

A solid red circle.

FS S5810 Series Switches Data Sheet

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Product overview

FS S5810 Series Switches are high-performance and strong-security 10G L3 enterprise switch with 760Gbps/2.56T switching capacity. FS S5810-28TS and S5810-48TS are based on Broadcom® BCM56170, S5810-48FS and S5810-48TS-P are based on Broadcom® BCM56340. S5810-28FS is based on Broadcom® BCM56342.

The S5810-28FS aggregation switch is a managed Layer 3 multiservice switch with 8x 1G RJ45/SFP Combo ports. 4x 10G SFP+ uplink ports all allow any combination of up to 8 units S5810 series switches to be seamlessly interconnected and managed as a single device. This switch adopts cutting-edge Broadcom chips to deliver 136 Gbps switching capacity and 102 Mpps forwarding rate. It is packed with redundant hot-swappable power supplies and variable-speed axial fans for superior processing performance and network reliability. Boast advanced features, such as enhanced Layer 3 functionality, simplified management, flexible IPv6 capabilities, and diverse multicast protocols enterprise networks.

The S5810-48FS is a collection of next-gen multiservice switch, features 48x 1G SFP downlinks and 4x 10G SFP+ uplinks. It allows any combination of up to 8 units S5810 series switches to be seamlessly interconnected and managed as a single device. This switch adopts cutting-edge Broadcom chips to deliver 176 Gbps switching capacity and 132 Mpps forwarding rate. It is packed with redundant hot-swappable power supplies and variable-speed axial fans for superior processing performance and network reliability. Boast advanced features, such as enhanced Layer 3 functionality, simplified management, flexible IPv6 capabilities, and diverse multicast protocols.

The S5810-48TS-P features 48x 10/100/1000Mbps PoE ports and 4x 1G/10G uplink ports. It provides a max power budget of 740W for all PoE ports and up to 30W for every single PoE port respectively. All uplinks allow any combination of up to 8 units of S5810 series switches to be seamlessly interconnected and managed as a single device. It adopts cutting-edge Broadcom chips to deliver 176 Gbps switching capacity and 132 Mpps forwarding rate. It is packed with redundant hot-swappable power supplies and variable-speed axial fans for superior processing performance. Boast advanced features, such as enhanced Layer 3 functionality, simplified management, IPv6 capabilities, and diverse multicast protocols.

The S5810-28TS aggregation switch is a managed Layer 3 multiservice switch with 4x 10G SFP+ uplink ports all allow any combination of up to 8 units S5810 Series switches to be seamlessly interconnected and managed as a single device. This switch adopts cutting-edge Broadcom chips to deliver 136 Gbps switching capacity and 102 Mpps forwarding rate. It is packed with redundant hot-swappable power supplies and variable-speed axial fans for superior processing performance and network reliability. Boast advanced features, such as enhanced Layer 3 functionality, simplified management, flexible IPv6 capabilities, and diverse multicast protocols.

The S5810-48TS is a collection of next-gen multiservice switch, features 48x Gigabit RJ45 downlinks and 4x 10G SFP+ uplinks. It allows any combination of up to 8 units S5810 series switches to be seamlessly interconnected and managed as a single device. This switch adopts cutting-edge Broadcom chips to deliver 176 Gbps switching capacity and 132 Mpps forwarding rate. It is packed with redundant hot-swappable power supplies and variable-speed axial fans for superior processing performance and network reliability. Boast advanced features, such as enhanced Layer 3 functionality, simplified management, flexible IPv6 capabilities, and diverse multicast protocols.

Product highlights

- Broadcom Chip, Support Stacking on All Optical Ports
- 1+1 Hot-swappable Power Supplies and 2+1 Smart Fans
- Support Layer 3 Features (RIP, OSPF, VRRP, etc.)
- Support WEB/CLI/SNMP/SSH for Flexible Operation
- Network Foundation Protection Policy (NFPP)
- Support SSH, ACL, AAA, 802.1X, RADIUS, TACACS+, etc. for Security
- IPv4/IPv6 Dual-Stack for Future Network Expansion
- Up to 48 PoE+ Ports, Total Budget 740W (Only for S5810-48TS-P Switch)

Platform details

Switch models and configurations

Figures 1 through 5 show the FS S5810 series switches.

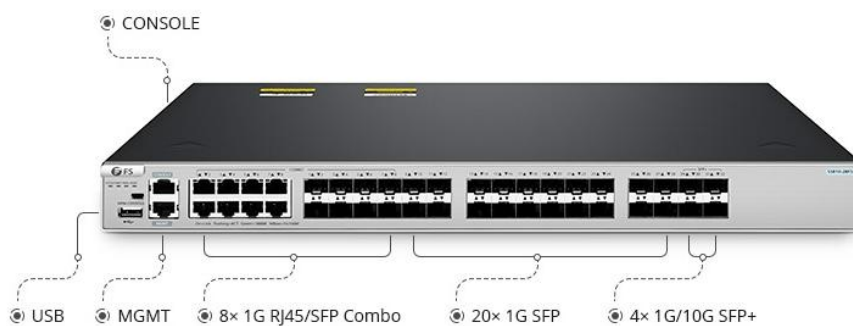


Figure 1.

S5810-28FS, 28-Port Gigabit Ethernet L3 Switch, 28 x 1Gb SFP, with 4 x 10Gb SFP+ Uplinks and 8 x 1G RJ45/SFP Combo Ports, Stackable Switch, Broadcom Chip

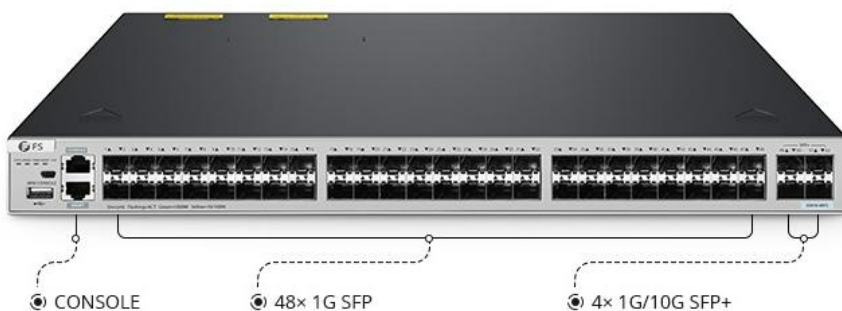


Figure 2.

S5810-48FS, 48-Port Gigabit Ethernet L3 Switch, 48 x 1Gb SFP, with 4 x 10Gb SFP+ Uplinks, Stackable Switch, Broadcom Chip

Platform details

Switch models and configurations

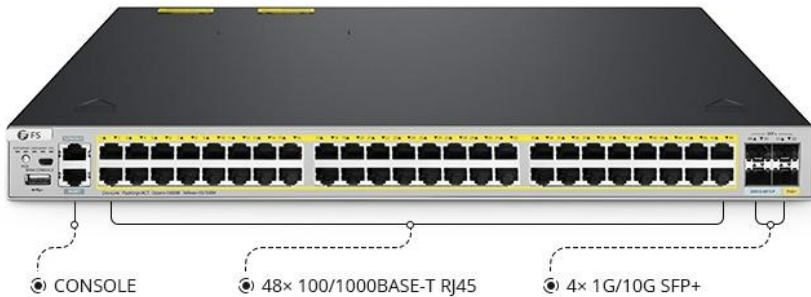


Figure 3.

S5810-48TS-P, 48-Port Gigabit Ethernet L3 PoE+ Switch, 48 x PoE+ Ports @740W, with 4 x 10Gb SFP+ Uplinks, Broadcom Chip

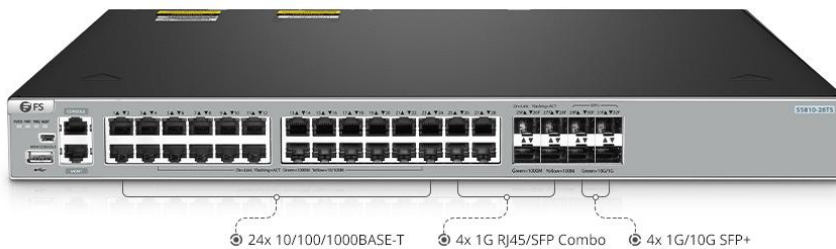


Figure 4.

S5810-28TS, 28-Port Gigabit Ethernet L3 Switch, 24 x Gigabit RJ45, 4 x Combo SFP Ports, with 4 x 10Gb SFP+ Uplinks, Broadcom Chip



Figure 5.

S5810-48TS, 48-Port Gigabit Ethernet L3 Switch, 48 x Gigabit RJ45, with 4 x 10Gb SFP+ Uplinks, Broadcom Chip

Switch configurations and port density

Table 1 shows the FS S5810 series configurations and port density.

Table 1. Switch configuration and port density

FS P/N	S5810-28FS	S5810-48FS	S5810-48TS-P	S5810-28TS	S5810-48TS
Description	28-Port Gigabit Ethernet L3 Switch, 28 x 1Gb SFP, with 4 x 10Gb SFP+ and 8 x 1G RJ45/SFP Combo	48-Port Gigabit Ethernet L3 Switch, 48 x 1Gb SFP, with 4 x 10Gb SFP+	48-Port Gigabit Ethernet L3 PoE+ Switch, 48 x PoE+ Ports @740W, with 4 x 10Gb SFP+	28-Port Gigabit Ethernet L3 Switch, 24 x Gigabit RJ45, 4 x Combo SFP Ports, with 4 x 10Gb SFP+	48-Port Gigabit Ethernet L3 Switch, 48 x Gigabit RJ45, with 4 x 10Gb SFP+

Port

1G port density	28	48	48	28	48
10G port density	4	4	4	4	4
25G port density	-	-	-	-	-
40G port density	-	-	-	-	-
100G port density	-	-	-	-	-
10G port density with breakout cable	4	4	4	4	4
25G port density with breakout cable	-	-	-	-	-
40G port density with breakout cable	-	-	-	-	-
Management ports	1	1	1	1	1
Console port	1	1	1	1	1
USB port	1	1	1	1	1

Memory and processor

Switch chip	BCM56342	BCM56340	BCM56340	BCM56170	BCM56170
CPU	ARM A9 Dual-Core CPU,1GHz	ARM A9 Dual-Core CPU,1GHz	ARM A9 Dual-Core CPU,1GHz	ARM A9 Dual-Core CPU,1GHz	ARM A9 Dual-Core CPU,1GHz
DRAM	1GB	1GB	1GB	1GB	1GB
SDRAM	1GB	1GB	1GB	1GB	1GB
Flash memory	512MB	512MB	512MB	512MB	512MB

FS P/N	S5810-28FS	S5810-48FS	S5810-48TS-P	S5810-28TS	S5810-48TS
Latency	2.704μs	6.54μs	1.11μs	200μs	200μs
Packet buffer	4MB	4MB	4MB	4MB	4MB

Note:

RJ45 ports can be used as 10/100/1000BASE-T ports for Ethernet connection.

SFP ports can be used for 100M/1G connection.

SFP+ports can be used for 1/10G connection.

Power supplies and fans

The FS S5810 Series switches ship with the dual 1+1 redundant power supply as default.

Table 2 provides more details on the FS S5810 series power supplies and fan specifications.

Table 2. Power supply and fan specifications

Description	S5810-28FS	S5810-48FS	S5810-48TS-P	S5810-28TS	S5810-48TS
Power supply	2x Hot-swappable Power Supplies (1+1 Redundancy)	2x Hot-swappable Power Supplies (1+1 Redundancy)	2x Hot-swappable Power Supplies (1+1 Redundancy)	2x Hot-swappable Power Supplies (1+1 Redundancy)	2x Hot-swappable Power Supplies (1+1 Redundancy)
Fan number	3x Built-in Fans (2+1 Redundancy)	3x Hot-swappable Fans (2+1 Redundancy)	3x Built-in Fans (2+1 Redundancy)	3x Built-in Fans (2+1 Redundancy)	3x Built-in Fans (2+1 Redundancy)
Airflow	Left-to-Right	Left-to-Right	Left-to-Right	Left-to-Right	Left-to-Right
Acoustic noise	<78dB	<78dB	<78dB	<78dB	<78dB
Maximum fan speed	All models in the series deploy variable-speed axial fans, which support intelligent speed adjustment based on the current ambient temperature.				
Max. power consumption	<55W	<100W	<880W(Full-load)	<45W	<45W
Power max rating	<55W	<100W	<880W(Full-load)	<45W	<45W
Input-voltage range and frequency	- Rated voltage range: 100-240VAC; 50-60Hz - Maximum voltage range: -AC input: 100-240VAC, 50-60Hz				
Input current	100-240VAC, 50-60Hz, 2A	100-240VAC, 50-60Hz, 3A Max	100-240VAC, 50-60Hz, 3.5AMax	100-240VAC, 50-60Hz	100-240VAC, 50-60Hz
Output ratings	70W	150W	500W	70W	150W

Description	S5810-28FS	S5810-48FS	S5810-48TS-P	S5810-28TS	S5810-48TS
Power cord rating	2A	3A	3.5A	-	-
PoE standard	-	-	IEEE 802.3af/at	-	-
PoE budget	-	-	370W(Single-power); 740W(Dual- power)	-	-

Stacking

The FS S5810 Series switch models are designed for stacking switches as a single virtual switch, enabling customers to have a single management plane and control plane for up to 152 access ports.

Table 3 lists the supported stacking options.

Table 3. Supported stacking options

Part Name	S5810-28FS	S5810-48FS	S5810-48TS-P	S5810-28TS	S5810-48TS
Stacking ports	Last 4 uplink ports (4*10G)	Last 4 uplink ports (4*10G)	Last 4 uplink ports (4*10G)	Last 4 uplink ports (4*10G)	Last 4 uplink ports (4*10G)
Supported stack members	Support Up to 8 Units S5810 Series Stacking	Support Up to 8 Units S5810 Series Stacking	Support 8 Units Stacking	Support 8 Units Stacking	Support 8 Units Stacking
Maximum number of VSL links	6	8	4	4	4
Number of members	8	8	8	8	8

Note:

All 10G ports can be stacked by transceivers or DAC/AOC lines, supporting port mixing, each 10G port is a stack group.

Switch performance

Table 4 shows performance specifications for the FS S5810 series switches.

Table 4. Performance specifications

Performance for all S5810 Series Switches	S5810-28FS	S5810-48FS	S5810-48TS-P	S5810-28TS	S5810-48TS
Switching capacity	136 Gbps	176 Gbps	176 Gbps	136 Gbps	176 Gbps
Forwarding rate	102 Mpps	132 Mpps	132 Mpps	102 Mpps	132 Mpps
Total number of MAC addresses	64K	64K	64K	64K	64K
Total number of IPv4 routes (indirect routes)	12000	12000	12000	12000	12000
Total number of IPv4 host routes (direct routes and ARP)	10000	10000	10000	10000	10000
Total number of IPv6 routes (indirect routes)	6000	6000	6000	6000	6000
Total number of IPv6 host routes (direct routes and NDP)	2000	2000	2000	2000	2000
Total number of IPv4 multicast routes	12000	12000	12000	12000	12000
Total number of IPv6 multicast routes	6000	6000	6000	6000	6000
QoS ACL scale	-	-	-	-	-
Security ACL scale	3500 IPv4/v6rules	3500 IPv4/v6rules	3500 IPv4/v6rules	3500 IPv4/v6rules	3500 IPv4/v6rules
VLAN IDs	4000	4000	4000	4000	4000
STP virtual ports (port* VLANs) for MST	64	64	64	64	64
Total switched virtual interfaces (SVIs)	4K	4K	4K	4094	4094
Jumbo frame	9216 bytes	9216 bytes	9216 bytes	9216 bytes	9216 bytes

Platform benefits

Table 5 lists the software spotlights for the FS S5810 series switches.

Table 5. Software spotlights

Functionality	Description
Physical stacking for simplified management	Up to 8 units stacking Simplified network topology Fault recovery within milliseconds Hot swap without affecting normal operation of other devices
Sound security protection policies	Support hardware-based IPv6 ACLs Support hardware CPU protection mechanism Support DHCP snooping Support the IP-based Telnet access control Support the Secure Shell (SSH) and SNMPv3 Support Network Foundation Protection Policy (NFPP)
High reliability	Support Virtual Router Redundancy Protocol (VRRP) Support Rapid Link Detection Protocol (RLDP) Support Ethernet Ring Protection Switching (ERPS)(G.8032) Support Rapid Ethernet Uplink Protection Protocol (REUP) Support Bidirectional Forwarding Detection (BFD) Defend against up to 6 kV lightning Support Non-stop PoE (Only for S5810-48TS-P switch)
Perfect compatibility performance	With the standard protocol specified by IEEE802.3, which can form good intercommunication with other brand equipment at the forwarding level Compatible with standard protocols such as MSTP/OSPF/RIP/BGP/VRRP/SNMP/IS-IS/DHCP/NTP of other equipment
Easy network maintenance	Support SNMP (Managed by Zabbix), RMON, log and configuration backup Support Syslog, CLI, Web-based management, Telnet, etc.
IPv4/IPv6 dual-stack multi-layer switching	Support line-rate IPv4/IPv6 dual-stack multi-layer switching Support static routing, RIPV1/v2, OSPFv2, IS-IS, BGP4, RIPv4, OSPFv3, IS-ISv6 and BGP4+
QoS	Support classifying and controlling various flows Support 802.1p, IP ToS, traffic filtering, SP, WRR Support flow bandwidth control, forwarding priority, and other flow policies
Strong multi-service support capability	Support the IPv4 and IPv6 multicast functions Support IGMP snooping, IGMP, MLD, PIM, MSDP Support IGMP source port and source IP check function
Energy efficiency	Hardware architecture to reduce energy consumption and noise Variable-speed axial fans to intelligently control the fan speed Support auto-power-down mode Support EEE energy-saving mode

Software requirements

The FS S5810 Series Switches run on FS OS Software version.

Table 6 lists the latest software requirements for the switch models.

Table 6. Latest software requirements

FS P/N	Description	Latest software requirements
S5810-28FS	S5810-28FS, 28-Port Gigabit Ethernet L3 Switch, 28 x 1Gb SFP, with 4 x 10Gb SFP+ Uplinks and 8 x 1G RJ45/SFP Combo Ports, Stackable Switch, Broadcom Chip	S5810 Series Switches FSOS 11.4_B74S4 Software
S5810-48FS	S5810-48FS, 48-Port Gigabit Ethernet L3 Switch, 48 x 1Gb SFP, with 4 x 10Gb SFP+ Uplinks, Stackable Switch, Broadcom Chip	
S5810-48TS-P	S5810-48TS-P, 48-Port Gigabit Ethernet L3 PoE+ Switch, 48 x PoE+ Ports @740W, with 4 x 10Gb SFP+ Uplinks, Broadcom Chip	
S5810-28TS	S5810-28TS, 28-Port Gigabit Ethernet L3 Switch, 24 x Gigabit RJ45, 4 x Combo SFP Ports, with 4 x 10Gb SFP+ Uplinks, Broadcom Chip	
S5810-48TS	S5810-48TS, 48-Port Gigabit Ethernet L3 Switch, 48 x Gigabit RJ45, with 4 x 10Gb SFP+ Uplinks, Broadcom Chip	

Product specifications

Table 7 shows the product specifications for the FS S5810 series switches.

Table 7. Product specifications

Description	S5810-28FS	S5810-48FS	S5810-48TS-P	S5810-28TS	S5810-48TS
Environmental					
Operating temperature	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage temperature	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)
Operating humidity	10% to 90% (Non-condensing)	10% to 90% (Non-condensing)	10% to 90% (Non-condensing)	10% to 90% (Non-condensing)	10% to 90% (Non-condensing)
Temperature alarm	Supported	Supported	Supported	Supported	Supported
Acoustic noise	<78dB	<78dB	<78dB	<78dB	<78dB

Description	S5810-28FS	S5810-48FS	S5810-48TS-P	S5810-28TS	S5810-48TS
Physical specifications					
Dimensions (HxWxD)	1.73"x17.32"x11.81" (44x440x300mm)	1.73"x17.32"x13.39" (44x440x340mm)	1.73"x17.32"x16.54" (44x440x420mm)	1.73"x17.32"x11.02" (44×440×280mm)	1.73"x17.32"x11.02" (44×440×280mm)
Rack units (RU)	1U	1U	1U	1U	1U
Weight	9.26 lbs (4.2kg)	10.36 lbs (4.7kg)	13.45 lbs (6.1kg)	8.60 lbs (3.9kg)	9.26 lbs (4.2kg)
Distance	-	100M	-	-	-
Electrical					
Voltage (auto ranging)	100-240VAC	100-240VAC	100-240VAC	100-240VAC	100-240VAC
Frequency	50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz
Current	2A	3A Max	3.5AMax	-	-
Power rating (maximum consumption)	70W	150W	500W	70W	150W
Mean-time between failures					
MTBF (hours)	>200K	>200K	>200K	>200K	>200K
Connectors					
Connectors and cabling	1G-T port: RJ-45 connector, Cat5E/Cat6/Cat6a UTP cabling 1G SFP Ports: 1G SFP Single Mode or Multimode Module + Patch Cord; 1G DAC/AOC 10G SFP ports: 10G SFP single-mode or multi-mode module + patch cord; 10G DAC/AOC - StackWise stacking port: Copper based FS StackWise cabling Ethernet management port: RJ-45 connector, Cat5 UTP cabling - Management console port: RJ-45 to DB9 cable for PC connection, 10G DAC/AOC connection stacking or 10G SFP single-mode multi-mode module + jumper				
Power connectors	- Customers can provide power to a switch by using the internal power at the back of the switch - Internal power supply connector: The internal power supply is an auto-ranging unit. It supports input voltages between 100 (115 for 1100WAC) and 240 VAC. Use the supplied AC power cord to connect the AC power connector to an AC power outlet				
Standards					
Standards	802.1s, 802.1w, 802.1x, 802.1d, 802.1p, 802.1q, RMON, SNMPV1 V2 V3				

Quality certification

At FS, our Quality Commitment lies in all aspects of processes, resources, and methods that enable us to build superior networks for our customers. Through a quality policy focusing on continuous improvement of products and services, we're able to achieve the highest levels of satisfaction for our customers. To that end, every FS employee is accountable for contributing to the value of the products and services we deliver.

Figures 6/7 shows some of the authoritative certifications obtained by FS S5810 Series Switches.



Figure 6. S5810-28FS/S5810-48FS/S5810-48TS-P



Figure 7. S5810-28TS/S5810-48TS

Optics supported

For details about the optical modules available, visit:

S5810-28FS: [Transceivers DACs and AOCs Supported on S5810-28FS Switch](#)

S5810-48FS: [Transceivers DACs and AOCs Supported on S5810-48FS Switch](#)

S5810-48TS-P: [Transceivers DACs and AOCs Supported on S5810-48TS-P Switch](#)

Warranty, service and support

FS S5810 Series Switches enjoy 5 years limited warranty against defects in materials or workmanship. For more information for FS Returns & Refunds policy, visit <https://www.fs.com/policies/warranty.html> or https://www.fs.com/policies/day_return_policy.html

FS provides a personal account manager, free professional technical support, and 24/7 live customer service to each customer.[support.html](https://www.fs.com/support.html)

- Professional Lab: Test each product with the latest and advanced networking equipment.
- Free Technical Support: Provide free & tailored solutions and services for your businesses.
- 80% Same-day Shipping: Immediate shipping for in-stock items.
- Fast Response: Direct and immediate assistance from an expert.

For more information, visit https://www.fs.com/service/fs_support.html

Ordering information

Table 8 provides the ordering information for S5810 series switches.

Table 8. Ordering information

FS P/N	Product description
Switch hardware	
S5810-28FS	S5810-28FS, 28-Port Gigabit Ethernet L3 Switch, 28 x 1Gb SFP, with 4 x 10Gb SFP+ Uplinks and 8 x 1G RJ45/SFP Combo Ports, Stackable Switch, Broadcom Chip
S5810-48FS	S5810-48FS, 48-Port Gigabit Ethernet L3 Switch, 48 x 1Gb SFP, with 4 x 10Gb SFP+ Uplinks, Stackable Switch, Broadcom Chip
S5810-48TS-P	S5810-48TS-P, 48-Port Gigabit Ethernet L3 PoE+ Switch, 48 x PoE+ Ports @740W, with 4 x 10Gb SFP+ Uplinks, Broadcom Chip
S5810-28TS	S5810-28TS, 28-Port Gigabit Ethernet L3 Switch, 24 x Gigabit RJ45, 4 x Combo SFP Ports, with 4 x 10Gb SFP+ Uplinks, Broadcom Chip
S5810-48TS	S5810-48TS, 48-Port Gigabit Ethernet L3 Switch, 48 x Gigabit RJ45, with 4 x 10Gb SFP+ Uplinks, Broadcom Chip

Additional information

For more information about the S5810 Series Switches, contact your account manager or visit https://www.fs.com/search_result?keyword=S5810

Document history

New or revised topic	Described in	Date
Updates to FS S5810 Series Switches Data Sheet	Updated all	9/27/2022