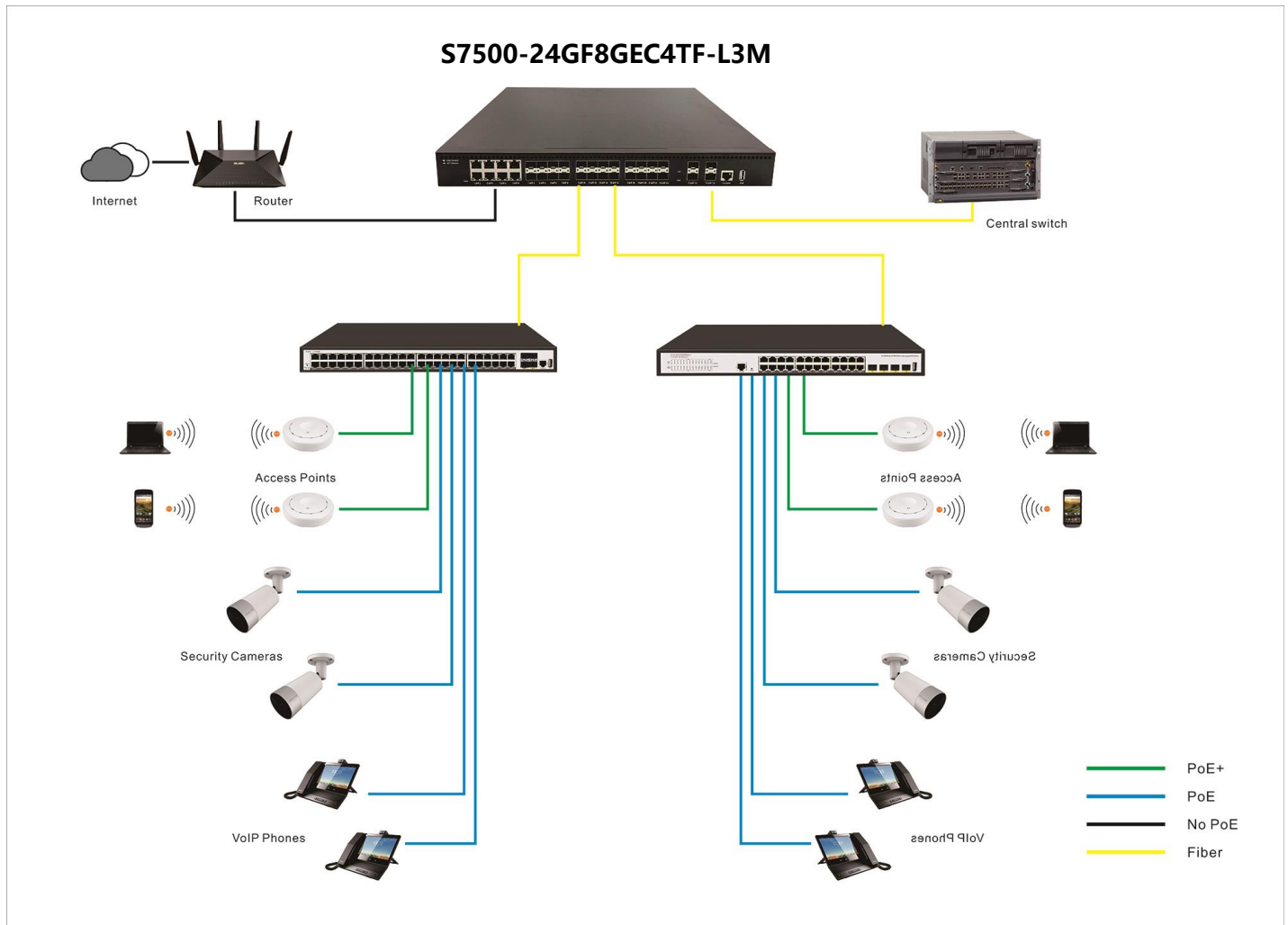


Features and Benefits

| Hardware Features | |
|---|--|
| 1.25GBASE-X Fiber SFP Port | 24 Ports 1.25G SFP for connect to the access network. Support for Fiber and Copper modules. |
| 10GBASE-X Fiber SFP+ ports | Four dedicated 10G 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. |
| 1000BASE-T Copper Ethernet connections | Eight 10/100/1000M RJ45 Ports Combo for the administrator can flexibly choose service connection |
| Energy Efficient Ethernet (IEEE 802.3az) | Maximum power reduction for ongoing 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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 designated receivers without the need of an extra multicast router. |
| 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. |

Target Application

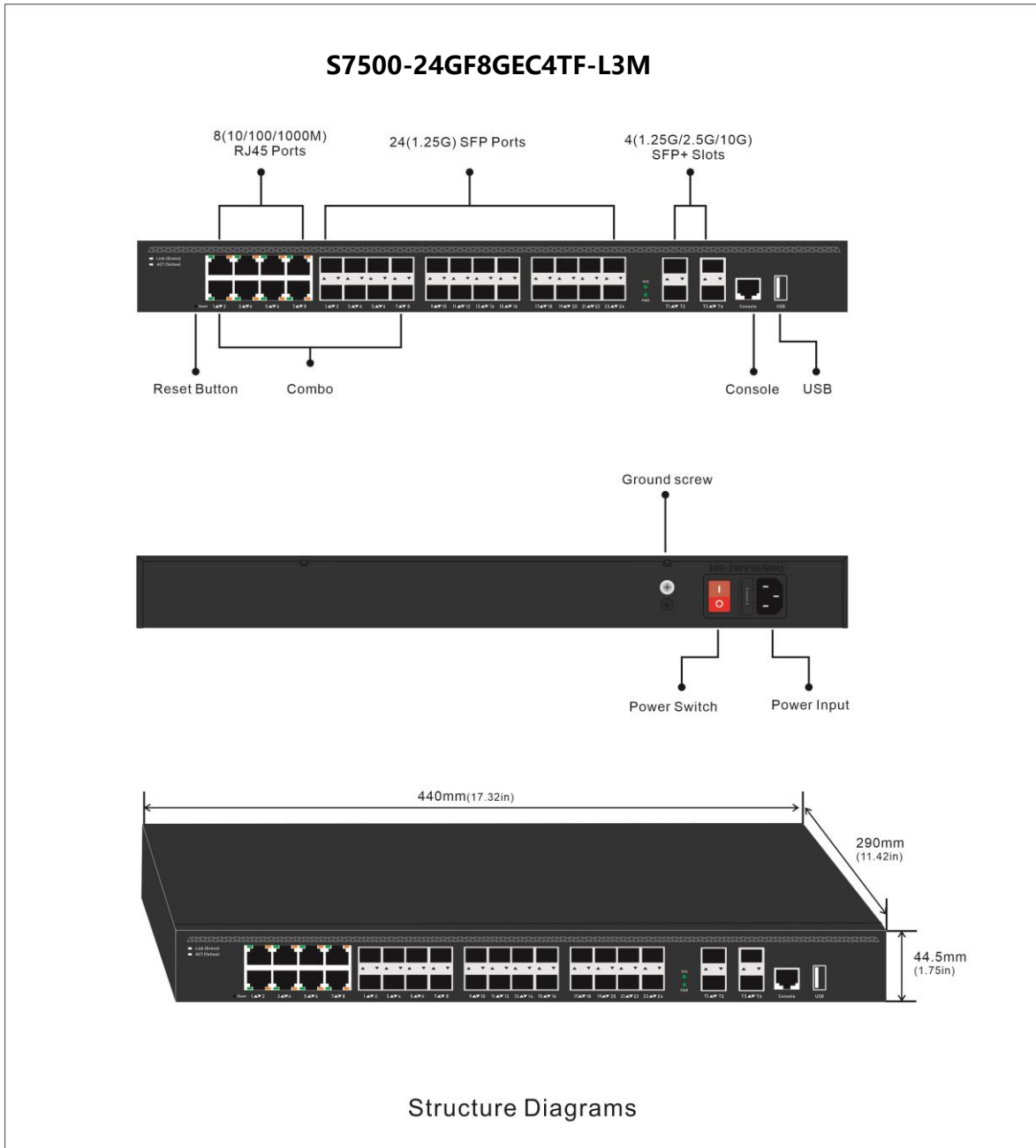
Network Convergence



The new 24-port BENCHU GROUP Smart SFP Switch support dense deployments of these modern network 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:

- 16 Ports 1.25G SFP and 8 ports gigabit RJ45/SFP for connect to the access network
- 4 dedicated 1G/2.5G/10G 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, Private VLAN, 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





| Technical Specifications | S7500-24GF8GEC4TF-L3M |
|--|--|
| 1.25G SFP Fiber ports | 24 |
| 10M/100M/1G RJ-45 copper ports | 8 (Combo) |
| 1G/2.5G/10G SFP+ (fiber) ports | 4 |
| Console Port (For config) | Yes |
| USB port (for config file upload/backup & firm-ware updates) | Yes |
| Performance Specification | |
| CPU | Dual-Core 1GHz MIPS InterAptive CPU subsystem |
| Packet buffer memory (Dynamically shared across only used ports) | 12 MB |
| Forwarding modes | Store-and-forward |
| Bandwidth | 256 Gbps |
| Priority queues | 8 |
| MAC address database size (48-bit MAC addresses) | 16K |
| 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) | 128Mpps |
| Jumbo frame support (bytes) | Up to 12K packet size |
| Mean Time Between Failures (MTBF) @ 25°C | 113,456 hours |
| 100M Copper Latency (64-byte; 1518-byte; 9216-byte frames) | 8.321μs; 8.632μs; 8.461μs |
| 1G Copper Latency (64-byte; 1518-byte; 9216-byte frames) | 3.621μs; 3.552μs; 3.631μs |
| 1G Fiber Latency (64-byte; 1518-byte; 9216-byte frames) | 2.978μs; 3.108μs; 3.172μs |
| 10G Fiber Latency (64-byte; 1518-byte; 9216-byte frames) | 2.327μs; 2.563μs; 2.713μs |



| L2 Services - VLANs | S7500-24GF8GEC4TF-L3M |
|---|------------------------------|
| 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 |
| Layer 2 DHCP Relay | Yes |
| 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 | 100 |
| IPv6 static routing | 100 |
| VLAN routing | Yes |
| RIP V1/V2 | Yes |
| OSPF V2 | Yes |
| Number of IP VLAN interfaces(routed VLANs) | 15 |
| Policy routing | Yes |
| VRRP | Yes |



| Link Aggregation | S7500-24GF8GEC4TF-L3M |
|--|--|
| IEEE 802.3ad - LAGs (LACP) | Yes |
| Manual LAG | Yes |
| # of LAGs / # of members in each LAG | 26 LAGs with max 8 members in each LAG |
| Network Monitoring and Discovery Services | |
| 802.1ab LLDP | Yes |
| SNMP | v1, v2 |
| 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 | S7500-24GF8GEC4TF-L3M |
|--|--|
| <ul style="list-style-type: none"> • IEEE 802.3 Ethernet • IEEE 802.3u 100BASE-T • IEEE 802.3ab 1000BASE-T • IEEE 802.3az Energy Efficient Ethernet (EEE) • IEEE 802.3ad Trunking (LACP) • IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX • IEEE 802.3x Full-Duplex Flow Control | <ul style="list-style-type: none"> • 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) • 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 | Yes |
| RMON group 1,2,3,9 | Yes |
| Port mirroring | Yes ingress and egress |
| Many-to-one port mirroring | 28 |
| 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 |
| LEDs | Yes |
| Per port | Speed, Link, Activity; |
| Per device | Power, system |
| Physical Specifications | Yes |
| Dimensions | 440 x 290 x 44.5 mm (17.32 x 11.42 x 1.75 in) |
| Weight | 3.75kg (8.27 lb) |
| Max power (worst case, all ports used , line-rate traffic) (Watts) | 45W |
| Idle power consumption (all ports link-down standby) (Watts) | 12W |
| Energy Efficient Ethernet (EEE) IEEE 802.3az | Yes (deactivated by default) |
| Fan | 2 |

| Environmental Specifications | | S7500-24GF8GEC4TF-L3M |
|--|--|-----------------------|
| Operating | | |
| Operating Temperature | 0° to 50°C (32° to 122°F) | |
| Humidity | 90% maximum relative humidity (RH), non-condensing | |
| Altitude | 10,000 ft (3,000 m) maximum | |
| Storage | | |
| Storage Temperature | -20° to 70°C (-4° 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 Fiber 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 | |