



H3C S6890 Series

Data Center Switches

Release Date: August, 2021



New H3C Technologies Co., Limited

H3C S6890 Series Data Center Switches

Product overview

S6890 switch series is the latest development of Cloud ready intelligent data center switches. S6890 switch series delivers industry leading big buffer to address burst traffic in Internet companies and provides large table size for campus network. To cope with the trend of SDN, S6890 switch series offers cloud ready features, such as VXLAN, Openflow and EVPN, providing a rich set of features tailored for data centers as well as L2/L3 feature enhancement for enterprises. H3C S6890 switch series is made for high density 10GE access or 40GE/100GE aggregation in intelligent data centers, large campus network and cloud computing services. The series includes two models: S6890-30HF and S6890-54HF.

The S6890 switch series includes the following models:

- S6890-30HF—Provides 24 × 1/10G SFP Plus ports, 6 × QSFP28 ports, 2 × power module slots, 4 × fan tray slots, 2 × out-of-band management ports, 1 × mini USB port and 1 × USB port.
- S6890-54HF—Provides 48 × 1/10G SFP Plus ports, 6 × QSFP28 ports, 2 × power module slots, 5 × fan tray slots, 2 × out-of-band management ports, 1 × mini USB port and 1 × USB port.



S6890-30HF front panel



S6890-30HF rear panel



S6890-54HF front panel



S6890-54HF rear panel

Features and Benefits

High density 10G/40G/100G access with large buffer

- H3C S6890-30HF can provide 24 1G/10G SFP+ ports, 6 100G QSFP28 ports (40G QSFP+ compatible), 2 modular power supply slots, 4 fan slots, 2 out-of-band management ports, 1 console port and 1 USB port.
- H3C S6890-54HF can provide 48 1G/10G SFP+ ports, 6 100G QSFP28 ports (40G QSFP+ compatible), 2 modular power supply slots, 5 fan slots, 2 out-of-band management ports, 1 console port and 1 USB port.
- The S6890 switch series delivers industry leading 4G buffer designed to address burst traffic in Internet companies.

Virtualization technologies - IRF2

H3C patented virtualization technology IRF2 is designed for the requirement of unified switching architecture in datacenter. The technology delivers the following benefits:

- High Availability (HA) - Patented hot standby technology to provide data backup and non-stop forwarding on the control plane and data plane, which improves availability, performance, service continuity and eliminates single-point failure.
- Distribution - Multi-switch link aggregation to enable load sharing and backup over multiple uplinks, improving network redundancy and link utilization.
- Easy Management - Single IP address management to simplify the device and topology management, improving operation efficiency and lowering network maintenance cost.

DC-oriented features

- VXLAN (Virtual Extensible LAN) — VXLAN uses a MAC-in-UDP encapsulation method where the original Layer 2 package is added with a VXLAN header, and is then placed in a UDP-IP packet. With the help of MAC-in-UDP encapsulation, VXLAN tunnels Layer 2 network over Layer 3 network which provides two major benefits: higher scalability of Layer 2 segmentation and better utilization of available network paths.
- MP-BGP EVPN (Multiprotocol Border Gateway Protocol Ethernet Virtual Private Network) uses standard-based BGP protocol as the control plane for VXLAN overlay networks, providing BGP based VTEP auto peer discovery and end-host reachability information distribution. MP-BGP EVPN delivers many benefits, such as eliminating traffic flooding, reducing full mesh requirements between VTEPs via the introduction of BGP RR, achieving optimal flow based end to end load sharing and more.

High-performance IPv4/IPv6 service capabilities

- H3C S6890 switch series comes with IPv4/IPv6 dual-stack platform that provides sophisticated IPv4/IPv6 solutions by supporting multiple tunnels, IPv4/IPv6 Layer 3 routing protocols, multicasting, and policy-based routing.

Flexible choice of airflow

- To cope with data center cooling aisle design, the H3C S6890 switch series comes with flexible airflow design, which features bi-cooling aisles in the front and back. Users may also choose the direction of airflow (from front to back or vice versa) by selecting a different fan tray.

Outstanding security control policies

- H3C S6890 switch series supports AAA, RADIUS authentication and user account, IP, MAC, VLAN, port-based user identification of dynamic and static binding; Working with H3C iMC platform, it can conduct real time management, instant diagnosis and crackdown on illicit network behaviors.
- H3C S6890 switch series supports enhanced ACL control logic, offers a large number of inbound and outbound ACLs and VLAN-based ACL assignment. This simplifies user configuration while saving ACL resources.

Multiple reliability protection

- The S6890 switch series provides multiple reliability protection at both equipment and link levels. With overcurrent, overvoltage and overheat protection, all models have a redundant swappable power module, which enables flexible configuration of AC or DC power modules based on actual needs. The entire switch supports fault detection and alarm for power supply and fan, allowing fan speed to change to suit different ambient temperatures.

Excellent manageability

- H3C S6890 switch series provides rich management interfaces, including console port, out-of-band management port and USB port. Management protocols such as SNMPv1/v2/v3 are supported aside from iMC Management Console. The network administrator may activate control through CLI, Web user interface and TELNET which gives maximum flexibility in accessing and managing the device. The administrator may also choose SSH2.0 and SSL encryption to shield the management sessions.

Hardware Specification

Item	S6890-30HF	S6890-54HF
Dimensions (W × D × H)	440x460x43.6 mm (1U)	
Weight	<10kg	<13kg
Console port	1	
Ethernet port for management	2	
USB port	1	
1/10G SFP+ port	24	48
QSFP28 port	6	
Power modules	2	
Fan modules	4	5
Power consumption (Static)	Single AC 117W Single DC 112W Dual AC 122W Dual DC 117W	Single AC 140W Single DC 135W Dual AC 155W Dual DC 148W



Hardware Specification

Item	S6890-30HF	S6890-54HF
Power consumption (in full configuration)	Single AC 258W Single DC 249W Dual AC 260W Dual DC 247W	Single AC 327W Single DC 320W Dual AC 340W Dual DC 330W
Input Voltage	AC: Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz DC: Rated voltage: -48 VDC to -60 VDC Max voltage: -40 VDC to -72 VDC	
Operating temperature	0°C to 45°C (32°F to 113°F)	
Operating relative humidity	10% to 90%	
Flash/SDRAM	1GB/8GB	1GB/8GB

Software Specification

Item	S6890-30HF	S6890-54HF
Switching capacity	1.68Tbps	2.16Tbps
Throughput	720Mpps	720Mpps
Ethernet	IEEE 802.1P(CoS priority) IEEE 802.1Q Vlan mapping Port-based VLAN(quantity: 4094) DLDP LLDP Static MAC configuration Port mirroring and traffic mirroring Port aggregation, port isolation, and port mirroring IEEE 802.1D (STP)/802.1w (RSTP)/802.1s (MSTP)/PVST IEEE 802.3ad (dynamic link aggregation), static port aggregation, and multi-chassis link aggregation RRPP (Rapid Ring Protection Protocol) Jumbo frame Broadcast/multicast/unknown unicast storm constrain	



Item	S6890-30HF	S6890-54HF
outing	<ul style="list-style-type: none"> Static routing, RIP, OSPF, IS-IS, and BGP4 IPv4/IPv6 ECMP VRRP IPv4/IPv6 Policy-based routing IPv4/IPv6 Routing policy IPv4/IPv6 dual stack IPv6 static routing, RIPng, OSPFv3, IS-ISv6, and BGP4+ VRRPv3 Pingv6, Tenetv6, FTPv6, TFTPv6, DNSv6, and ICMPv6 IPv4-to-IPv6 transition technologies, such as IPv6 manual tunnel, 6to4 tunnel, ISATAP tunnel, GRE tunnel, and auto IPv4-compatible IPv6 tunnel 	
Multicast	<ul style="list-style-type: none"> PIM-DM, PIM-SM, PIM-SSM, MSDP, MBGP IGMP V1/V2/V3 and IGMP V1/V2/V3 snooping IGMP Fast leave MLD snooping 	
ACL/QoS	<ul style="list-style-type: none"> Standard and extended ACLs Ingress and egress ACLs VLAN ACLs Global ACLs Ingress CAR with 8K granularity Diff-Serv QoS 802.1P/DSCP Priority marking and remarking 802.1p, TOS, DSCP, and EXP priority mapping Flexible queue scheduling algorithms including SP, WRR, WFQ, SP+WRR, SP+WFQ Traffic shaping Congestion avoidance, Tail-Drop and WRED 	
SDN/ OpenFlow	<ul style="list-style-type: none"> OpenFlow 1.3 Multiple controllers (EQUAL, master/slave) Multiple tables flow Group table Meter 	
VXLAN	<ul style="list-style-type: none"> VXLAN L2 switching VXLAN L3 routing VXLAN VTEP IS-IS+ENDP distributed control plane MP-BGP+EVPN distributed control plane OpenFlow+Netconf centralized control plane 	
MPLS/VPLS	<ul style="list-style-type: none"> L3 MPLS VPN MCE MPLS OAM VPLS P/PE function LDP 	
Security	<ul style="list-style-type: none"> Hierarchical user management and password protection EAD Portal authentication and MAC authentication IEEE 802.1x and IEEE 802.1x SERVER AAA/Radius HWTACACS SSHv1.5/SSHv2 Basic and advanced ACLs for packet filtering OSPF, RIPv2, BGPv4 pain text and MD5 authentication IP address, VLAN ID, MAC address multiple binding combination 	



Item	S6890-30HF	S6890-54HF
System management	Loading and upgrading through XModem/FTP/TFTP SNMP v1/v2/v3 sFlow RMON and groups 1, 2, 3 and 9 NTP clocks System logs Device status monitoring mechanism	
HA	Redundancy for key components such as power modules and fan modules Hot swapping for all components VRRP Hot patching BFD for VRRP/BGP/IS-IS/OSPF/RSVP/static routing Ethernet OAM (802.1ag and 802.3ah) RRPP DLDP Smart-Link ISSU	
EMC	FCC Part 15 (CFR 47) CLASS A ICES-003 CLASS A VCCI CLASS A CISPR 22 CLASS A EN 55022 CLASS A AS/NZS CISPR22 CLASS A CISPR 32 CLASS A EN 55032 CLASS A AS/NZS CISPR32 CLASS A CISPR 24 EN 55024 EN 61000-3-2 EN 61000-3-3 ETSI EN 300 386 GB 9254 GB 17625.1 YD/T993	
Safety	UL 60950-1 CAN/CSA C22.2 No 60950-1 IEC 60950-1 EN 60950-1 AS/NZS 60950-1 FDA 21 CFR Subchapter J GB 4943.1	

Order information

PID	Description
LS-6890-30HF	H3C S6890-30HF L3 Ethernet Switch with 24 SFP Plus Ports and 6 QSFP28 Ports,Without Power Supplies
LS-6890-54HF	H3C S6890-54HF L3 Ethernet Switch with 48 SFP Plus Ports and 6 QSFP28 Ports,Without Power Supplies
Power	
LSVM1AC650	650W AC Power Supply Module
LSVM1DC650	650W DC Power Supply Module
LSVM1AC300	300W AC Power Supply Module
LSVM1DC300	300W DC Power Supply Module
Fan	
LSWM1FANSAB	Fan Module with Port to Power Airflow
LSWM1FANSA	Fan Module with Power to Port Airflow
Transceiver	
SFP-FE-SX-MM1310-A	100BASE-FX SFP Transceiver, Multi-Mode (1310nm, 2km, LC)
SFP-FE-LX-SM1310-A	100BASE-LX SFP Transceiver, Single Mode (1310nm, 15km, LC)
SFP-FE-LH40-SM1310	100BASE-LH40 SFP Transceiver, Single Mode (1310nm, 40km, LC)
SFP-GE-T	1000BASE-T SFP
SFP-GE-SX-MM850-A	1000BASE-SX SFP Transceiver, Multi-Mode (850nm, 550m, LC)
SFP-GE-LX-SM1310-A	1000BASE-LX SFP Transceiver, Single Mode (1310nm, 10km, LC)
SFP-GE-LH40-SM1310	1000BASE-LH40 SFP Transceiver, Single Mode (1310nm, 40km, LC)
SFP-GE-LH40-SM1550	1000BASE-LH40 SFP Transceiver, Single Mode (1550nm, 40km, LC)
SFP-GE-LH80-SM1550	1000BASE-LH80 SFP Transceiver, Single Mode (1550nm, 80km, LC)
SFP-XG-SX-MM850-A	SFP+ Module(850nm,300m,LC)
SFP-XG-LX-SM1310	SFP+ Module(1310nm,10km,LC)
QSFP-40G-LR4-WDM1300	40GBASE-LR4 QSFP+ Optical Transceiver Module
QSFP-40G-CSR4-MM850	QSFP+ 40GBASE Optical Transceiver Module (850nm,300m,CSR4,Support 40G to 4*10G)
QSFP-40G-SR4-MM850	QSFP+ 40GBASE Optical Transceiver Module (850nm,100m,SR4,Support 40G to 4*10G)
QSFP-100G-SR4-MM850	100G QSFP28 Optical Transceiver Module (850nm,100m OM4,SR4,MPO)
QSFP-100G-LR4-WDM1300	100G QSFP28 Optical Transceiver Module(1310nm,10km,LR4,WDM,LC)



PID	Description
Cable	
LSWM1STK	SFP+ Cable 0.65m
LSWM2STK	SFP+ Cable 1.2m
LSWM3STK	SFP+ Cable 3m
LSTM1STK	SFP+ Cable 5m
LSWM1QSTK0	40G QSFP+ Cable 1m
LSWM1QSTK1	40G QSFP+ Cable 3m
LSWM1QSTK2	40G QSFP+ Cable 5m
QSFP-100G-D-CAB-1M	100G QSFP28 to 100G QSFP28 1m Passive Cable
QSFP-100G-D-CAB-3M	100G QSFP28 to 100G QSFP28 3m Passive Cable
QSFP-100G-D-CAB-5M	100G QSFP28 to 100G QSFP28 5m Passive Cable



The Leader in Digital Solutions

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