

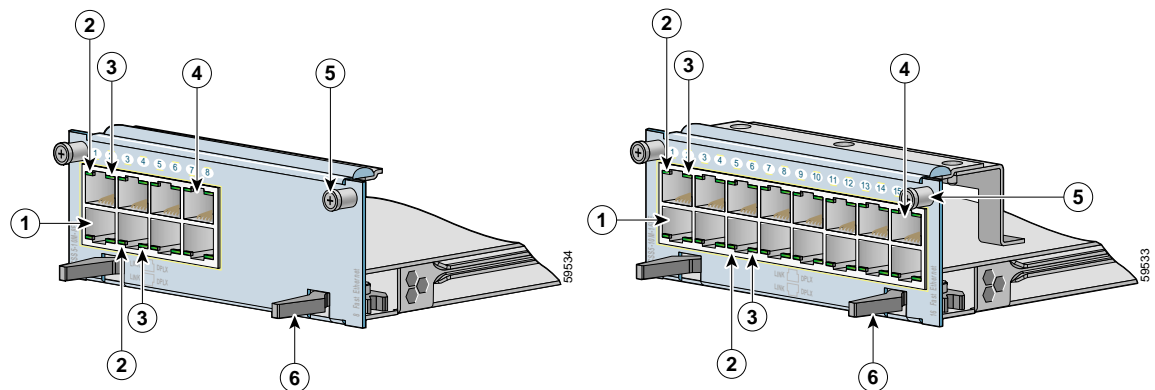
# Cisco 11500 Series Content Services Switch Fast Ethernet Module Reference

The CSS 11500 series Fast Ethernet module (FEM) provides either:

- 8 auto-sensing 10/100-Mbps Ethernet (10BASE-T/100BASE-TX) RJ-45 ports (CSS5-IOM-8FE=)
- 16 auto-sensing 10/100-Mbps Ethernet (10BASE-T/100BASE-TX) RJ-45 ports (CSS5-IOM-16FE=)

Each connector has Link and Duplex LEDs. The LEDs indicate the module and network status. [Figure 1](#) shows an 8- and 16-port FEM.

**Figure 1** 8- and 16-Port Fast Ethernet Module



1	Port 1 (port 2 is above)	4	Port 8 or 16 (port 7 or 15 are below)
2	Link LEDs	5	Spring-loaded screws (one of two)
3	Duplex LEDs	6	Ejectors (one of two)

**Note**

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Before you remove or install a module, make sure you properly ground yourself prior to handling the module. For example, wear an antistatic wrist strap (included in the kit with the module) and stick the copper-tape end of the strap to an unpainted metal surface on the chassis. Make sure that the wrist strap makes good contact with your skin.

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## Removing the FEM

**Caution**

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You must power down the CSS before you remove a FEM. If you remove a powered-on FEM from an operational CSS, the CSS terminates all communications and reboots.

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To remove a FEM (refer to [Figure 1](#)):

1. Locate the failed module. Use the **show chassis** command to verify that the module is powered off.
2. Power down the CSS.
3. Remove all cables from the module.
4. Using a Phillips screwdriver, loosen the spring-loaded screws on the front of the module faceplate.
5. Extend both ejectors simultaneously to unseat the module connector from the backplane and slide the module out of the slot.

**Note**

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The replacement FEM contains a 144 MB Small Outline RamBus Inline Memory Module (SO-RIMM). If your failed module has a 288 MB SO-RIMM, you must remove its SO-RIMM, and place it in the replacement FEM. See “[Removing and Replacing the Memory Module](#)” later in this document.

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## Installing the FEM

**Note**

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To ensure an adequate margin with the Class A radiated emissions requirement, Cisco Systems recommends the use of shielded Ethernet cables on a FEM.

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To install an additional or replacement FEM (refer to [Figure 1](#)):

1. Properly ground yourself prior to handling the module, as noted previously.
2. If you are upgrading the CSS by adding a FEM, locate an open slot in the chassis. FEMs are restricted to slots 2 and 3 in a CSS 11503, and slots 2 through 6 in a CSS 11506. If necessary, power down the CSS. Remove a blank panel from the chassis to expose a slot for the module.
3. Insert the module into the board guides at the left and right sides of the slot, and then slide the module into the chassis by pressing firmly at the left and right of the faceplate.
4. Close both ejectors simultaneously to seat the module connector into the backplane.
5. Using a Phillips screwdriver, tighten the spring-loaded screws on the front of the module faceplate.
6. Reboot the CSS. Replace the cables.

Table 1 describes the LEDs on the FEM and their possible states.

**Table 1** *Fast Ethernet Module LED Descriptions*

LED Name	Color	State	Indicates
Link	Green	Off	No link established
		On	Link established but no activity
		Blinking	Link established with transmit or receive activity
Duplex	Green	Off	Port is operating at half duplex
		On	Port is operating at full duplex



**Note**

When all of the Link and Duplex LEDs blink simultaneously, the module has failed.

### Related CLI Commands

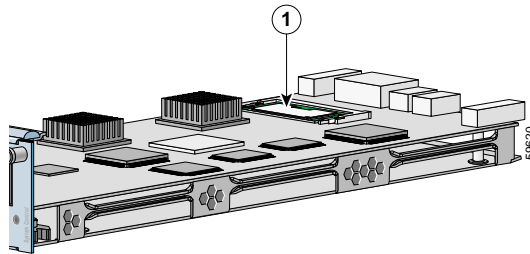
To view the current state of the FEM and verify it is powered on, use the **show chassis** command.

### Removing and Replacing the Memory Module

To remove and replace a memory module:

1. Place the FEM face up on a flat antistatic surface.
2. Locate the SO-RIMM connector on the rear of the FEM. See Figure 2.

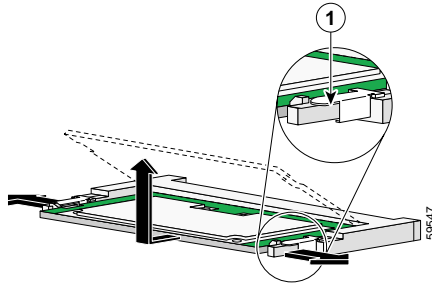
**Figure 2** *Memory Module Location*



1	Memory module
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3. Slightly extend the locking tabs on both sides of the memory module to release it. Gently pull the memory module out of the connector. See Figure 3.

**Figure 3** Memory Replacement



1	SO-RIMM connector tab
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4. Align the replacement memory module so that the row of gold contacts on the memory module are facing the row of gold pins inside the connector.
5. Insert the memory module into the connector at approximately a 30 degree angle (see Figure 3) and, with gentle pressure, push the module into the connector until the module fits snugly against the back of the connector. At this point, the module is still at an angle *above* the locking tabs.
6. Gently push straight down on the edges of the memory module until the tabs lock it into place.