

# XS50HSx

## Layer 2+ 10 Gigabit Security Routing Switch



### Features

- Backplane capacity 256 Gbps
- Throughput 130.9 Mpps
- 44 x 100/1000Base-X
- 4 x GE Combo
- 2 x 10 GE XFP slot
- Support stack
- Full-loaded power  $\leq 70$  W
- 440 mm x 380 mm x 44 mm

XenOpt XS50HSx 10 GE security routing Ethernet switch with high-performance, high-security and multi-service. Advanced non-blocking array exchange and huge packet cache support smooth operation at the extreme circumstance. It is for IP MAN convergence layer and large-scale enterprise zone or the core of the network layer.

### Product Specification

Parameter	XS50HSx
Backplane capacity	256 Gbps
Switching capacity	256 Gbps
Throughput (IPv4/IPv6)	130.9 Mpps
Memory and storage	256 MB DDR2 SDRAM Memory and 8 MB Flash Memory
Redundancy design	1+1 hot-swap redundant power
Power supply	AC: Input 90~260 V, 50~60 Hz; DC: Input -36 V~-72 V

Power consumption	Full-load ≤50 W; Idle ≤15 W
Weight (in maximum configuration)	≤6.5 kg
Environmental requirements	Working temperature: -15°C~55°C
	Storage temperature: -40°C~70°C
	Relative humidity: 10%~90%, no condensing

### Business Features

<b>L2 Features</b>	
MAC	16 K MAC address
	MAC Black Hole
	Port MAC Limit
VLAN	4K VLAN entries
	Port-based/MAC-based/IP subnet-based VLAN
	Port-based QinQ and Selective QinQ (StackVLAN)
	VLAN Swap and VLAN Remark
	PVLAN to realize port isolation and saving public-VLAN resources
	GVRP
Spanning tree protocol	IEEE 802.1D Spanning Tree Protocol (STP)
	IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
	IEEE 802.1s Multiple Spanning Tree Protocol instances (MSTP)
	Remote loop detecting
<b>Security Features</b>	
User's security	Anti-ARP-spoofing
	Anti-ARP-flooding
	IP Source Guard create IP+VLAN+MAC+Port binding

	Port Isolation
	MAC address binds to port and port MAC address filtration
	IEEE 802.1x and AAA/Radius authentication
Device security	Anti-DOS attack (such as ARP, Synflood, Smurf, ICMP attack), ARP detection, worm and Msblaster worm attack
	SSHv2 Secure Shell
	SNMP v3 encrypted management
	Security IP login through Telnet
	Hierarchical management and password protection of users
Network security	User-based MAC and ARP traffic examination
	Restrict ARP traffic of each user and force-out user with abnormal ARP traffic
	Dynamic ARP table-based binding
	IP+VLAN+MAC+Port binding
	L2 to L7 ACL flow filtration mechanism on the 80 bytes of the head of user-defined packet
	Port-based broadcast/multicast suppression and auto-shutdown risk port
	URPF to prevent IP address counterfeit and attack
	DHCP Option82 and PPPoE+ upload user's physical location
	Plaintext authentication of OSPF、RIPv2 and BGPv4 packets and MD5 cryptograph authentication
<b>IP routing</b>	
IPv4	ARP Proxy
	DHCP Relay
	DHCP Server
	Static route
	RIPv1/v2
	OSPFv2
	BGPv4

	ECMP
	Strategy route
	Route policy
IPv6	ICMPv6
	ICMPv6 redirection
	DHCPv6
	ACLv6
	OSPFv3
	RIPng
	BGP4+
	Configured Tunnel
	ISATAP
	6to4 tunnel
	IPv6 and IPv4 Tunnels
<b>Service features</b>	
ACL	Standard and extended ACL
	Time Range ACL
	Packet filter providing filtering based on source/destination MAC address, source/destination IP address, port, protocol, VLAN, VLAN range, MAC address range, or invalid frame. System supports concurrent identification at most 50 service traffic
	Packet filtration of L2~L7 even deep to 80 bytes of IP packet head
QoS	Rate-limit to packet sending/receiving speed of port or self-defined flow and provide general flow monitor and two-speed tri-color monitor of self-defined flow
	Priority remark to port or self-defined flow and provide 802.1P, DSCP priority and Remark
	CAR (Committed Access Rate),Traffic Shaping and flow statistics
	Packet mirror and redirection of interface and self-defined flow

	<p>Super queue scheduler based on port and self-defined flow. Each port/ flow supports 8 priority queues and scheduler of SP, WRR and SP+WRR.</p> <p>Congestion avoid mechanism, including Tail-Drop and WRED</p>
Multicast	IGMPv1/v2/v3
	IGMPv1/v2/v3 Snooping
	IGMP Filter
	MVR and cross VLAN multicast copy
	IGMP Fast leave
	IGMP Proxy
	PIM-SM/PIM-DM/PIM-SSM
	PIM-SMv6, PIM-DMv6, PIM-SSMv6
MLDv2/MLDv2 Snooping	
<b>Reliability</b>	
Loop protection	EAPS and GERP (recover-time <50 ms)
	Loopback-detection
Link protection	FlexLink (recover-time <50 ms)
	RSTP/MSTP (recover-time <1 s)
	LACP (recover-time <10 ms)
	BFD
Device protection	VRRP host backup
	Double fault-tolerant backup of host program and configuration files
	Board card hot swap
	1+1 power hot backup support
<b>Maintenance</b>	
Network maintenance	Telnet-based statistics
	RFC3176 sFlow
	LLDP

	802.3ah Ethernet OAM
	RFC 3164 BSD syslog Protocol
	Ping and Traceroute
Device management	Command-line interface (CLI), Console, Telnet and WEB configuration
	System configuration with SNMPv1/v2/v3
	RMON (Remote Monitoring) 1/2/3/9 groups of MIB
	NTP (Network Time Protocol)
	GN.Link II Server
	WEB-based network management
	Ping and Traceroute

Ordering information<sup>1</sup>

PN	Description
<b>Switches</b>	
XS50HSD	2 x AC, 44 x 10/100/1000Base-X, 4 x ComboGE (1000BaseX SFP or 10/100/1000BaseT), 2 x 10 GE extended slot, front to back fan
XS50HSF	2 x DC, 44 x 10/100/1000Base-X, 4 x ComboGE (1000BaseX SFP or 10/100/1000BaseT), 2 x 10GE extended slot, front to back fan
XS50HSH	1 x AC, 1 x DC, 44 x 10/100/1000Base-X, 4 x ComboGE (1000BaseX SFP or 10/100/1000BaseT), 2 x 10GE extended slot, front to back fan
<b>Cables 10 G</b>	
XCE-SFSFNgg	Cable, 10 GbE, Direct attach, Optic, SFP+ to SFP+, length: gg = {01 - 1m; 02 - 2m; 03 - 3m; 04 - 4m; 05 - 5m; 06 - 6m; 07 - 7m; 10 - 10m; 20 - 20m; 50 - 50m; C1 - 100m}
XCD-SFSFNgg	Cable, 10 GbE, Direct attach, Copper, SFP+ to SFP+, length: gg = {01 - 1m; 02 - 2m; 03 - 3m; 04 - 4m; 05 - 5m}
XCM-ddeefgg	Cable, multi mode, dd = (LC=LC, E2=E2000, EA=E2000/APC, FA=FC/APC, FC=FC, LA=LC/APC, LC=LC, SA=SA, SC=SC, ST=ST, MU=Miniature Unit), ee = (LC=LC, E2=E2000, EA=E2000/APC, FA=FC/APC, FC=FC, LA=LC/APC, LC=LC, SA=SA, SC=SC, ST=ST, MU=Miniature Unit), f = {X - Cross, S - Straight}, gg = {01 - 1m, 02 - 2m, 05 - 5m, 07 - 7m, 10 - 10m, 20 - 20m, 50 - 50m, C0 - 100m}
XCS-ddeefgg	Cable, single mode, dd = (LC=LC, E2=E2000, EA=E2000/APC, FA=FC/APC, FC=FC, LA=LC/APC, LC = LC, SA=SA, SC=SC, ST=ST, MU=Miniature Unit), ee = (LC=LC, E2=E2000, EA=E2000/APC, FA=FC/APC, FC=FC, LA=LC/APC, LC = LC, SA=SA, SC=SC, ST=ST, MU=Miniature Unit), f = (D=Duplex, S=Simplex), gg = {01 - 1m, 02 - 2m, 05 - 5m, 07 - 7m, 10 - 10m, 20 - 20m, 50 - 50m, C0 - 100m}
XC6-UTUTTgg	Cable, UTP cat 6, 1 Gb, gg = {01 - 1m; 02 - 2m; 10 - 10 m, ...}, specific length on request
<b>Pluggables</b>	
XSM851-M5Lx	SFP, multi mode, 850 nm, 1,25 Gbps, 550 m
XSM311-02Lx	SFP, multi mode, 1310 nm, 1,25 Gbps, 2 km
XSS311-ffLx	SFP, single mode, 1310 nm, 1,25 Gbps, ff = {20 – 20 km, 40 – 40 km}
XSS551-80Lx	SFP, single mode, 1550 nm, 1,25 Gbps, ff = {80 – 80 km, C0 – 120 km}
XSCxx1-ffLx	SFP, CWDM, 1,25 Gbps, ff = {40 – 40 km, 80 – 80 km, C – 120 km, G – 160 km, I – 180 km, K – 200 km}
XSDxx1-ffLY	SFP, DWDM, 1,25 Gbps, ff = {80 – 80 km, C0 – 120 km}

XSBdd1-ffxx	SFP, BIDI, dd = {34 – 1310/1430 nm, 43 – 1430/1310 nm}, 1,25 Gbps, ff = {20 – 20 km, 40 – 40 km}
XSBdd1-ffxx	SFP, BIDI, dd = {35 – 1310/1550 nm, 53 – 1550/1310 nm}, 1,25 Gbps, ff = {02 – 2 km, 20 – 20 km, 40 – 40 km, 60 – 60 km}
XSBdd1-80Lx	SFP, BIDI, dd = {45 – 1430/1550 nm, 54 – 1550/1430 nm}, 1,25 Gbps, ff = {80 – 80 km, C0 – 120 km}
XTM85A-M3LY	SFP+, multi mode, 850 nm, 10 Gbps, 300 m
XTM31A-ffLY	SFP+, multi mode, 1310 nm, 10 Gbps, ff = {M2 – 220 m, 02 – 2 km}
XTS31A-ffLY	SFP+, single mode, 1310 nm, 10 Gbps, ff = {10 – 10 km, 20 – 20 km, 40 – 40 km}
XTS55A-ffLY	SFP+, single mode, 1550 nm, 10 Gbps, ff = {10 – 10 km, 40 – 40 km, 80 – 80 km, A0 – 100 km}
XTDxxA-ffLY	SFP+, DWDM, 10 Gbps, ff = {40 – 40 km, 80 – 80 km}
XTCxxA-10LY	SFP+, CWDM, 10 Gbps, ff = {10 – 10 km, 40 – 40 km, 70 – 70 km}
XTBddA-10LY	SFP+, BIDI, dd = {23 – 1270/1330 nm, 32 – 1330/1270 nm}, 10 Gbps, 10 km
XTBddA-ffLY	SFP+, BIDI, dd = {23 – 1270/1330 nm, 32 – 1330/1270 nm}, 10 Gbps, ff = {10 – 10 km, 20 – 20 km, 40 – 40 km, 50 – 50 km, 60 – 60 km}
XTBddA-80LY	SFP+, BIDI, dd = {45 – 1490/1550 nm, 54 – 1550/1490 nm}, 10 Gbps, 80 km

### Services

#### Expansion Module

XSW2-10GE-2SFP      2\*10GE SFP+ (need to use with SFP+ module)

#### Spare Power Supply Unit

XPWR180AC      180W 220V AC power module

XPWR180DC      180W -48V DC power module

#### Notes:

<sup>1</sup> For accurate order specification please contact XenOpt reseller before placing an order. The content of this document is subject to change without notice. XenOpt does not guarantee errorless or outdated information.



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