LEDs

This section provides details of the LEDs in the Cisco NCS 1014 modules, controller unit and line card.

Line Card LEDs

The Cisco NCS 1014 line cards use LEDs to indicate the overall state of the cards and help you verify the status of specific connections, ports, and system components. The following topics identify these LEDs and explain what they mean.

Note

- "2.4T" refers to the NCS1K14-2.4T-K9 line card.
- "CCMD-16-C" refers to the NCS1K14-CCMD-16-C C-band optical line card.
- "CCMD-16-L" refers to the NCS1K14-CCMD-16-L optical line card.
- "1.2T" refers to the NCS1K4-1.2T-K9 line card.
- "2.4TX" refers to the NCS1K14-2.4T-X-K9 line card.
- "QXP-K9" refers to the NCS1K4-QXP-K9 line card.

2.4T and 2.4TX Line Cards LED

The 2.4T and 2.4TX line cards have nine LEDs to indicate the line port alarm status.

Figure 1: 2.4T Line Card LEDs

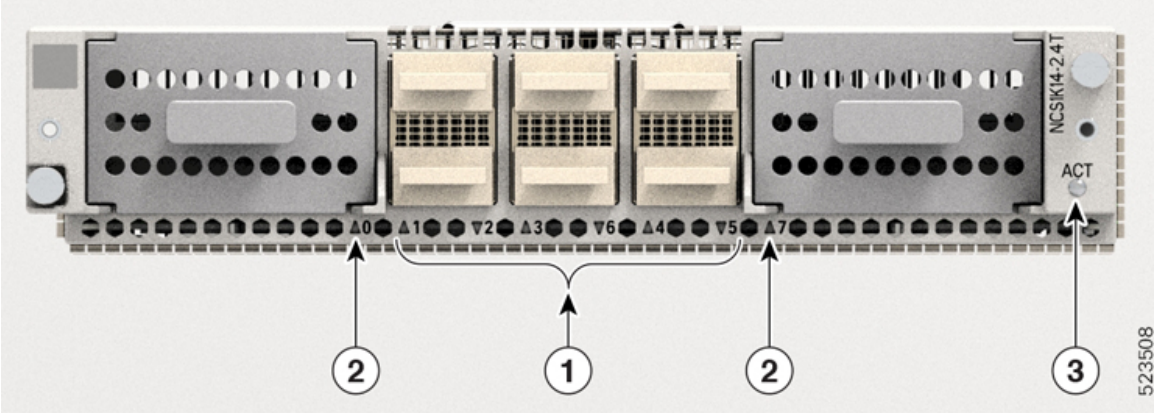
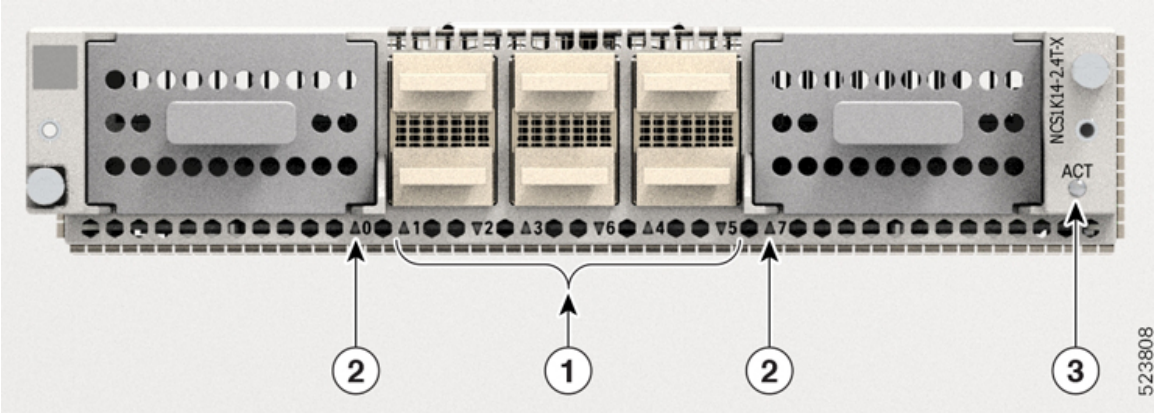


Figure 2: 2.4TX Line Card LEDs



Callout	LED
1	QSFP port (1–6) LEDs The card cage embeds the QSFP LEDs. The *triangles* appearing upwards and downwards indicate the status and position of the corresponding QSFP.
2	Trunk port (0 and 7) LEDs
3	ACT LED

Note The LED status applies to both 2.4T and 2.4TX line cards.

Table 1: Status of the Line Card LEDs

LED	Color	Status
ACT LED[1]	Amber (solid)	The line card is booting. This color appears as soon as the line card is inserted into the chassis.
	Flashing Red	The line card is in the booting phase.
	Green	The line card is up and operational (not associated to the traffic status).
QSFP and Trunk port LEDs (0…7)	Off	The port remains not provisioned or switched off.
	Green	The module is operational and has no alarm.
	Amber (solid)	Minor alarm (such as low Rx or Tx power) that could lead to a traffic-impacting situation.
	Amber (flashing)	Used for troubleshooting. Identifies the faulty port of an LC. Use the **controller optics** command in the configuration mode to point to a faulty port in the line card. The port is configured in maintenance mode or the attention LED is enabled for this port. Use **hw-module location** to enable the attention LED for the port.
	Red	Major alarm that could lead to a traffic-impacting situation.

[1] ACT LED does not support Attention LED.

From R24.4.1, status of the trunk LEDs (0 and 7) are enhanced to reflect the conditions of the CIM8 pluggable.

Table 2: Status of the trunk LEDs based on CIM8 pluggable condition

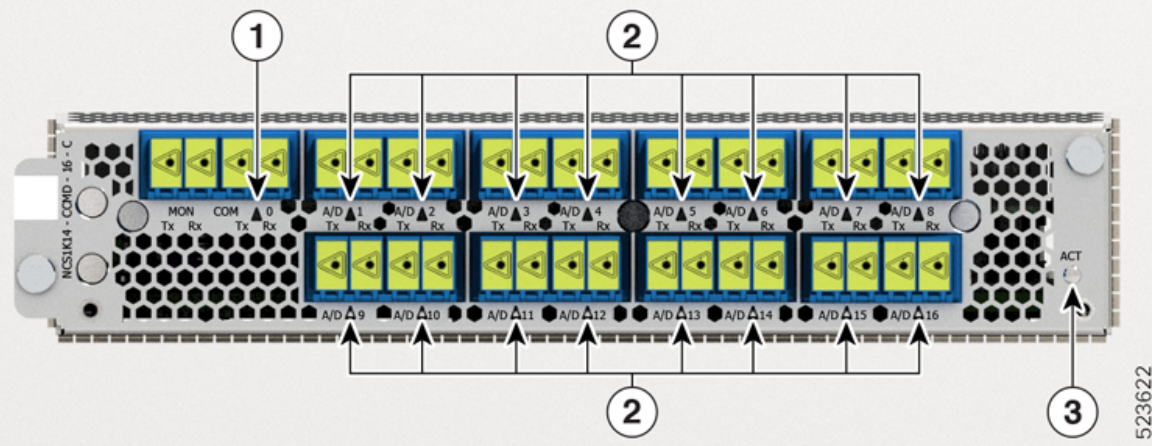
LED	Condition of the CIM8 pluggable	Color reported on CLI	Color on the port LED (physically)	Note
Trunk port LEDs (0 and 7)	Pluggable is inserted. Both captive screws in the pluggable are tightened. Datapath controllers for the pluggable are configured.	red/green	red/green	Based on the alarms that are raised, the LED reports red or green.
	Pluggable is inserted. Datapath controllers for the pluggable are configured. But, either one or both captive screws in the pluggable remain open.	red	red (flashing)	Raises Improper removal alarm.
	Datapath controllers for the pluggable are configured. But, the pluggable is removed.	red	red	Raises Improper removal alarm.
	Pluggable is inserted. Both captive screws in the pluggable are tightened. But, the datapath controllers for the pluggable are not configured.	red (flashing) to off	off	Raises no alarm.
	Pluggable is inserted. But, either one or both captive screws in the pluggable remain open. Datapath controllers for the pluggable are not configured.	off	red (flashing)	Raises no alarm.
	Pluggable is removed. Datapath controllers for the pluggable are not configured.	off	off	Raises no alarm.

CCMD-16-C and CCMD-16-L Line Card LED

The CCMD-16-C and CCMD-16-L optical line cards have 18 LEDs each to indicate the system status and the status of the optical ports.

The following information applies to both CCMD-16-C and CCMD-16-L cards.

Figure 3: CCMD-16-C Optical Cards LEDs



Callout	LED
1	COM
2	A/D-1…A/D-16
3	ACT

Table 3: Status of the CCMD-16-C and CCMD-16-L Optical Card LEDs

LED	Color	Status
ACT	Amber (solid)	The line card is booting. This color appears when you insert the line card into the chassis.
	Flashing Red	The line card is faulty.
	Green	The line card is up and operational—not associated to the traffic status.

LED	Color	Status
COM, A/D-1…A/D-16	Off	The port is not provisioned.
	Red	Major alarm that could lead to a traffic impacting situation.
	Green	The module is operational and has no alarm.
	Amber (solid)	Minor alarm (such as low Rx or Tx power) that could lead to a traffic impacting situation.
	Amber (flashing)	This is used for troubleshooting, to identify the faulty port of an LC. Use the **controller optics** command in the configuration mode to point to a faulty port in the LC. The port is configured in maintenance mode or the attention LED is enabled for this port. **Note** Attention LED is not supported on ACT LED.

1.2T and 1.2T Licensed Line Cards LEDs1.2T, 1.2TL, and 2-QDD-C Line Cards LEDs

The 1.2T and 1.2T licensed line cards have 14 LEDs and 2-QDD-C line cards have 12 LEDs to indicate the line port alarm status.

The LEDs information applies to 2-QDD-C, 1.2T, and 1.2T licensed cards.

Figure 4: 1.2T Line Card LEDs

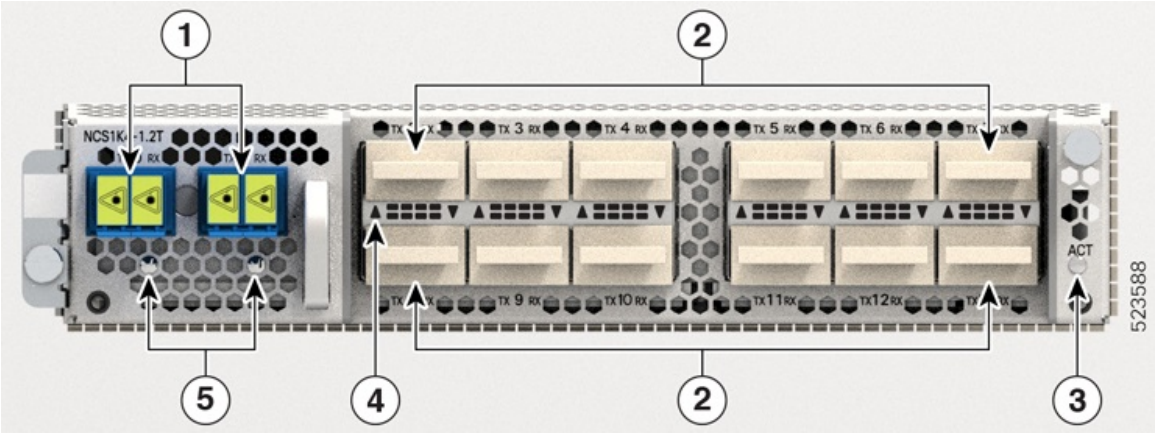
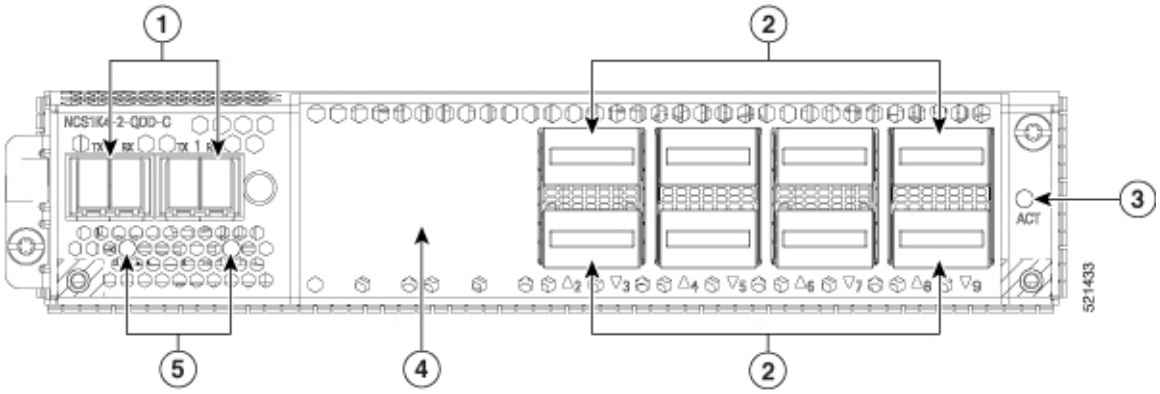


Figure 5: 2-QDD-C Line Card LEDs



1	Trunk ports (0 and 1)
2	• 1.2T and 1.2TL line card 12 QSFP ports (2 to 13). Each QSFP port has Attention LED. • 2-QDD-C line card 8 QSFP ports (2 to 9). Each QSFP port has Attention LED.
3	ACT LED
4	QSFP port LEDs The LEDs for the QSFPs are embedded in the card cage. The *triangles* shown upwards or downwards (in 2-QDD-C, 1.2T and 1.2TL line cards) indicate the status of the corresponding QSFP.
5	Trunk port LEDs

Table 4: Status of the Line Card LEDs

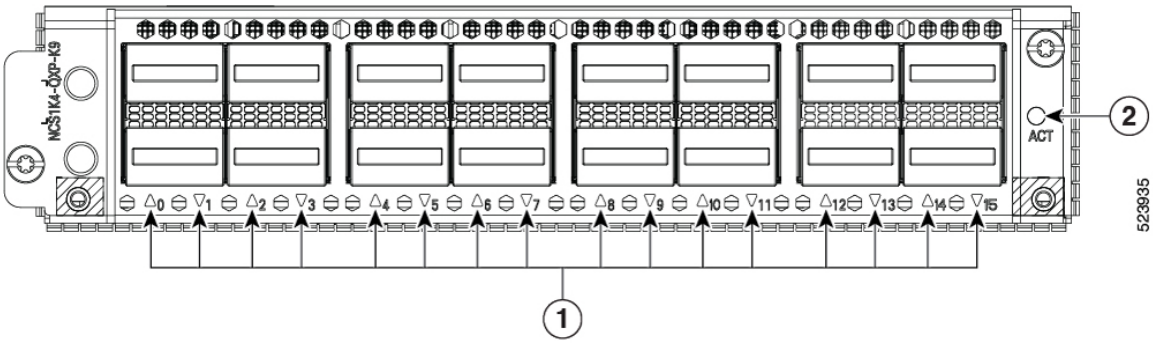
LED	Color	Status
Attention LED	Yellow Flashing	Used by the field engineers to identify a specific port in the line card. This is used for troubleshooting purposes. • Use the **hw-module location** *location***attention-led all-ports** command to turn on this LED on all the ports of the line card. • Use the **hw-module location** *location***attention-led** *port-number* command to turn on this LED on a specific port of the line card. • Use the **show controllers optics** *rack/slot/instance/port* **| in LED** command to display the LED status of ports.

LED	Color	Status
ACT LED	Amber (solid)	The line card is booting. This colour appears as soon as the line card is inserted in to the chassis.
	Flashing Red	The line card is in the booting phase.
	Green	The line card is up and operational (not associated to the traffic status).
QSFP and Trunk port LEDs	Off	The port has not been provisioned.
	Red	Major alarm that could lead to a traffic-impacting situation.
	Green	Indicates that the module is operational and has no alarm.
	Amber (solid)	Indicates a minor alarm (such as low Rx or Tx power), which could lead to a traffic impacting situation.
	Amber (flashing)	This is used for troubleshooting, to identify the faulty port of a line card. Use the **controller optics** command in the configuration mode to point to a faulty port in the line card. The port is configured in maintenance mode or the attention LED is enabled for this port. **Note** Attention LED is not supported on ACT LED.

QXP Line Card LED

The front view of the QXP-K9 line card is as below.

Figure 6: Front View of the QXP-K9 Line Card



1	16 QSFP-DD ports (0 to 15)
2	ACT LED

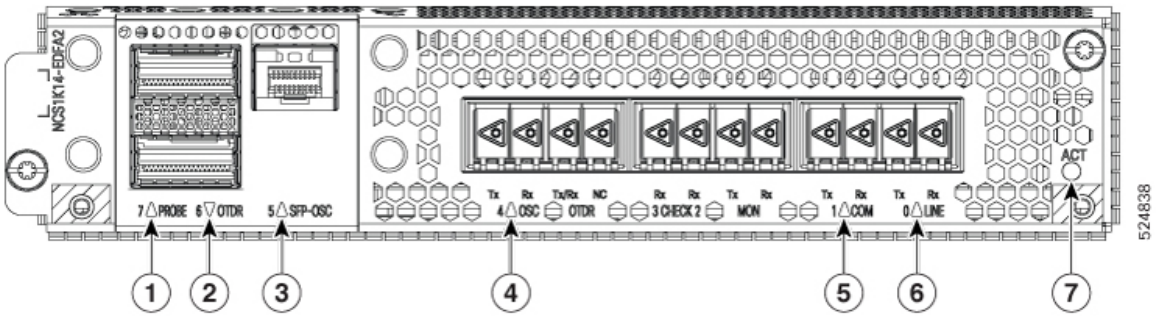
Table 5: Status of the QXP-K9 Line Card LEDs

LED	Color	Status
ACT LED	Flashing Red	The line card is booting. This color appears as soon as the line card is inserted in to the chassis.
	Amber (solid)	Indicates that the line card is in the booting phase.
	Green	Indicates that the line card is up and operational (not associated to the traffic status).
QSFP-DD port LEDs	Off	This indicates that the port has not been provisioned.
	Red	Indicates a major alarm, which could be a traffic impacting situation.
	Green	Indicates that the module is operational and has no alarm.
	Amber (solid)	Indicates a minor alarm (such as low Rx or Tx power), which could lead to a traffic impacting situation.
	Amber (flashing)	This is used for troubleshooting, to identify the faulty port of a line card. Use the **controller optics** command in the configuration mode to point to a faulty port in the line card.

EDFA2 Line Card LED

The EDFA2 line card has seven LEDs to indicate the QSFP-DD and LC port alarm status.

Figure 7: EDFA2 LEDs



Callout	LED
1	PROBE 7
2	OTDR 6
3	SFPP-OSC 5
4	OSC 4

Callout	LED
5	COM 1
6	LINE 0
7	ACT

Table 6: Status of the Line Card LEDs

LED	Color	Status
ACT LED[2]	Amber (solid)	The line card is booting. This color appears as soon as the line card is inserted into the chassis.
	Flashing Red	The line card is in the booting phase.
	Green	The line card is up and operational (not associated to the traffic status).
PROBE 7 SFP-OSC 5 OSC 4 COM 1 LINE 0	Off	The port remains not provisioned or switched off.
	Green	The module is operational and has no alarm.
	Amber (solid)	Minor alarm (such as low Rx or Tx power) that could lead to a traffic-impacting situation.
	Amber (flashing)	Used for troubleshooting. Identifies the faulty port of an LC. Use the **controller optics** command in the configuration mode to point to a faulty port in the line card. The port is configured in maintenance mode or the attention LED is enabled for this port. Use **hw-module location** to enable the attention LED for the port.
	Red	Major alarm that could lead to a traffic-impacting situation.
OTDR 6 port	Red	The module is not present.
	Yellow	OTDR scan is in progress.
	Green	The module is present.

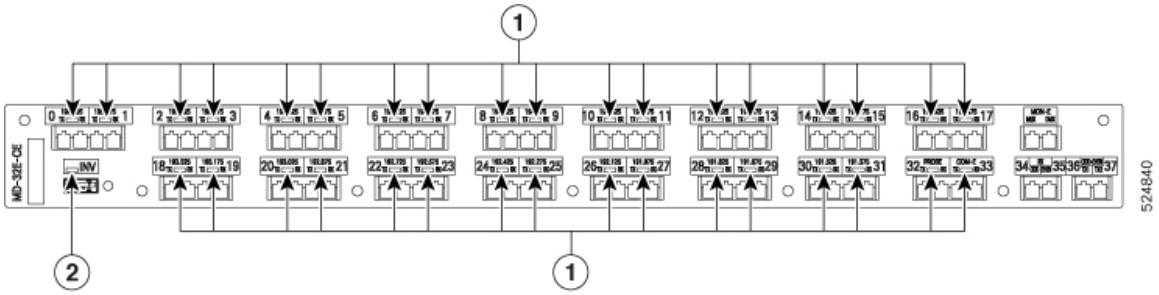
[2] ACT LED does not support Attention LED.

MD-32E-CE and MD-32O-CE LED

The MD-32E-CE and MD-32O-CE patch panels have 35 LEDs each to indicate the system status and the status of the optical ports.

The LED information applies to both MD-32E-CE and MD-32O-CE patch panels.

Figure 8: MD32x-CE Optical Port LEDs



Callout	LED
1	INV
2	CH-0…CH-31

Port LED	Color	Status
CH-0…CH-31	Red	• Major and critical alarms such as RX-LOS-P, which could be traffic-impacting. These alarms are raised when there is a loss of signal (LOS) or when the OTS power reading is below the Fail-Low threshold. • Active signal is not present in the fiber.
	Green (flashing)	Patch panel is operational and has no alarm. **Note** The led flashes green from port CH-0 to CH-31 when the INV port is connected to the NCS 1014 controller USB 2.0 port.
INV	Off	Patch panel is not connected to the NCS 1014 controller USB 2.0 port.
	Blue	Active status and attention state of the inventory USB that is connected to the host NCS 1014 controller USB 2.0 port.

Controller LEDs

The controllers have six LEDs to indicate the system status and the status of the components.

Figure 9: CNTLR LEDs

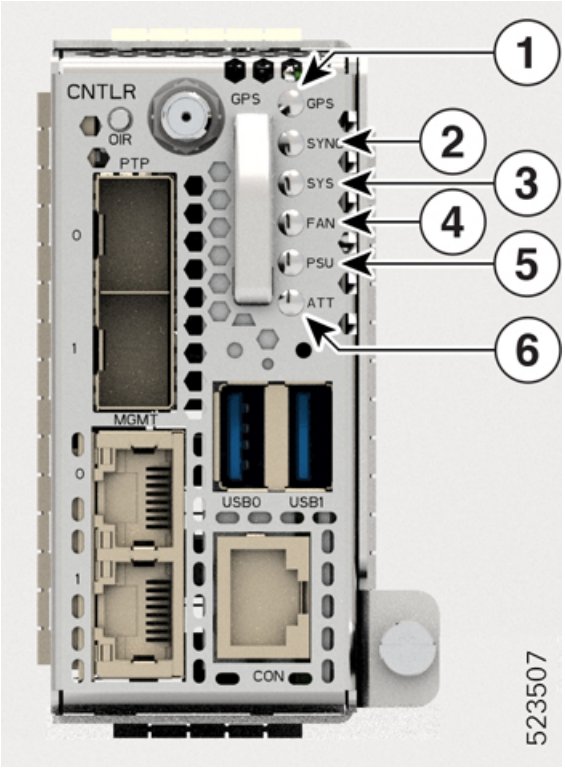
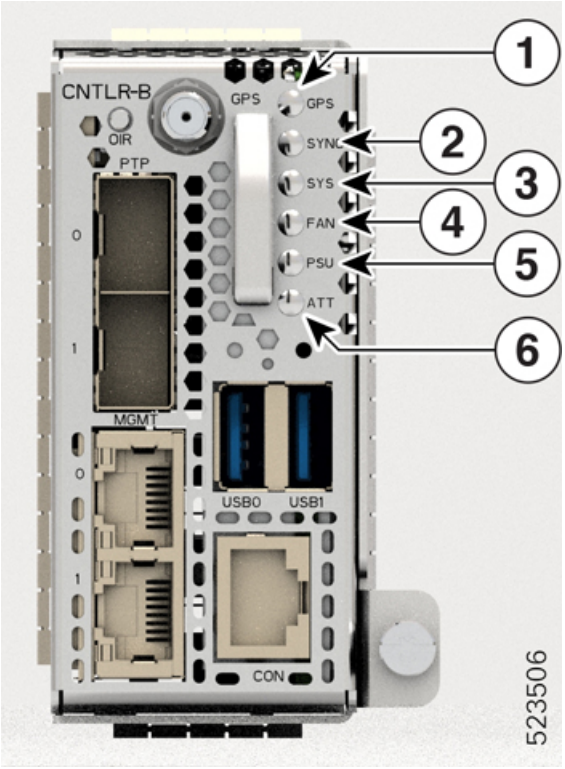


Figure 10: CNTLR-B LEDs



Callout	LED	Callout	LED
1	GPS LED	4	Fan Unit Status (FAN) LED
2	Synchronous Ethernet (SYNC) LED	5	Power Supply Unit Status (PSU) LED
3	System Status (SYS) LED	6	Attention (ATT) LED

Table 7: Status of the Controller LEDs

LED	Color	Status
GPS	Green	GPS phase locked.
	Yellow	GPS enabled.
	Off	GPS not enabled.
	Red	GPS is in use.

LED	Color	Status
SYNC	Green	Time core becomes synchronized to an external source including IEEE1588.
	Flashing green	System is in Synchronous Ethernet mode.
	Amber	Acquiring state or Holdover: Time core is in acquiring state or holdover mode.
	Off	Time core clock synchronization has become disabled or is in a free-running state.
SYS (during controller boot up)	Red	The controller unit is powering on.
	Red (flashing slowly)	BIOS loading.
	Amber (flashing slowly)	OS loading.
	Red (flashing fast)	Secure boot failure. Replace the controller unit.
	Amber (flashing fast)	XR loading.
SYS (controller is operational)	Red	Major or critical alarm is present.
	Amber	Minor alarm is present.
	Green	The module is operational and has no active alarms.
PSU	Green	All PSUs present in the chassis are in working condition.
	Red	Either a PSU is missing from its slot or is faulty.
FAN	Green	All fans present in the chassis are in working condition.
	Red	Either a fan is missing from its slot or is faulty.

LED	Color	Status
ATT	Blue (flashing)	Applicable during online insertion and removal (OIR) procedures. The system is cooling down.
	Blue	Used to identify a specific chassis in a rack or room. Use this LED for troubleshooting purposes. Run the **hw-module attention led location** command to turn on this LED.

Power Supply Unit (PSU) LED

The NCS1K4-AC-PSU-2 and NCS1K4-DC-PSU-2 units have one LED each to indicate their status.

Figure 11: Front View of 2.5-kW AC PSU

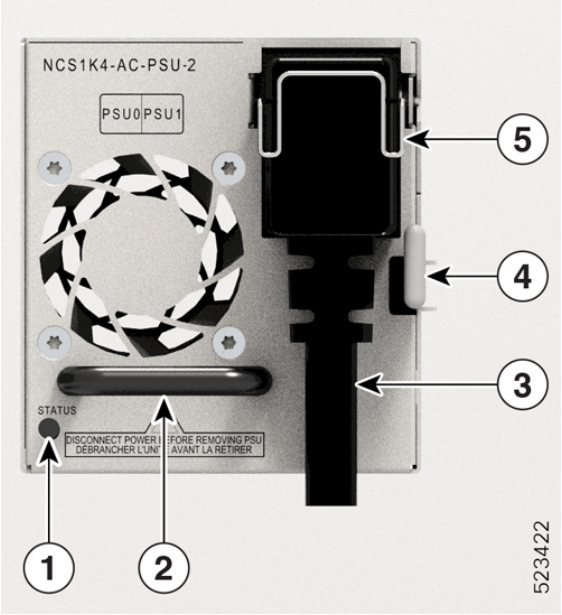
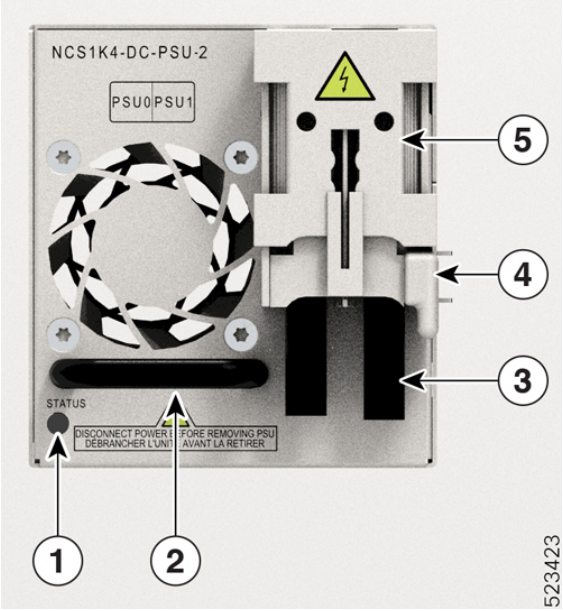


Figure 12: Front View of 2.5-kW DC PSU



1	PSU Unit (STATUS) LED	4	Locking latch
2	PSU Handle	5	Protective cover
3	6 AWG 180-degree exit cables		

Table 8: Status of the 2.5-kW PSU LED

Color	Status
Amber	There exists no input to the PSU, provided the other PSU is working.

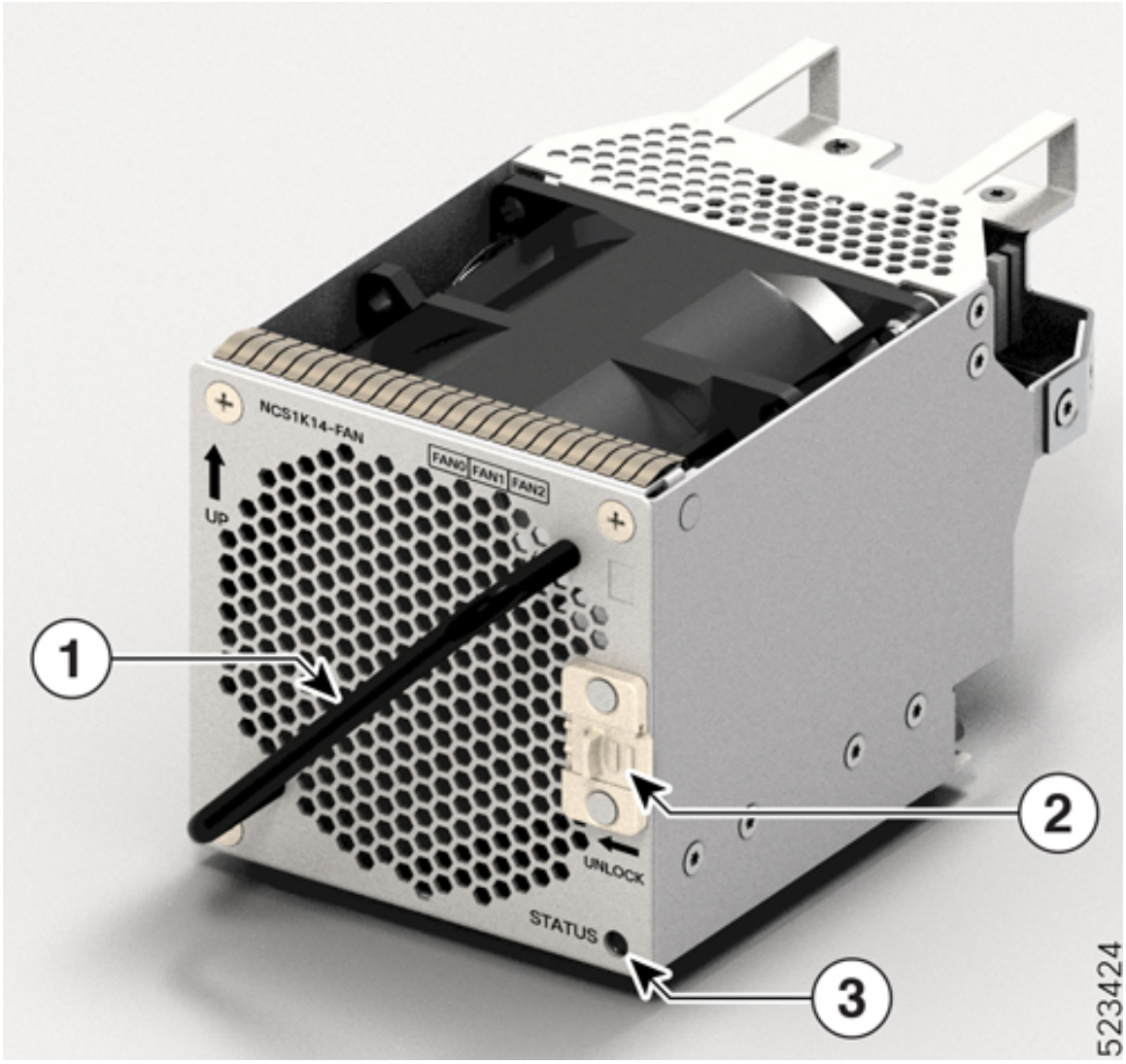
Color	Status
Off	Both PSUs do not have input.
Green	The input to the PSU is valid.

For 2-kW PSU LEDs, see Power Supply Unit LED

Fan Module LED

Each fan module has one LED to indicate its status.

Figure 13: Front View of the Fan Module



1	Cross-handle

2	Spring-loaded Lever
3	Fan Module (STATUS) LED

Table 9: Status of the Fan Module LED

LED	Color	Status
STATUS	Red	Fault found in the fan module. This status occurs for the following reasons: • Fan speed is out of range. • Or the inserted fan module does not power on. • Or the fan module is not present.
	Green	Fan module is working fine.