Mounting the Router

This section describes the safety information, equipment, and procedures required to mount the Cisco 1120 Connected Grid Router on a vertical pole or streetlight.
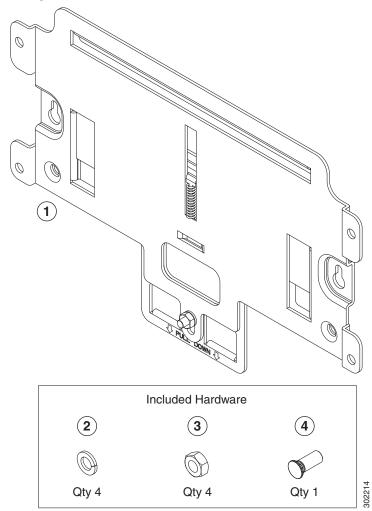
These topics are discussed:

Router Mounting Kit

The router ships with a mounting kit that contains all the parts required to mount the router on a DIN rail or on a wall. A detailed description of the mounting parts shipped with your router is included in the Mounting Kit Contents, page 33.

Mounting Kit Contents

The mounting bracket attaches to the router. The router is then installed on a wall using the mounting bracket, or on a DIN rail, using the DIN rail adapter.

Figure 1   Mounting Kit Contents

Item	Description	Qty.
1	Mounting bracket	1
2	Split lock washer (M8)	4
3	Nut (M8)	4
4	Mounting stud (M8)	1

Prepare to Mount the Router

Read these topics before mounting the router:

- Materials and Tools You Supply, page 35

- Router Orientation When Mounting, page 35

- General Safety Information for Mounting, page 35

Materials and Tools You Supply

You must supply some or all of these items to mount the router on a pole. The items you supply depend on the installation procedure that you use.

Item	Required for These Procedures
#2 Phillips screwdriver	■ See Attach the Mounting Bracket to the Router, page 35.
	■ See Ground the Router, page 40.
Crimping tool or pliers	■ See Ground the Router, page 40.

Router Orientation When Mounting

When mounting the router on a DIN rail or wall, ensure that the router is oriented with the chassis cabling openings pointing down so the router cable hangs down.

Caution: Mounting the router with the cable panel at the top (facing up) can cause stress on the cables and potentially impact network and other connections. We discourage mounting the router with the cable panel at the top.

General Safety Information for Mounting

Before performing any of the tasks in this chapter, read the safety warnings in this section and in Connecting the Router to Power, page 43.

One person is required to properly and safely mount the router.

Caution: All mounting methods at any location are subject to the acceptance of local jurisdiction.

Caution: Personnel mounting the router must understand grounding methods.

Warning: Do not locate the antenna near overhead power lines or other electric light or power circuits, or where it can come into contact with such circuits. When installing the antenna, take extreme care not to come into contact with such circuits, as they may cause serious injury or death. For proper installation and grounding of the antenna, please refer to national and local codes (for example, U.S.:NFPA 70, National Electrical Code, Article 810, Canada: Canadian Electrical Code, Section 54). Statement 1052

Mounting Instructions

This section includes all the steps required to mount the router on a wall or DIN rail. There are two main procedures for mounting the router:

■ Attach the Mounting Bracket to the Router, page 35

■ Mount the Router on a DIN Rail, page 38

In some environments, you might want to mount the router on a wall instead of DIN rail. The wall mounting procedure is described in the Mount the Router on a Wall, page 39.
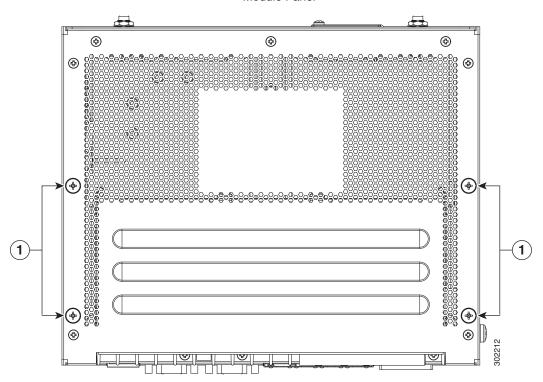
Attach the Mounting Bracket to the Router

Before you begin, disconnect the router from power and any network connections.

1. Place the router on a stable surface, with the base of the router facing up and the module panel at the top, as shown in Figure 2 on page 36.

2. Use the #2 Phillips screwdriver to remove the four large screws (Item 1, Figure 2 on page 36) from the chassis base. Keep the screws. You will replace them at the end of this procedure to mount the bracket on the chassis.

3. Remove only the screws indicated in Figure 2 on page 36. Do not remove the smaller screws, which secure the router bottom panel to the chassis.

Figure 2   Remove the Four Large Screws (1) from the Router Base

Module Panel

Cable Panel

4. Place the mounting bracket onto the back of the router, following these guidelines (Figure 3 on page 37):

■ The **bracket handle** (Item 3, Figure 3 on page 37) should be facing the router cable panel.

■ Align the **bracket mounting holes** (Item 2, Figure 3 on page 37) with the router **bracket connectors** (Item 1, Figure 3 on page 37). (The screws were removed from the bracket connectors in Step 2.)
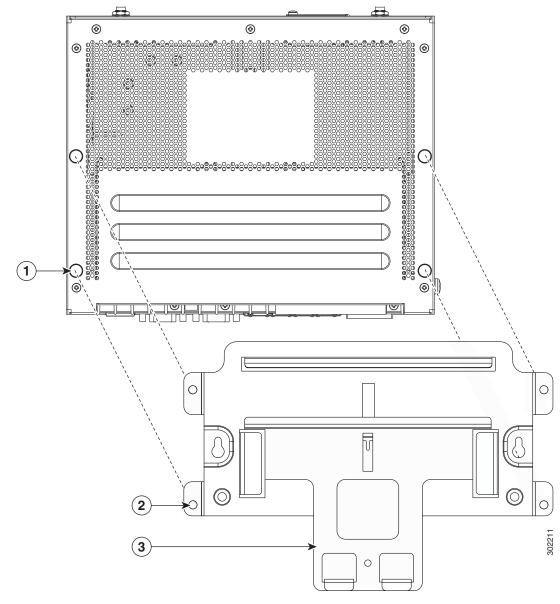
Figure 3   Align the Bracket Mounting Holes (2) over the Router Bracket Connectors (3)

5. Replace the screws you removed in Step 2 to secure the mounting bracket to the chassis.

6. Evenly hand-tighten the screws (Item 1 in Figure 4 on page 38), then tighten with the Phillips #2 screwdriver.
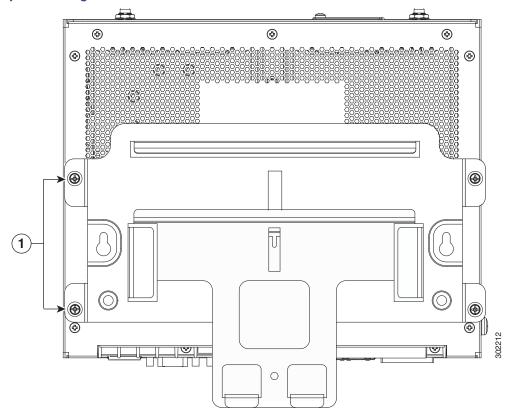
Figure 4   Replace and Tighten Screws to Secure Bracket to Router

Mount the Router on a DIN Rail

The steps in this section assume that your substation or utility box already has a DIN rail installed and ready to support equipment. If your environment does not use DIN rails, you can mount the router on a wall. For more information, see Mount the Router on a Wall, page 39.

To mount the router on a DIN rail:

1. Tilt the chassis-bracket assembly about 10 to 30 degrees and the bracket handle facing down. Do not mount the router with the bracket handle facing up.
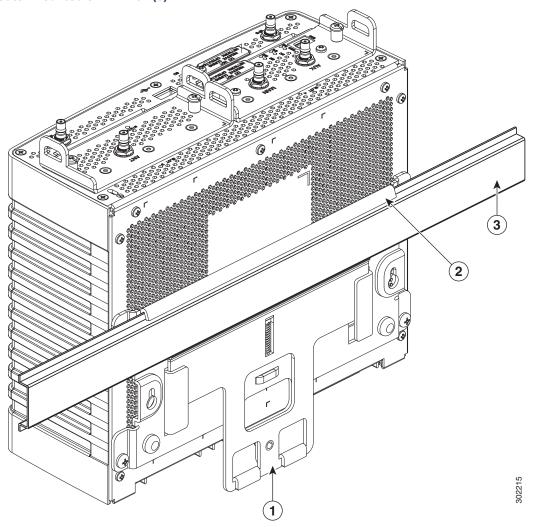
   For the following steps, reference Figure 5 on page 39.

2. Place the **top lip of the bracket** (Item 2) over the top of the **DIN rail** (Item 3).

3. Firmly pull the **bracket handle** (Item 1) down and rotate the unit until it is parallel to the wall or DIN rail.

   Caution: Use caution when pulling the bracket handle: The handle is spring-loaded and will snap shut when released quickly.

4. Slowly release the bracket handle so that the bottom lip of bracket is secured over the top of the DIN rail.

Figure 5   Router Mounted on DIN Rail (3)

Mount the Router on a Wall

The mounting bracket has wall-mount holes that you can use to mount the router directly on a wall.

To mount the router on a wall, you must provide the hardware that can be used with the wall material in the installation environment.

Caution: The wall material and hardware that you use to mount the router must be able to support the weight of the router with two modules installed: **8.0 pounds (3.6 Kg)**.

Wall-Mount Orientation

See the Router Orientation When Mounting, page 35.

Wall-Mount Location

Identify an area on a wall that meets the safety, space, and environmental requirements described in Installation Safety and Site Preparation, page 5.
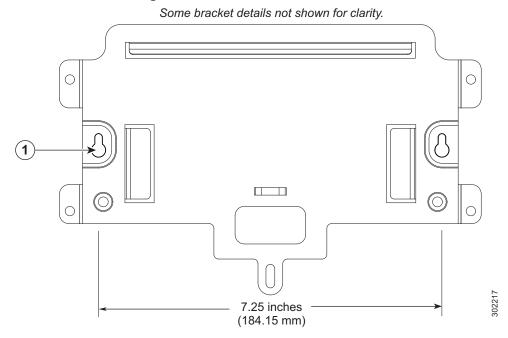
Wall-Mount Height

The router should be mounted at a height at which you are able to view the top of the module-side panel and at which the cables are able to be managed without adding stress to the router ports.

Wall-Mount Hardware Distance

The hardware you provide should be mounted the correct distance apart so that the router wall mount holes (Item 1,) can be hung on the hardware **7.25 in. (184.15 mm)**.

Figure 6   Distance for Wall-Mounting Hardware

Some bracket details not shown for clarity.

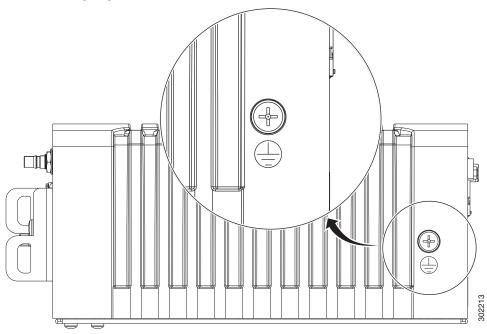7.25 inches
(184.15 mm)

302217

Ground the Router

You must ground the router with the grounding lug on the chassis exterior as described in this section.

Warning: This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available. Statement 1024

Figure 7   Router Grounding Lug Location

To ground the router:

1. Use the appropriate crimping tool or pliers to crimp a 6-gauge ground that will attach to the grounding lug on the router exterior. You must provide the wire.

   shows the grounding lug location.

2. Connect the other end of the wire to the router grounding connectors, using the supplied grounding screws. Tighten the grounding screws to 10 to 12 foot-pounds of torque. Do not over tighten!

3. If necessary, strip the other end of the ground wire and connect it to a reliable earth ground, such as a grounding rod or an appropriate grounding point on substation equipment that is grounded.