

# CSL3RS-02C24X-HAD-B

Layer 3 Managed Switch 24x10GE SFP+, 2x100GE QSFP28



## Overview

CSL3RS-02C24X-HAD-B, a new generation high-performance full-10G L3 managed switch oriented for cloud computing, data centers and high-end campus networks. It adopts an advanced hardware architecture design, providing the industry's highest switching performance and rich data center service features.

In order to meet the needs of cloud computing data center network resource pooling, CSL3RS-02C24X-HAD-B offers VSS (Virtual Switching System) virtualization feature, and cooperates with data center core switch to achieve access of 15,000+ 10Gigabit servers, providing a complete network solution for ultra-large data centers.

CSL3RS-02C24X-HAD-B is equipped with the generation operating system with Lanbras' independent intellectual property rights. On the basis of providing high-performance L2/L3/L4 wire-speed switching services, CSL3RS-02C24X-HAD-B further integrates various network services such as IPv6, traffic analysis and virtualization. Combining uninterrupted upgrade, uninterrupted forwarding, graceful restart, redundant protection and other high-reliability data center technologies, it ensures the longest uninterrupted network communication.

CSL3RS-02C24X-HAD-B follows the advanced "GreenTouch" concept and the industry-leading "Smart@CHIP" energy-saving technology, which is low-carbon and environmentally friendly, and effectively reducing the operating cost of the data center, and providing the green and sustainable development of the network.

## Characteristics

### Advanced Hardware Architecture Design & Leading Processing Capacity

- Equipped with high-performance ASIC switching chips and multi-core processors, supports up to 880Gbps switching capacity, meeting the high-performance, high-capacity, high-density and expandable requirements of data centers.
- Supports switching between front-back and back-front mode and fan automatic speed regulation

### Rich Data Center Business Features

- VSS (Virtual Switch System)
- Supports VSS, which can virtualize multiple physical devices into one in logic. The virtualized system is superior to the independent physical device in performance, reliability, flexibility and management.
- Doubled Performance: The virtualized system makes the best use of each link in the device and avoids the blocking of STP to the link.
- High-reliability: Based on the advanced distributed processing technique and the efficient function of cross-physical device link aggregation, CSL3RS-02C24X-HAD-B provides with non-stop layer-3 routing forwarding and avoids business interruption caused by single points of failure, greatly improving the reliability of the virtual system.
- Flexibility: With the virtual cluster service, the distance of virtual cluster system can expand to 80KM, breaking the geographic restriction of traditional cluster technique.
- Easy Management: The whole virtual system realizes single IP unified management and simplifies the management of network device and network topology.

### Data Center High Reliability

- Based on the HPS (Hitless Protection System), the key power supply system adopts a redundant design, modularized and hot-swappable, and supports seamless switching in case of failure without interrupting business.
- Supports redundancy protection mechanism such as STP/RSTP/MSTP protocol, VRRP protocol, ring network protection, dual uplink active/standby link protection and LACP link aggregation.
- Supports ISSU (In-Service Software Upgrade) and GR (Graceful Restart), guaranteeing the user data non-stop forwarding when the system is upgrading.
- Supports BFD and realizes fault detection and service recovery in seconds through linking with layer-2 or layer-3 protocol.
- CSL3RS-02C24X-HAD-B has perfect Ethernet OAM, 802.3ah and 802.1ag, which can real-time monitor the network operating state and rapidly locate the malfunction.
- High Reliability (99.999%): MTTR of CSL3RS-02C24X-HAD-B is 50ms, meeting the requirement of the carrier-level service.

### Comprehensive Service

- Supports complete layer-2 and layer-3 multicast routing protocol and meets the access requirement of IPTV, multi-terminal HD video monitoring and HD video meeting.
- Supports complete layer-3 routing protocol and a super-large routing table capacity, which make super-large data

center network, campus network, enterprise network and industry private networks available.

### Comprehensive IPv6 Solutions

- Supports IPv6 protocol family, IPv6 Neighbor Discovery, ICMPv6, Path MTU Discovery and DHCPv6.
- Supports IPv6-based Ping, Traceroute, Telnet, SSH, ACL, meeting the need of IPv6 network equipment management and service control.
- Supports IPv6 multicast characteristics including MLD, MLD Snooping and IPv6 layer-3 routing protocols including IPv6 static routing, RIPng, OSPFv3 and BGP4+.
- Supports IPv4-to-IPv6 technologies including IPv6 manual tunnel, auto tunnel, IPv6-to-IPv4 tunnel, and ISATAP tunnel.

### Comprehensive Security Mechanisms

- Device-level security protection: adopts advanced hardware architecture design, realizing the hierarchical scheduling and protection of the packet; provides multiple security measures to defend against DoS, TCP SYN Flood, UDP Flood, broadcast storm, large traffic and other attacks; supports command line authority control based on user levels.
- Comprehensive Security Authentication Mechanism: complies with IEEE 802.1x, Radius, TACACS+.
- Enhanced Service Security Mechanism: supports the plain text or MD5 authentication of relevant routing protocol; uRRF to effectively control illegal business; DPI (Deep Packet Inspection) and (Deep Packet Filtration) to effectively isolate illegal data packets and improve the security of the network system.

### Innovative Green Environmental Design

- CSL3RS-02C24X-HAD-B inherits advanced "GreenTouch" concept, energy saving and environmental.
- Intelligent Power Management System: CSL3RS-02C24X- HAD-B adopts advanced power system architecture design which can realize the function of efficient power switching, private power monitoring, soft start, real-time monitoring, intelligent adjustment and energy-saving.
- Intelligent Fan Management System: CSL3RS-02C24X-HAD-B is designed with the intelligent fan and supports switching between front-back and back-front mode and fan automatic speed regulation.
- Supports Efficient Ethernet and complies with International standard IEEE 802.3az.

## Specifications

Item	CSL3RS-02C24X-HAD-B
Switching Capacity	880Gbps
Forwarding	660Mpps
Fan	4 (built-in)
Ports	24-Port 10G SFP+ 2-Port 100G QSFP28
Dimensions (W*D*H)	442.5*300*44.5mm
Power Supply	AC: 100V-240V, 50Hz±10% DC: -36V~-72V
Environment	Operating temperature/humidity: -10°C -50°C, 10%-90% non-condensing

Storage temperature/humidity: -20°C-70°C; 5%-95% non-condensing	
<b>Data Center Features</b>	VSS  Static configuration and dynamic MAC learning MAC browsing and removal Configurable aging time of the MAC address Limited number of learnable MAC addresses MAC filtration Black-hole MAC list IEEE 802.1AE MacSec
<b>MAC Switching</b>	4K VLAN IDs GVRP
<b>VLAN</b>	1:1 and N:1 VLAN Mapping QinQ and selective QinQ Private VLAN
<b>STP</b>	802.1d STP, 802.1w RSTP, 802.1s MSTP BPDU protection, root protection and ring protection
<b>Multicast</b>	IGMP v1/v2c/v3 IGMP Snooping IGMP Fast Leave Multicast group policy and multicast number limit MVR PIM-SM, PIM-DM
<b>IPv4</b>	Static routing, RIP v1/v2, OSPF, BGP Policy Based Routing(PBR) ECMP BFD for OSPF, BGP
<b>IPv6</b>	ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet IPv6 neighbor discovery Path MTU discovery MLD v1/v2 MLD snooping IPv6 Static Routing, RIPng, OSPFv3, BGP4+ Manual tunnel, ISATAP tunnel, 6-to-4 tunnel
<b>MPLS</b>	MCE (Multi-VRF)  Traffic classification of port/L2~4 protocol headers CAR traffic control 802.1P/DSCP priority mapping and remark Multiple queuing algorithms such as SP, WRR or SP+WRR Tail-Drop, WRED
<b>QoS</b>	Traffic supervision and traffic shaping Ingress and Egress ACL, supports matching L2, L3, L4 and IP quintuples, and performs replication, forwarding and discarding Hash same-source and same-destination load balancing to ensure session integrity of traffic output

	Hash-based load balancing algorithm to ensure session integrity
	L2~L4 ACL flow identification and filtering security mechanism DDoS attack prevention, TCP-SYN/UDP Flood attack prevention Suppression of multicast, broadcast, and unknown unicast packets Port isolation
Security Features	Port Security, IP+MAC+port binding DHCP Snooping, DHCP Option 82 IEEE 802.1x authentication Radius, BDTacacs+ URPF Command line hierarchical protection
Reliability	Power 1+1 backup Static/LACP link aggregation EAPS, ERPS HSRP, VRRP GR for OSPF and BGP BFD for OSPF and BGP ISSU
Management	Console, Telnet, SSH 2.0 Zero Touch Provisioning (ZTP) Web-GUI SNMP v1/v2c/v3 FTP/TFTP/SFTP Syslog RMON sFLOW
Energy Saving	IEEE 802.3az

## Ordering Information

PART NO	DESCRIPTION
CSL3RS-02C24X-HAD-B (Stackable)	Ethernet Routing Switch with 24x10GE SFP+ ports, 2x40/100GE QSFP28 ports 2 power slots; Dual hot swap power supply (AC: 100V-240V; DC: -36V~-72V ) 4 fans; 1U, 19-inch rack-mounted installation
CSL3RS-02C24X-H2D-B (Stackable)	Ethernet Routing Switch with 24 x 10G SFP+, 2 x 100G QSFP28 or 2 x 40G QSFP+, 2 power slots; Dual hot swap power supply (2*DC: -36V~-72V ) 4 fans; 1U, 19-inch rack-mounted installation



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Specifications & design are subject to change without prior notice.

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