



Product Overview

The Cisco Catalyst 9500X Series Switches family consists of fixed aggregation layer switches supporting redundant power supplies and modular fans. The Catalyst 9500X Series Switches provide support for the following features:

- Higher number of 50G/100G/400G ports.
- Advanced security capabilities like MACSec-256 and TrustWorthy systems.
- IoT integration and policy-based automation from the edge to the cloud with SD-Access solution.
- RJ-45 and USB Type C console ports.
- Supports SATA SSD storage for container-based application hosting on select switch models.
- [Switch Models, on page 1](#)
- [Front Panel, on page 2](#)
- [Rear Panel, on page 8](#)

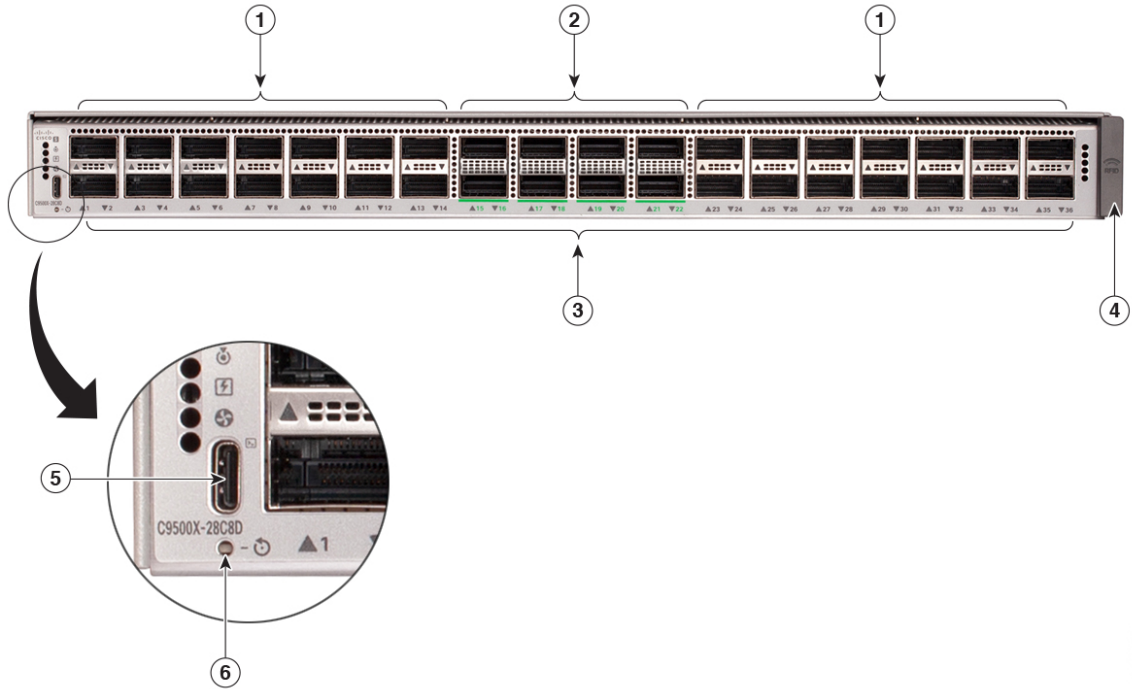
Switch Models

Table 1: Cisco Catalyst 9500X Series Switches Models

Switch Model	Description
C9500X-28C8D	28x100G QSFP28 and 8x400G QSFP-DD ports; 2 power supply slots
C9500X-60L4D	60x50G SFP56 and 4x400G QSFP-DD ports; 2 power supply slots

Front Panel

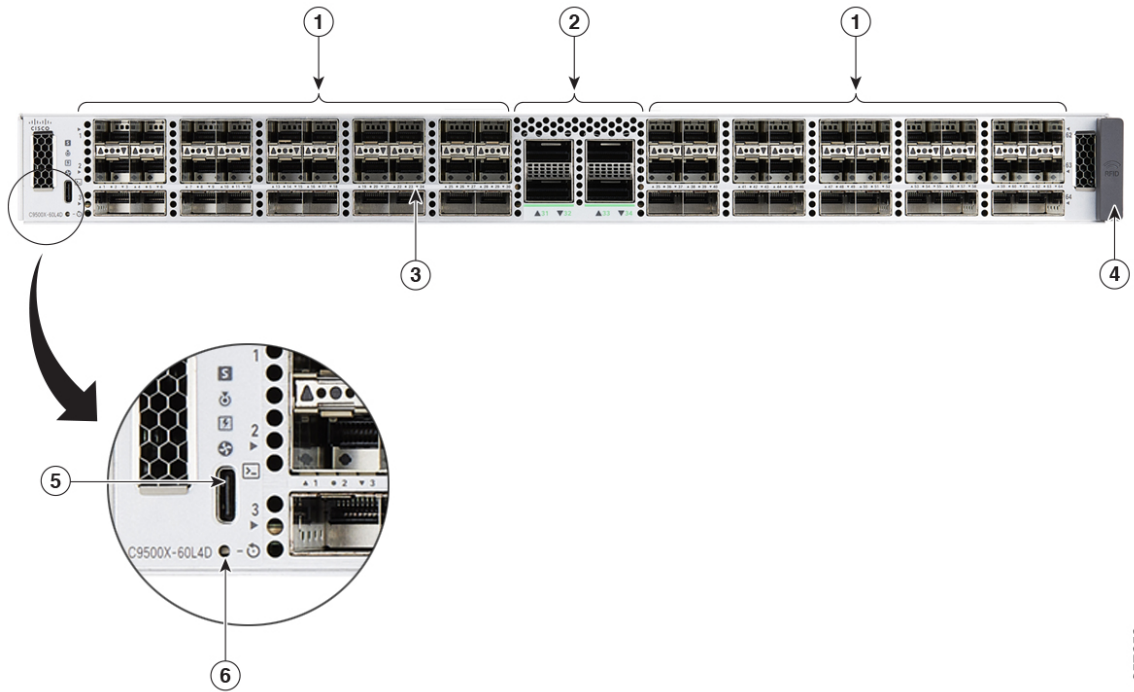
Figure 1: Front Panel of C9500X-28C8D



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1	28 x 100 G QSFP28 ports	4	RFID
2	8 x 400 G QSFP-DD ports	5	USB-C console port
3	Port LEDs	6	Reset button

Figure 2: Front Panel of C9500X-60L4D



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1	60 x 50 G SFP56 ports	4	RFID
2	4 x 400 G QSFP-DD ports	5	USB-C console port
3	Port LEDs	6	Reset button

SFP and QSFP Module Ports

The SFP and QSFP modules provide copper or fiber-optic connections to other devices. The SFP and QSFP module ports for Cisco Catalyst 9500X Series Switches are as follows :

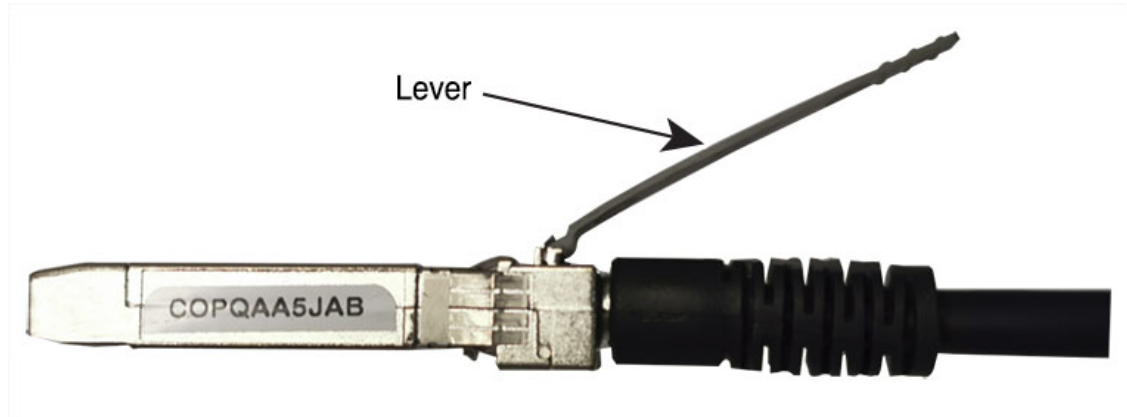
Table 2: Cisco Catalyst 9500X Series Switch Models

Switch model	Supported ports
C9500X-28C8D	Supports 28x100G/40G QSFP28 and 8x400G/200G/100G/40G QSFP-DD modules. The switch also supports 10G with QSA on QSFP28 and QSFP-DD ports.
C9500X-60L4D	Supports 60x50G/25G/10G SFP56 and 4x400G/200G/100G/40G QSFP-DD modules. The switch also supports 10G with QSA on QSFP-DD ports.

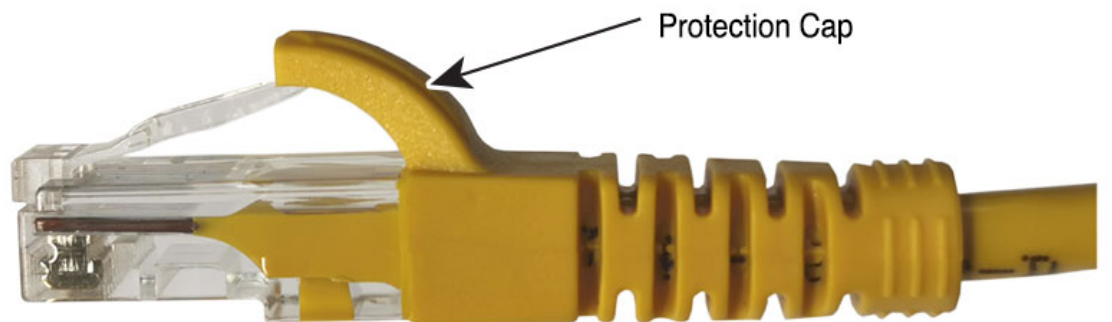


Note With the C9500X-60L4D model:

- Do not use the SFP-H10GB-CU1M/1.5M/2M/2.5M/3M/5M and SFP-10G-AOC1M/2M/3M/5M/7M/10M types of SFP modules from TE Connectivity, because the lever on these modules might interfere with other parts of the switch.



- On a SFP-10G-T-X SFP module, do not use an RJ-45 cable with a protection cap because the protruding cap might interfere with other parts of the switch.



Support for Breakout Cables

Breakout cables enable a single 40G QSFP+ interface to be split into four 10G SFP+ interfaces and a single 100G QSFP28 interface into four 25G SFP28 interfaces.

Breakout cables are only supported on the odd numbered QSFP28 ports of C9500X-28C8D. However, you can use breakout cables in any of the QSFPDD ports.

Breakout cables are only supported on the QSFPDD ports of C9500X-60L4D.

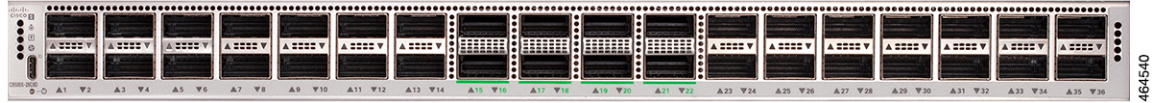
For supported SFP and QSFP modules, refer to the Cisco Transceiver Modules Compatibility Information at <https://tmgmatrix.cisco.com/>.

Port Mapping for Cisco Catalyst 9500X Series Switches

The following figures show how the ports are numbered on different Cisco Catalyst 9500X Series Switches.

C9500X-28C8D

Figure 3: Native Port Numbering for C9500X-28C8D



Port Type	Port Number on the Switch
100G native ports	1—14, 23—36
400G native ports	15—22

Breakout is supported on all the QSFP-DD ports and the odd numbered QSFP28 ports on a C9500X-28C8D.

Table 3: Port mapping for QSFP28 Ports on C9500X-28C8D

40G/100G native ports	Configurable 25G/10G ports with Breakout Cable
1	1/0/1/1, 1/0/1/2, 1/0/1/3, 1/0/1/4
3	1/0/3/1, 1/0/3/2, 1/0/3/3, 1/0/3/4
5	1/0/5/1, 1/0/5/2, 1/0/5/3, 1/0/5/4
7	1/0/7/1, 1/0/7/2, 1/0/7/3, 1/0/7/4
9	1/0/9/1, 1/0/9/2, 1/0/9/3, 1/0/9/4
11	1/0/11/1, 1/0/11/2, 1/0/11/3, 1/0/11/4
13	1/0/13/1, 1/0/13/2, 1/0/13/3, 1/0/13/4
23	1/0/23/1, 1/0/23/2, 1/0/23/3, 1/0/23/4
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29	1/0/29/1, 1/0/29/2, 1/0/29/3, 1/0/29/4
31	1/0/31/1, 1/0/31/2, 1/0/31/3, 1/0/31/4
33	1/0/33/1, 1/0/33/2, 1/0/33/3, 1/0/33/4
35	1/0/35/1, 1/0/35/2, 1/0/35/3, 1/0/35/4

Table 4: Port mapping for QSFP-DD Ports on C9500X-28C8D

400G native ports	Configurable 40G/10G ports with Breakout Cable
15	1/0/15/1, 1/0/15/2, 1/0/15/3, 1/0/15/4
16	1/0/16/1, 1/0/16/2, 1/0/16/3, 1/0/16/4
17	1/0/17/1, 1/0/17/2, 1/0/17/3, 1/0/17/4
18	1/0/18/1, 1/0/18/2, 1/0/18/3, 1/0/18/4
19	1/0/19/1, 1/0/19/2, 1/0/19/3, 1/0/19/4
20	1/0/20/1, 1/0/20/2, 1/0/20/3, 1/0/20/4
21	1/0/21/1, 1/0/21/2, 1/0/21/3, 1/0/21/4
22	1/0/22/1, 1/0/22/2, 1/0/22/3, 1/0/22/4

For more information about how to configure a breakout interface, see "Configuring Breakout Interfaces" section in the *Interface and Hardware Components Configuration Guide*.

C9500X-60L4D

Figure 4: Native Port Numbering for C9500X-60L4D



Port Type	Port Number on the Switch
50G native ports	1—30, 35—64
400G native ports	31—34

Table 5: Port mapping for QSFP-DD Ports on C9500X-60L4D

400G native ports	Configurable 40G/10G ports with Breakout Cable
31	1/0/31/1, 1/0/31/2, 1/0/31/3, 1/0/31/4
32	1/0/32/1, 1/0/32/2, 1/0/32/3, 1/0/32/4
33	1/0/33/1, 1/0/33/2, 1/0/33/3, 1/0/33/4
34	1/0/34/1, 1/0/34/2, 1/0/34/3, 1/0/34/4

RFID Tag

The chassis has a built-in, passive RFID tag that uses UHF RFID technology and requires an RFID reader with compatible software. It provides auto-identification capabilities for asset management and tracking. The RFID tags are compatible with the Generation 2 GS1 EPC Global Standard and are ISO 18000-6C compliant. They operate in the 860- to 960-MHz UHF band. For more information, see [Radio Frequency Identification \(RFID\) on Cisco Catalyst 9000 Family Switches White Paper](#).

Management Port

The Ethernet management port, also referred to as the Gi0/0 or GigabitEthernet0/0 port, is a VRF (VPN routing/forwarding) interface to which you can connect a PC. It supports TFTP image downloading, network management, SNMP, Telnet, and SSH connections. The switches support out-of-band management through the Mgmt-vrf. Mgmt-vrf is used to segment management traffic from the global routing table of the switch. The Ethernet management port supports speeds up to 10/100/1000 Mbps and is set to auto-negotiate.

USB Host Ports

USB host ports lets you connect different USB devices such as flash drives to the switch. The USB 3.0 port provides support for Cisco USB flash drives with capacities from 64 MB to 16 GB. Cisco IOS software provides standard file system access to the flash device: read, write, erase, and copy, as well as the ability to format the flash device with a FAT file system.

The USB 3.0 port is located on the rear panel.

Mode Button

The mode button has the following function:

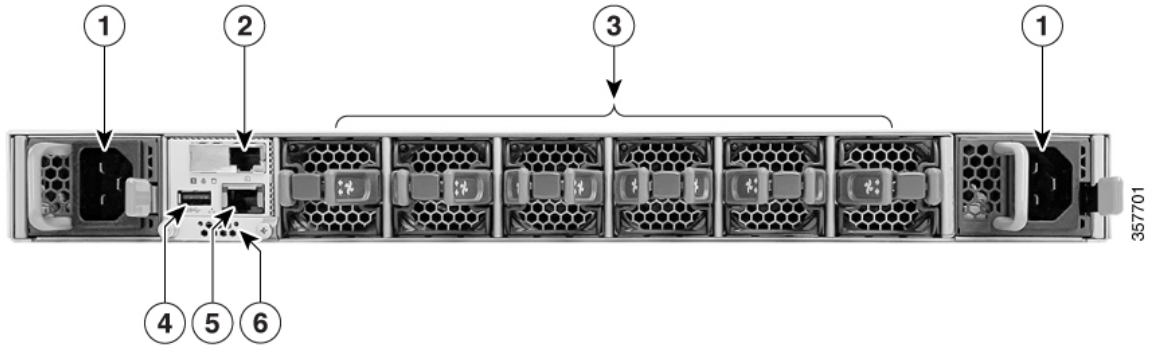
- Reset Mode — works as a reset button to trigger system reset

Reset Mode

Pressing the mode button for five seconds triggers the system power cycle.

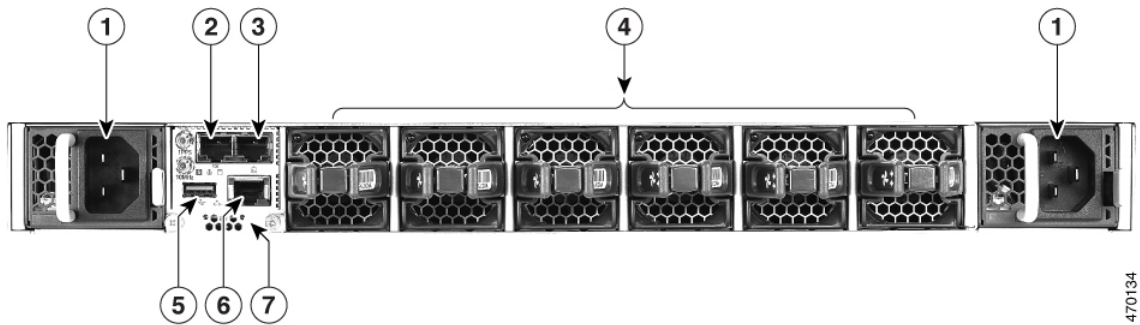
Rear Panel

Figure 5: Rear panel of C9500X-28C8D



1	2 power supply modules	4	USB 3.0 host port
2	RJ45 console port	5	RJ45 Ethernet management port
3	6 fan modules	6	SSD Module

Figure 6: Rear panel of C9500X-60L4D



1	2 power supply modules	4	6 fan modules
2	RJ45 Sync Timing Port	5	USB 3.0 host port
3	RJ45 console port	6	RJ45 Ethernet management port
7	SSD Module	-	

Console Ports

The console ports connect the switch to a PC running Microsoft Windows or to a terminal server.

- RJ-45 console port (EIA/TIA-232). The RJ-45 console port connection uses an RJ-45-to-DB-9 female cable.

- USB-C console port

If you use USB-C console ports, the Cisco Windows USB device driver must be installed on any PC connected to the console port (for operation with Microsoft Windows). Mac OS X or Linux do not require special drivers.

Figure 7: USB-C Console Port



With the Cisco Windows USB device driver, you can connect and disconnect the USB cable from the console port without affecting Windows HyperTerminal operations.

The console output always goes to both the RJ-45 and the USB console connectors, but the console input is active on only one of the console connectors at any one time. The USB console takes precedence over the RJ-45 console. When a cable is connected into the USB console port, the RJ-45 console port becomes inactive. Conversely, when the USB cable is disconnected from the USB console port, the RJ-45 port becomes active.

You can use the command-line interface (CLI) to configure an inactivity timeout which reactivates the RJ-45 console if the USB console has been activated and no input activity has occurred on the USB console for a specified time.

After the USB console deactivates due to inactivity, you cannot use the CLI to reactivate it. Disconnect and reconnect the USB cable to reactivate the USB console. For information on using the CLI to configure the USB console interface, see the Software Configuration Guide for Catalyst 9500 Switches.

SATA SSD Module

To support the storage needs on the switch, the Cisco Catalyst 9500X Series Switches provide support for pluggable Serial Advanced Technology Attachment (SATA) Solid State Drive (SSD) module. The SSD module storage capacity ranges are 240GB, 480GB and 960GB. SATA SSD works as a general-purpose storage device. The storage drive can also be used to save packet captures and trace logs generated by the operating system.

Power Supply Slots

The switch has two power supply slots that accept AC and DC input power supplies. The power supply modules are field replaceable units (FRUs) and are hot-swappable. The chassis is delivered with one power supply pre-installed in the power supply slot. If only one power supply is ordered, then a blank cover is installed in the empty power supply slot, which must remain installed if a power supply is not installed.

The following table describes the internal power supply modules supported on different switch models:

Table 6: Internal Power Supply Modules

Part Number	PSU Modules	Switches Supported
C9K-PWR-1500WAC	1500-W AC platinum certified power supply module	C9500X-28C8D C9500X-60L4D
C9K-PWR-1500WDC	1500-W DC platinum certified power supply module	

Fan Modules

The Cisco Catalyst 9500X Series switch supports field-replaceable, variable-speed modular fans with default front-to-back airflow. It also supports fan modules with back-to-front airflow. These fan units support Online Insertion and Removal (OIR) for up to 120 seconds. The fan unit is responsible for cooling the entire chassis and interfacing with environmental monitors to trigger alarms when conditions exceed thresholds.

The following table describes the fan modules supported on different switch models.

Table 7: Fan Modules

Part Number	Fan Modules	Switches Supported
C9500X-FAN-1U-R	Front to back cooling fan	C9500X-28C8D
C9500X-FAN-1U-F	Back to front cooling fan	C9500X-60L4D

For more information, see [Fan Module Overview](#).