



Overview

The Cisco Catalyst 8500 Series Edge Platforms are well suited for medium-sized and large enterprise branch offices for high WAN IPsec performance with integrated SD-WAN services.

The Cisco Catalyst 8500 Series Edge Platforms target these use cases:

- Enterprise Branch office, Managed Service Provide CPE, Internet Gateway for DIA, SASE cloud platform with SD-WAN
- Next-generation of Software Defined (SD) Branch routing platforms

The Cisco Catalyst 8500 Series Edge Platforms significantly increases services performance, router throughput, and router scale at lower costs.

This document covers only hardware installation specific details for the following models:

- C8500-12X4QC
- C8500-12X
- C8500-20X6C

For more information on the features and specifications of Cisco 8500 Series Catalyst Edge Platform, refer the [Cisco 8500 Series Catalyst Edge Platform datasheet](#)

- [Hardware Features, on page 2](#)
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Hardware Features

Table 1: Hardware Features for Cisco 8500 Series Catalyst Edge Platforms

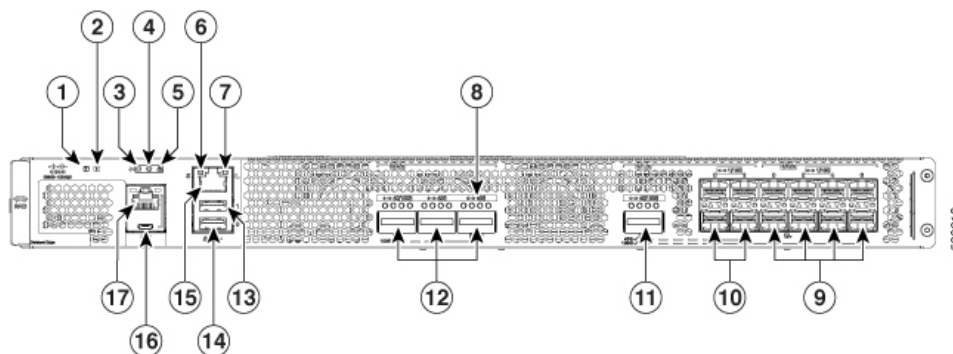
Feature	C8500-12X4QC	C8500-12X	C8500-20X6C
Rack Units	One	One	Three
SSD	480 GB SSD hard drive	480 GB SSD hard drive	480 GB SSD hard drive
Management Interface RJ-45	RJ-45 console port	RJ-45 console port	RJ-45 console port
Micro-USB Console Port	Supported	Supported	Supported
Boot flash Storage	32 GB internal boot flash storage	32 GB internal boot flash storage	32 GB internal boot flash storage
USB Ports	Two USB 3.0 ports for USB flash sticks	Two USB 3.0 ports for USB flash sticks	Two USB 3.0 ports for USB flash sticks
Supported Transceivers	<p>12x SFP+, 4x QSFP</p> <p>1G SFP or 10G SFP+ can be configured with dual-rate 10GE ports as follows:</p> <p>10G SFP+ on dual-rate 10GE Interface: Auto-negotiation protocol is not supported, and automatic negotiation cannot be configured using negotiation auto command.</p> <p>1G SFP on dual-rate 10GE Interface:Auto-negotiation protocol is supported, and automatic negotiation can be configured using negotiation auto command. To disable auto negotiation, use no negotiation auto command.</p>	<p>12x SFP+</p> <p>1G SFP or 10G SFP+ can be configured with dual-rate 10GE ports as follows:</p> <p>10G SFP+ on dual-rate 10GE Interface: Auto-negotiation protocol is not supported, and automatic negotiation cannot be configured using negotiation auto command.</p> <p>1G SFP on dual-rate 10GE Interface:Auto-negotiation protocol is supported, and automatic negotiation can be configured using negotiation auto command. To disable auto negotiation, use no negotiation auto command.</p>	<p>20xSFP+, 6xQSFP+</p> <p>1G SFP or 10G SFP+ can be configured with dual-rate 10GE ports as follows:</p> <p>10G SFP+ on dual-rate 10GE Interface: Auto-negotiation protocol is not supported, and automatic negotiation cannot be configured using negotiation auto command.</p> <p>1G SFP on dual-rate 10GE Interface:Auto-negotiation protocol is supported, and automatic negotiation can be configured using negotiation auto command. To disable auto negotiation, use no negotiation auto command.</p>

Feature	C8500-12X4QC	C8500-12X	C8500-20X6C
TCAM	80 MB Ternary Content-Addressable Memory (TCAM)	10 MB Ternary Content-Addressable Memory (TCAM)	320 MB Ternary Content-Addressable Memory (TCAM)
Power Supplies	AC (PWR-CH1-750WACR) DC (PWR-CH1-950WDCR)	AC (PWR-CH1-750WACR) DC (PWR-CH1-950WDCR)	AC (PWR-CH1-1100WAC) DC (PWR-CH1-950WDC)
System Memory (RAM)	16 GB default (two DIMMS) can be upgraded to 64 GB total	16 GB default (two DIMMS) can be upgraded to 64 GB total	64 GB (four 16 GB DIMMS) not upgradable.
Rack Installation	Two post and four post	Two post and four post	Four post only

Chassis Views

Cisco C8500-12X4QC Chassis Views

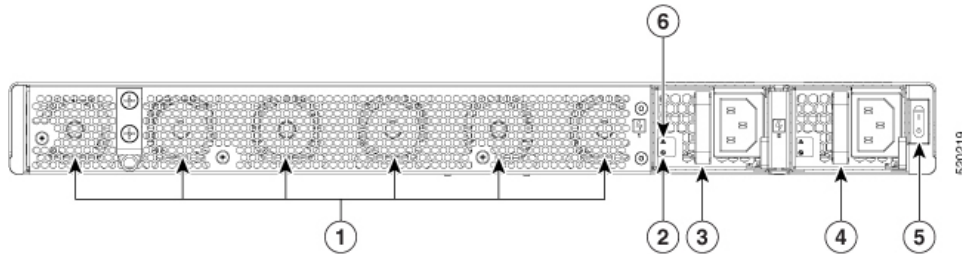
Figure 1: Cisco C8500-12X4QC Front View



1	Power LED	11	Bay 1 : Configurable 100G or 40G
2	Status LED	12	Bay 2 : Configurable 1x100G or 3x40G
3, 4, and 5	Alarm LED	13	USB 1
6 and 7	Management Interface LED	14	USB 0
8	Link Status LED	15	Management Interface

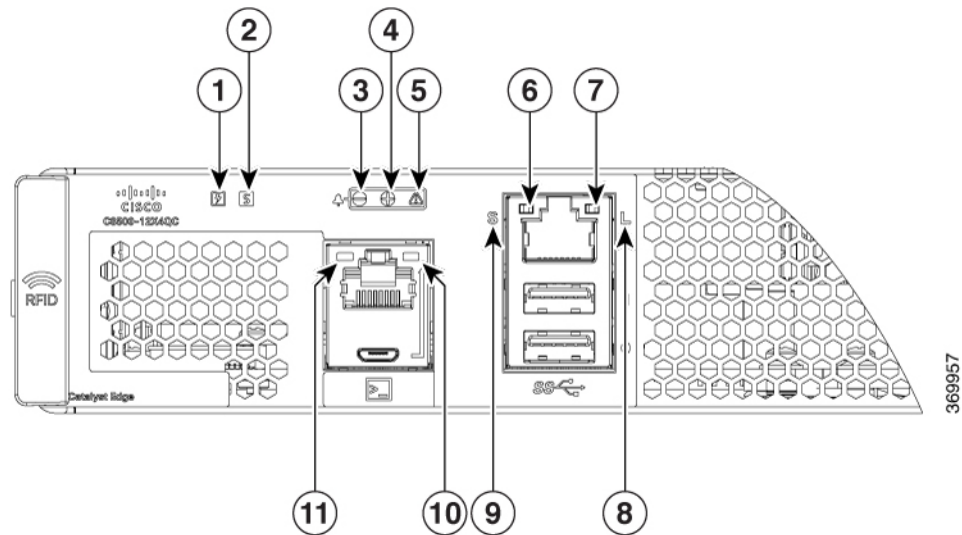
9	Bay 0 : 8x 1/10 GE	16	Micro-USB Console
10	Bay 1 : 4x1/10 GE	17	Console RJ-45

Figure 2: Cisco C8500-12X4QC Rear View



1	Fans	5	Power switch
2	Power supply AC input LED	6	Power supply failure LED
3, and 4	PEM 0, PEM 1		—

Figure 3: Cisco C8500-12X4QC Router LEDs

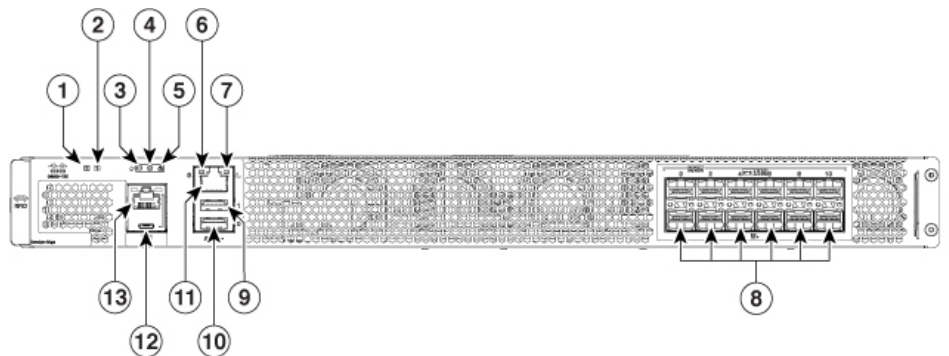


1	Power LED Off : No power to chassis. Yellow : Power On, one power supplyhas failed or is not plugged in. Green : All power is within specifications	6	Speed LED
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2	Status LED Off : System not booted Red : System Failure Yellow : System booted to Rommon Green : System Booted to IOS	7	Link LED
3	Alarm LED - Minor	8 and 9	Management Interface LEDs Link LED : Off no link, On Link is up. Speed LED : one blink 10Mbps, two blinks 100Mbps, three blinks 1000Mbps
4	Alarm LED - Major	10	USB Console Active LED Left LED On indicates that USB console is active
5	Alarm LED - Critical	11	Console RJ-45 Active LED Right LED On indicates that RJ-45 console is active

Cisco C8500-12X Chassis Views

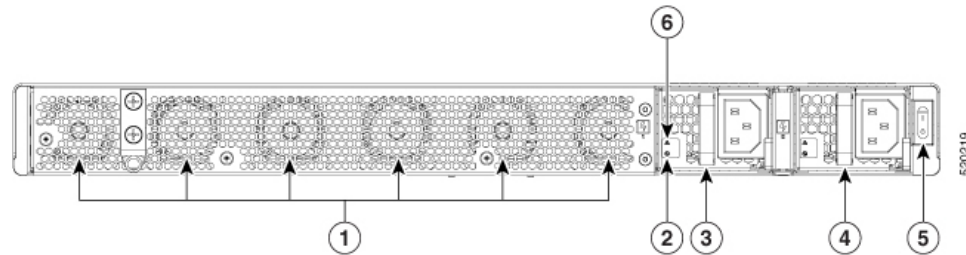
Figure 4: Cisco C8500-12X Front View



1	Power LED	9	USB 1
2	Status LED	10	USB 0
3, 4, and 5	Alarm LEDs	11	Management Interface
6, and 7	Management Interface LEDs	12	Micro-USB Console
8	Bay 0 : 12x 1/10GE SFP+ ports	13	Console RJ-45

The following figure shows the rear view of Cisco C8500-12X

Figure 5: Cisco C8500-12X Rear View



1	Fans	5	Power Switch
2	Power supply AC input LED	6	Power supply failure LED
3, and 4	PEM 0, PEM 1		—

Cisco C8500-20X6C Chassis Views

Figure 6: Cisco C8500-20X6C Chassis—Front View

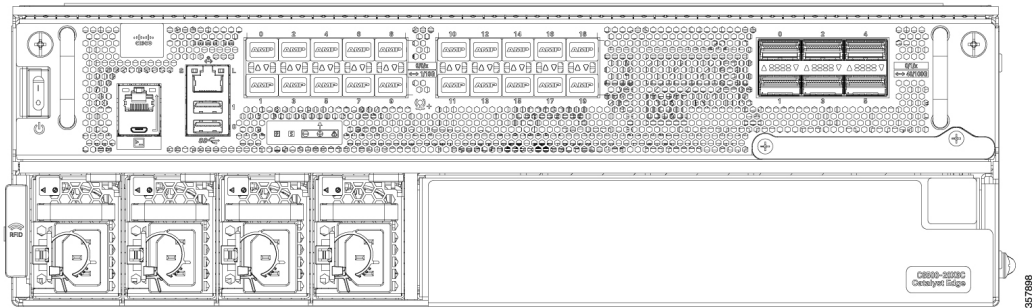
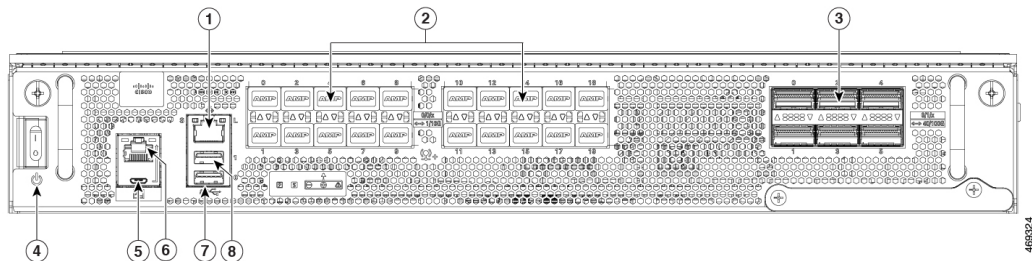


Figure 7: Cisco C8500-20X6C Front View—Bays, Ports



1	Management Interface RJ-45	5	Micro-USB Console
2	Bay 0	6	Console RJ-45
3	Bay 1	7	USB 0

4	Power switch	8	USB 1
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Figure 8: Cisco C8500-20X6C Front View—Power Supplies

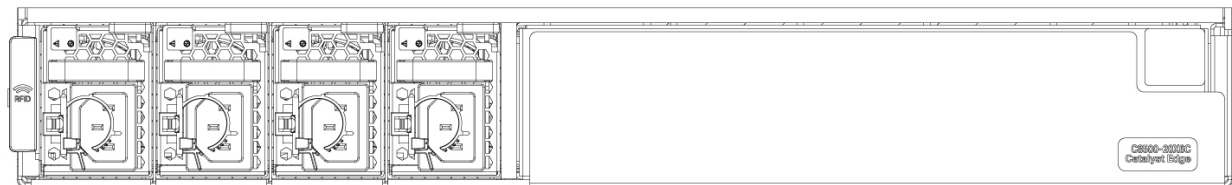
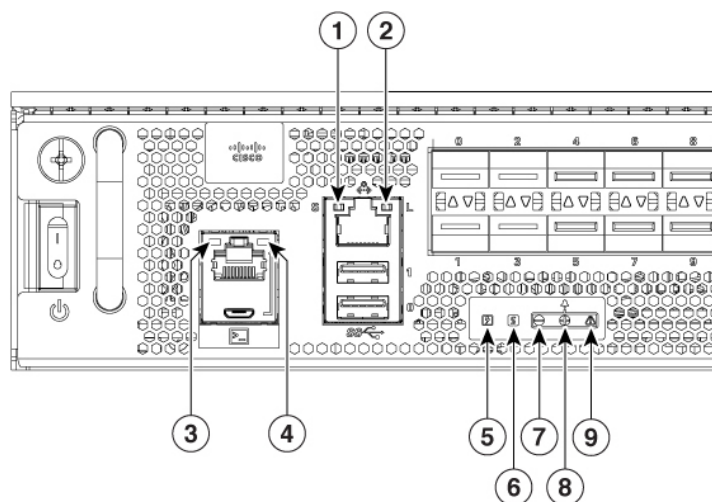


Figure 9: Cisco C8500-20X6C LEDs



1	Management interface LED - speed Speed LED : One blink 10Mbps, two blinks 100Mbps, three blinks 1000Mbps	5	Power LED Off : No power to chassis. Yellow : Power On, one power supply has failed or is not plugged in. Green : All power is within specifications
2	Management interface LED - Link Link LED : Off - no link, Link LED : On - Link is up	6	Status LED Off : System not booted Red : System Failure Yellow : System is booted to ROMmon Green : System is booted to IOS
3	Micro-USB LED Left LED On indicates that USB console is active	7, 8, and 9	Alarm LED : Minor, Major, Critical

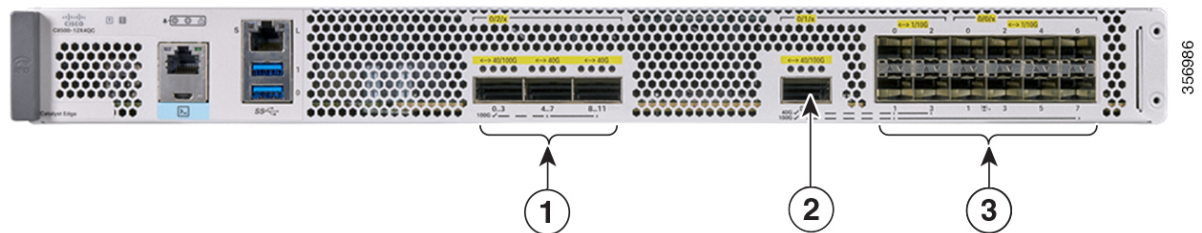
4	Console RJ-45 LED Right LED On indicates that RJ-45 console is active		—
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Bay Configuration

Bay Configuration - C8500-12X4QC

The C8500-12X4QC has three bays that are configurable and supports up to 120G of bandwidth.

Figure 10: Bay Configuration - C8500-12X4QC



1	Bay 2 : 3XQSFP : Individually configurable as 1x 100G or 3x 40G	3	Bay 1 : 4xSFP+/1xQSFP : Individually configurable as 1x 100G or 1x 40G or breakout 4x 10/1G
2	Bay 0 : 8xSFP+ : Individually configurable as 8x 10/1G		—

Bay Configuration - C8500-12X4

The C8500-12X4 has one bay with twelve configurable ports.

Figure 11: Bay Configuration - C8500-12X4

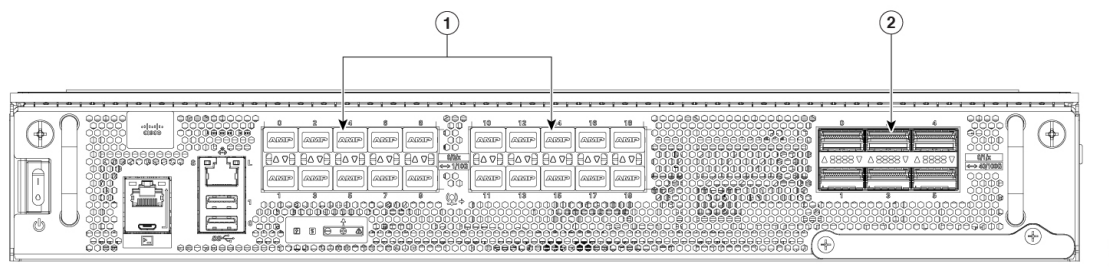


1	Bay 0 : 12XSFP+: Individually configurable as 12X10/1G
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Bay Configuration - C8500-20X6C

The C8500-20X6C has two bays that are configurable and supports up to 400G of bandwidth.

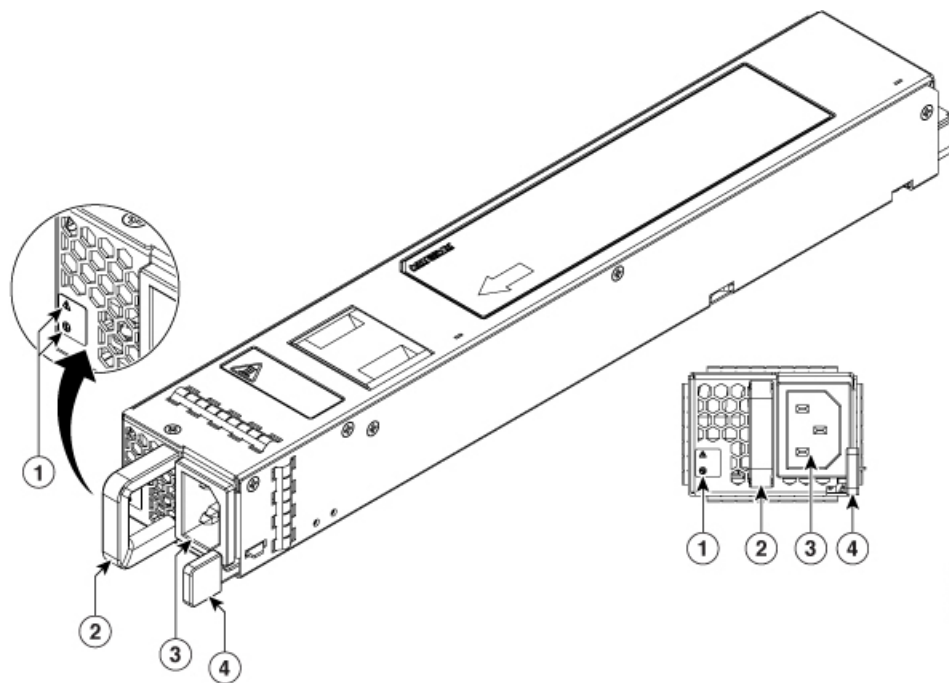
Figure 12: Bay Configuration - C8500 - 20X6C



1	<p>Bay 0 : 20xSFP+</p> <p>20 ports that can be configured as :</p> <ul style="list-style-type: none"> • 1G • 10G • a mix of 1G and 10G 	2	<p>Bay 1 : 6xQSFP+</p> <p>6 ports that can be configured as :</p> <ul style="list-style-type: none"> • 40G • 100G • a mix of 40G and 100G
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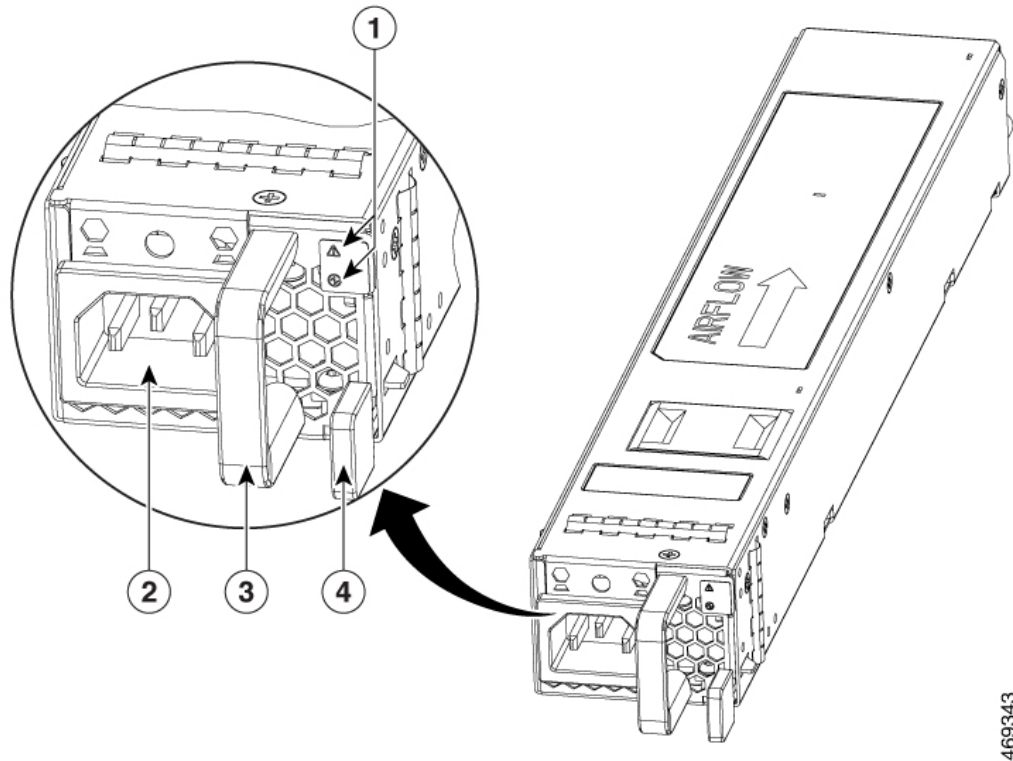
AC Power Supply

Figure 13: AC Power Supply Used in the Cisco C8500-12X4QC Router



1	Fail and OK LEDs	3	AC power connector
2	Handle	4	Retaining latch

Figure 14: AC Power Supply Used in the Cisco C8500-20X6C Router



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1	Fail and OK LEDs	3	Handle
2	AC power connector	4	Retaining latch

DC Power Supply

The DC (PWR-CH1-950WDCR) input connector is a two-wire connector with connection polarity from left to right (when facing the unit) of positive (+) and negative (–).

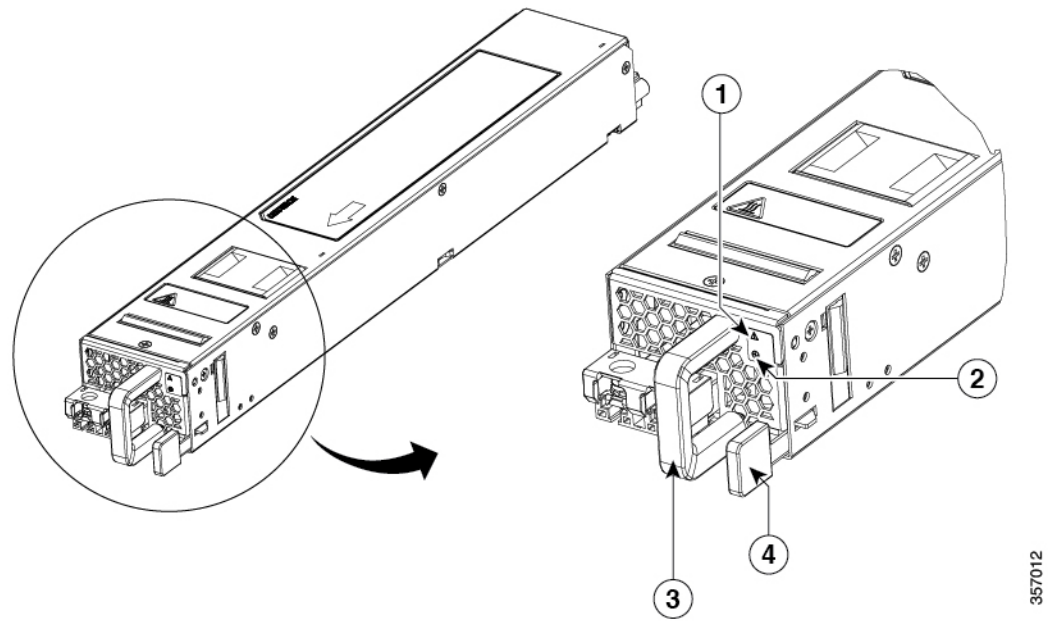
The power supply has a handle to be used for insertion and extraction. The module must be supported with one hand because of its length.



Note The airflow direction is front to back with ambient air drawn in from the venting located on the chassis front sides.

The following figure shows the DC power supply.

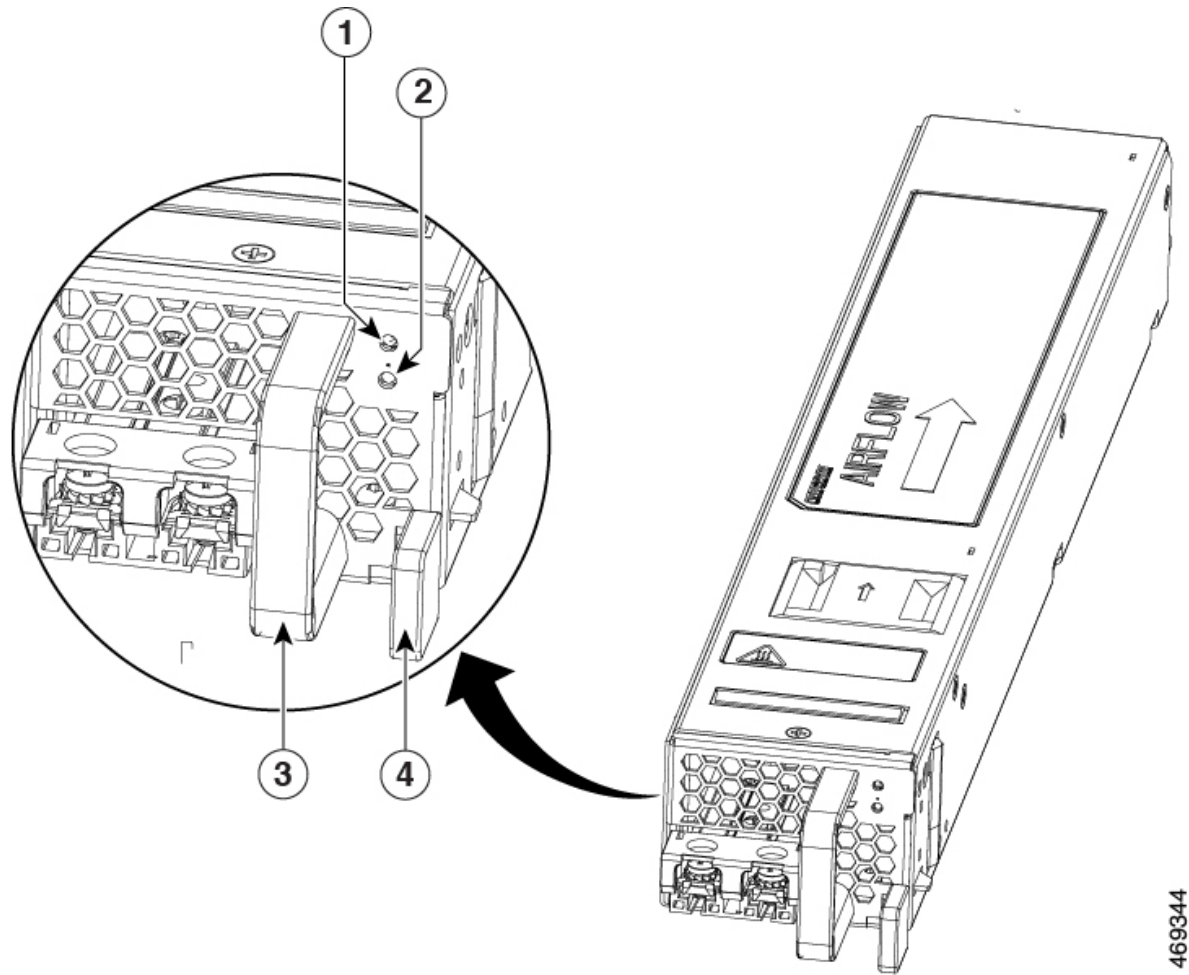
Figure 15: DC Power Supply



357012

1	Fail LED	2	OK LED
3	Handle	4	Retaining latch

Figure 16: DC Power Supply for C8500-20X6C



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1 and 2	Fail and OK LEDs	3	Handle
4	Retaining latch		—

Power Supply LED

The following table describes the power supply LED.

Table 2: AC and DC Power Supply LED

Power Supply Condition	Green (OK) LED Status	Amber (FAIL) LED Status
No AC power to all power supplies	Off	Off

Power Supply Condition	Green (OK) LED Status	Amber (FAIL) LED Status
Power Supply Failure (includes over voltage, over current, over temperature and fan failure)	Off	On
Power Supply Warning events where the power supply continues to operate (high temperature, high power and slow fan)	Off	1Hz (blinking once per second)
AC Present/3.3VSB on (PSU Off)	1Hz (blinking once per second)	Off
Power Supply On and OK	On	Off

Power Supply Fans

The fans in the power supply module are used for cooling the power supply module itself while system-level cooling is provided by fans within the chassis. The power supplies do not depend on the system-level fans for cooling. Fan failure is determined by fan-rotation sensors.



Caution

The chassis has a front-to-rear airflow. All of the power supplies and fan modules in the same chassis must use the same airflow direction or an error will occur with possible overheating and shut down of the router. If you power up the router with more than one airflow direction, you must power down the router and replace the modules with the wrong airflow direction before powering up the router.



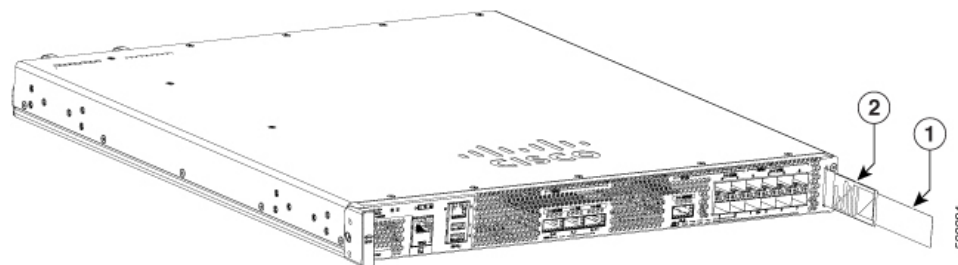
Note

The fans in the power supply modules will run as soon as the power supply is plugged in, even if the power switch is in the Standby position.

Serial Number and PID/VID Label Location

The following figure show the location of the serial number and the PID/VID label on the Cisco Catalyst 8500 Series Edge Platforms.

Figure 17: Cisco C8500-12X4QC and C8500-12X Serial Number and PID/VID Label Location



1	Label Carrier, extended from chassis	2	PID/VID Label
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On C8500-20X6C, the PID/VID label is located on top of the chassis.