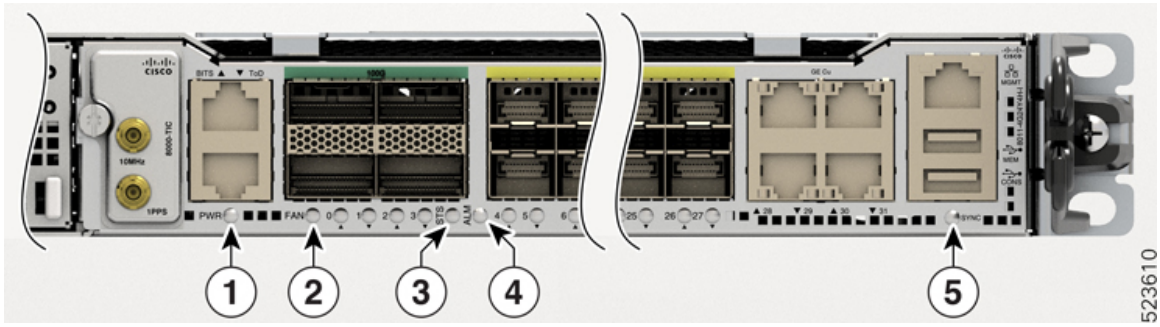


Appendix

Certain troubleshooting aids of the Cisco 8010 Large Density Routers enable you to perform these tasks that assist the troubleshooting process:

Cisco 8011-4G24Y4H-I Router

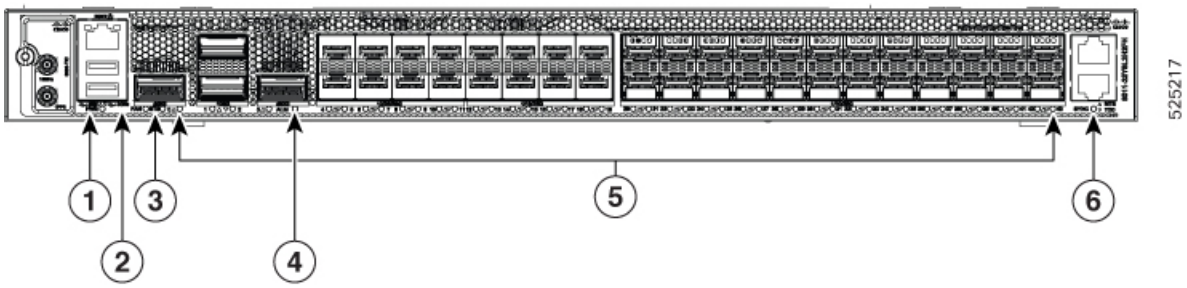
Figure 1: Cisco 8011-4G24Y4H-I Router LEDs



1	Router Power Status LED	2	Fan Assembly LEDs
3	System Status LED	4	Alarm Status LED
5	Synchronization LED		

Cisco 8011-32Y8L2H2FH Router

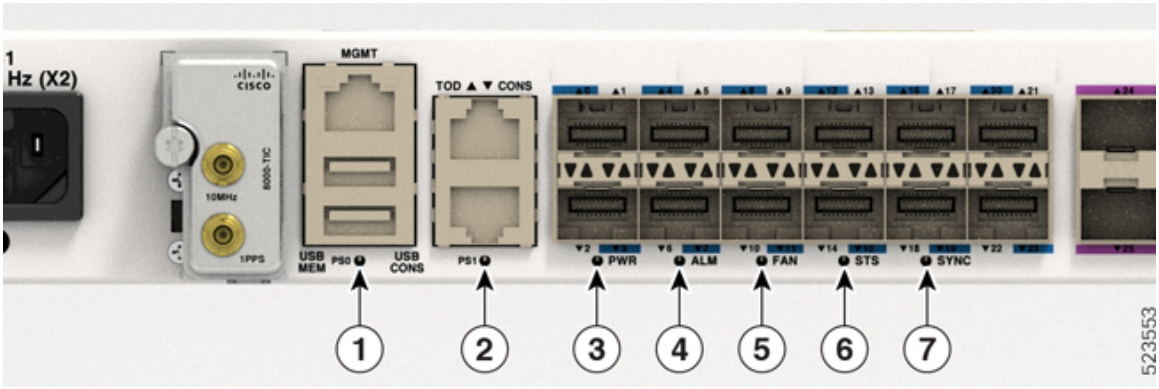
Figure 2: Cisco 8011-32Y8L2H2FH Router LEDs



1	Router power status LED	2	Fan assembly LEDs
3	System status LED	4	Port LED
5	Alarm LEDs	6	Synchorization LED

Cisco 8011-12G12X4Y Router

Figure 3: Cisco 8011-12G12X4Y Router LEDs



1, 2	Power Supply Module LEDs	3	Router Power Status LED
4	Alarm Status LED	5	Fan Assembly LEDs
6	System Status LED	7	Synchronization LED

- LEDs, on page 2
- System Specifications, on page 10

LEDs

The Cisco 8010 Large Density Density Router LEDs are similar for most of the variants, and any differences between the routers are specifically called out.

Router LEDs

All the data port LEDs in the Cisco router are at the front panel.

Figure 4: Cisco 8011-32Y8L2H2FH Router LEDs

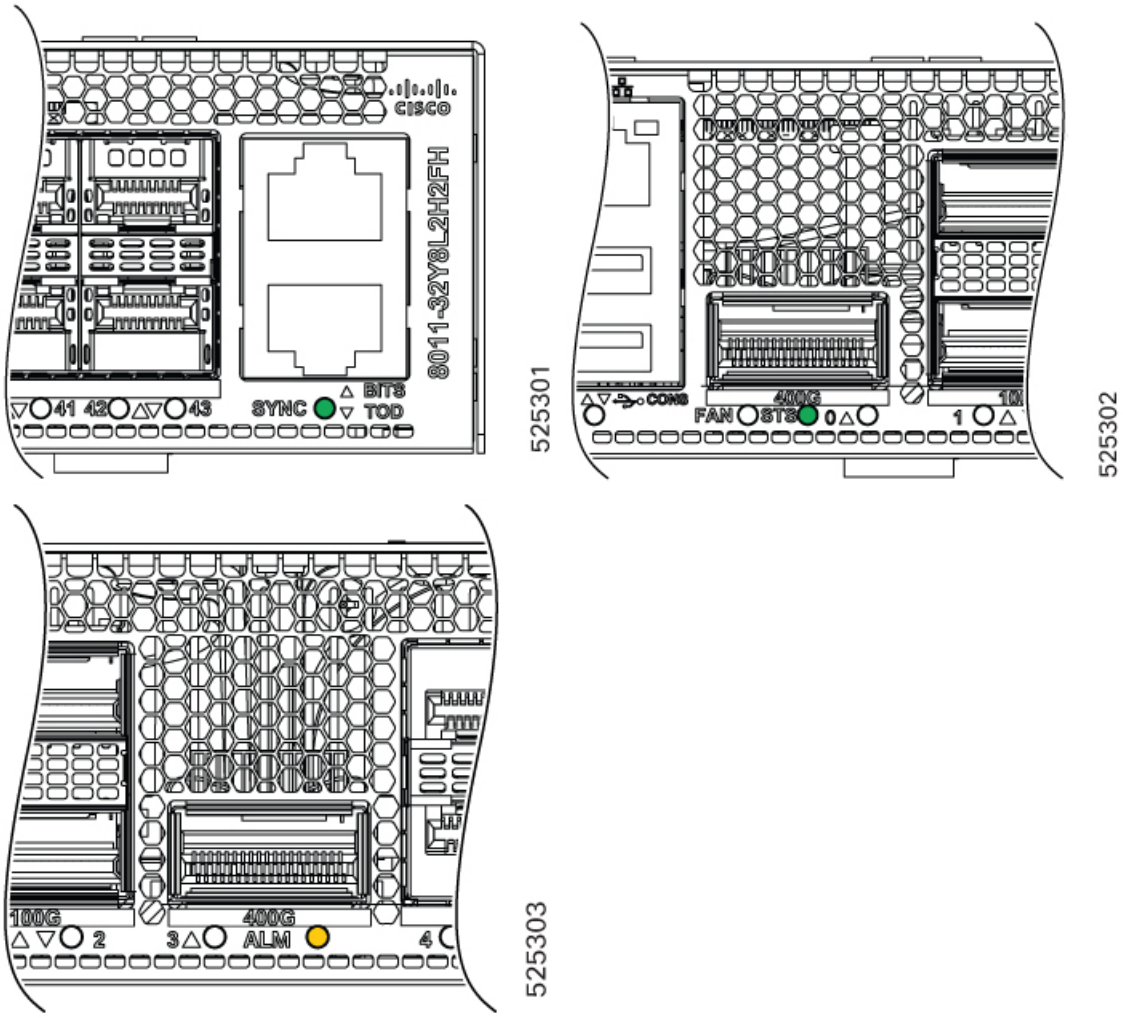


Table 1: Router LED Descriptions

LED Label	Color	Status
STS	Off	The module is powered-off (set by hardware); only standby power mode is available.
	Flashing Amber (Slow)	The module is booting up (set by IOFPGA).
	Flashing Amber (Fast)	The module is booting up (set by BIOS), shutting down, or is being reloaded.
	Amber	Host kernel is booted and is ready to start SysAdmin VM.
	Green	The module is operational and has no active major or critical alarms.
ALM	Off	No alarm
	Red	Critical alarm - system scope, critical temperature.
	Flashing Red	Critical alarm - Relating to voltage rail failures.
	Amber	Major alarm - system-scope.
	Flashing Amber	Minor alarm - system-scope
SYNC	Off	Time core clock synchronization is disabled or in free-running state.
	Green	Time core is 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.

GNSS LEDs

Note GNSS LEDs are available only on the Cisco 8011-32Y8L2H2FH Router.

Figure 5: Cisco 8011-32Y8L2H2FH — GNSS LED

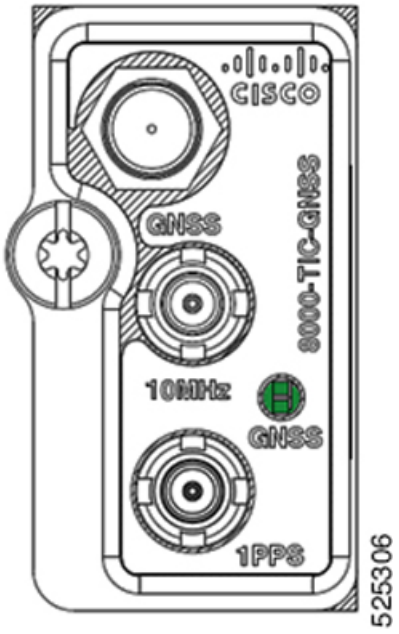


Table 2: Cisco 8011-32Y8L2H2FH — GNSS LEDs

LED	Color	Status
GNSS	Off	GNSS is not configured.
	Green	GNSS normal state. Self-survey is complete.
	Amber	Auto holdover.
	Red	Power up. GNSS is not tracking any satellite.
	Flashing green	Learning state is normal. Self-survey is not completed.

Fan Module LEDs

Figure 6: Cisco 8011-32Y8L2H2FH — Fan Module LED

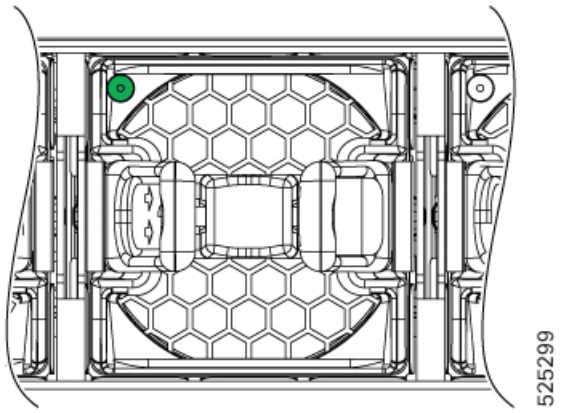


Table 3: Cisco 8011-32Y8L2H2FH — Fan Module LEDs

LED	Color	Status
STATUS	Green	Fan operating normally.
	Red	Fan failure.
	Off	Fan is not receiving power.

Fan Assembly LEDs

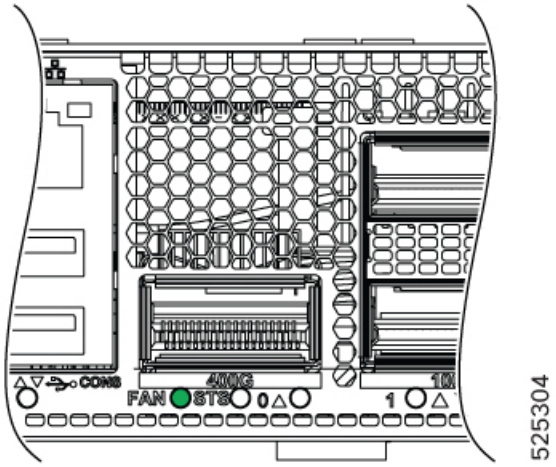
The **Cisco 8011-4G24Y4H-I Router** contains:

- 5 fixed fans at the back panel.
- Fan modules are numbered from left to right as Fan 4 to Fan 0.

The **Cisco 8011-32Y8L2H2FH Router** contains:

- 4 modular fans at the back panel.
- Fan modules are numbered from left to right as Fan 3 to Fan 0.

Figure 7: Cisco 8011-32Y8L2H2FH Router — Fan assembly LED



There is an LED on the front panel of the router that reflect the different status of the fans.

Table 4: Fan Assembly LEDs

LED Label	Color	Status
FAN	Off	Fan tray is not receiving power.
	Green	Fans are operating normally.
	Amber	Single fan failure.
	Red	More than one fan failure.

Power Supply LEDs

Table 5: Cisco 8011-32Y8L2H2FH — Power Supply LEDs

State	Color - Green (AC/DC power status)	Color - Amber (Power supply status)
Blinking	AC power OK, DC output not enabled, sleep mode, 12V standby is ON.	• Power supply warning (PS still operational; 12V main is ON) • Temperature warning • Current limit (OCP)

State	Color - Green (AC/DC power status)	Color - Amber (Power supply status)

Solid On	DC output OK regardless of warning.	• Critical power supply failure
		• 12V main is OFF
		• No AC input (Standby power comes from shared PSU):
		  • High temperature (critical)
		  • High voltage, low voltage
		  • Fan failure

Off	• No AC power input • Has AC input; 12V main and 12V standby are off • PSKILL is true	No failures or warnings

Power Status LEDs

Table 6: Power Status LEDs

LED Label	Color	Status
PWR	Off	Sytem is powered off.
	Green	All the power supplies are on and operating normally.
	Amber	Standby FPGA upgrade is in progress (this is expected to take about three to five minutes).
	Red	Power redundancy is lost due to a power feed failure or an internal power supply failure.

SFP Port LEDs

Table 7: SFP Port LEDs

LED Label	Color	Status
STATUS	Off	Admin is down
	Green	Link is up in 1/10/25G ports
	Yellow	Fault or Error or Link Down

Copper Port LEDs

Note Copper port LEDs are available only on the Cisco 8011-4G24Y4H-I Router.

Table 8: 1G Copper Port LEDs

LED Label	Color	Status
Left LED	Green	Link is up in 10/100/1000 Mbps
	Blinking Green	Activity in 1G/100/10 Mbps
	Amber or Orange	Fault/Error/Link is down
	Off	Admin is down
Right LED	Green	Link is up in full duplex

Management Port LEDs

Figure 8: Management port LED

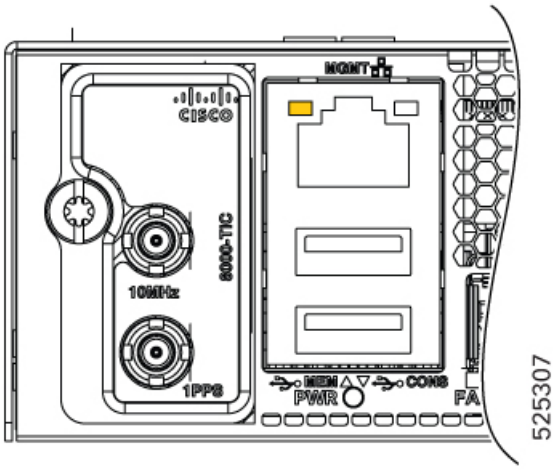


Table 9: Management port LEDs

LED Label	Color	Status
Left LED	Green	Link is up in 1000 Mbps
	Blinking Green	Activity in 1000 Mbps
	Amber or Orange	Link is up in 100/10Mbps
	Blinking Amber or Orange	Activity in 100/10Mbps
	Off	Link is down
Right LED	Off	Unused

System Specifications

For more information on the weight, power consumption, environmental specifications, and other details, see *Cisco 8010 Series Router Data Sheet*.

RJ45 Connectors

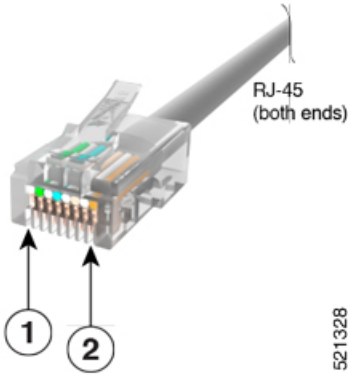
The RJ45 connector connects Category 3, Category 5, Category 5e, Category 6, or Category 6A foil twisted-pair or unshielded twisted-pair cable from the external network to the following module interface connectors:

- Router chassis
  - CONSOLE port
  - MGMT ETH port

Caution To comply with GR-1089 intrabuilding, lightning immunity requirements, you must use a foil twisted-pair (FTP) cable that is properly grounded at both ends.

The following figure shows the RJ45 connector.

Figure 9: RJ45 Connector



1	Transmit data (bidirectional)
2	NC (Not Connected)

Transceiver and Cable Specifications

To determine which transceivers and cables are supported by this router, see Cisco Transceiver Modules Compatibility Information.

To see the transceiver specifications and installation information, see Cisco Transceiver Modules Install and Upgrade Guides.

RJ45 ToD and 1PPS Port Pinouts

The following table summarizes the RJ45 ToD and 1PPS port pinouts:

Table 10: RJ45 ToD and 1PPS Port Pinouts

Pin	Signal Name	Direction	Description
1	NA	NA	NA
2	NA	NA	NA
3	1PPS_N	Output or Input	1PPS RS422 signal
4	GND	NA	NA
5	GND	NA	NA

Pin	Signal Name	Direction	Description
6	1PPS_P	Output or Input	1PPS RS422 signal
7	TOD_N	Output or Input	Time-of-Day character
8	TOD_P	Output or Input	Time-of-Day character

Console Port Pinouts

This summarizes the Console port pinouts:

Table 11: Console Port Pinouts

Pin	Signal Name	Direction	Description
1	ACONS-TX	Output	Aux Consoles transmit output, RS232
2	NC	NA	NA
3	CONS-TX	Output	Console RS232 transmit
4	GND	NA	Ground
5	GND	NA	Ground
6	CONS-RX	Input	Console RS232 receive
7	ACONS-RX	Input	Aux Consoles receive input, RS232
8	NC	NA	NA

Alarm Port Pinouts

This summarizes the alarm port pinouts:

Table 12: Alarm Port Pinouts

Pin	Signal Name	Description
1	ALARM1_IN	Alarm input 1
2	ALARM2_IN	Alarm input 2
3	NC	NA
4	ALARM3_IN	Alarm input 3
5	ALARM4_IN	Alarm input 4
6	NC	NA

Pin	Signal Name	Description
7	NC	NA
8	ALARM_I_COMMON	Alarm input COM

To set the description of the alarm:

```
RP/0/RP0/CPU0:ios(config)# environment alarm-contact contact-number description
description
```

To set the severity of the alarm:

```
RP/0/RP0/CPU0:ios(config)# environment alarm-contact contact-number severity
[critical | major | minor] [
```

To set the trigger for the alarm:

```
RP/0/RP0/CPU0:ios(config)# environment alarm-contact contact-number trigger [open
 | closed]
```



Note You can configure up to four external alarms.

The *contact-number* is the pin number of the connected alarm port, that is Alarm input 1 to Alarm input 4.

The **description** string can be up to 80 alphanumeric characters in length and is included in any generated system messages.

For **severity**, enter any one of: **critical**, **major**, or **minor**.

Description and severity are both mandatory values.

Use the **show alarms** command in admin mode to view the alarm details. Use the **show logging** command to view the displays the state of syslog error and event logging.

An SNMP trap is sent for every external alarm that is raised or cleared on the system.

USB Port Console Pinouts

This table summarizes the USB port console pinouts:

Table 13: USB Port Console Pinouts

Pin	Signal Name	Description
A1	VCC	+5 VDC
A2	D–	Data–
A3	D+	Data+
A4	GND	Ground

USB Port Memory Pinouts

This table summarizes the USB port memory pinouts:

Table 14: USB Port Memory Pinouts

Pin	Signal Name	Description
A1	VCC	+5 VDC
A2	D–	Data–
A3	D+	Data+
A4	GND	Ground

Management Ethernet Port Pinouts

This table summarizes the management ethernet port pinouts:

Table 15: Management Ethernet Port Pinouts

Pin	Signal Name
1	TRP0+
2	TRP0–
3	TRP1+
4	TRP2+
5	TRP2–
6	TRP1–
7	TRP3+
8	TRP3–