JUNIPER NETWORKS® | Engineering Simplicity

Day One+

ACX7100-32C

Step 1: Begin

In this guide, we provide a simple, three-step path, to quickly get you up and running with your new ACX7100-32C. We've simplified and shortened the installation and configuration steps, and included how-to videos. You'll learn how to install an AC-powered ACX7100-32C in a rack, power it up, and configure basic settings. If you need instructions for installing a DC-powered ACX7100-32C, see the ACX7100-32C Hardware Guide.

Meet the ACX7100-32C

The Juniper Networks® ACX7100-32C is a high-performance router with deep buffer capabilities that address the increasing requirements of traffic growth and latency-dependent applications. Powered by the Junos® OS Evolved operating system, the ACX7100-32C routers offer high port density and MACsec–ready ports, making them ideal for secure and high-end service aggregation and top-of-rack, spine-and-leaf data center applications.

The ACX7100-32C router is a 1-U, fixed-configuration router that provides a throughput of 4.8 Tbps while maintaining a power-efficient footprint. It has 32 QSFP28 ports that operate at 100-Gbps and four QSFP56-DD ports that operate at 400-Gbps.

We ship the ACX7100-32C router with redundant power supplies. You can order it with front-to-back airflow (airflow out or AO), and with AC or DC power supplies.

Install the ACX7100-32C

IN THIS SECTION

What's in the Box?

- ACX7100-32C router with six preinstalled fan modules and two preinstalled AC power supplies
- Two AC power cords appropriate for your geographical location
- An RJ-45 to DB-9 serial port adapter
- A breakout cable to simultaneously connect to a console and to a time of day (TOD) device
- Two power cord retainers
- A four-post rack mounting kit that contains:
  - Two mounting rails for mounting the router flush with the front posts of a rack
  - Twelve flat head Phillips screws for attaching the front mounting rails to the router
  - Two rear mounting blades

What Else Do I Need?

- Someone to help you secure the router to the rack
- A number 2 Phillips (+) screwdriver

- An electrostatic discharge (ESD) grounding strap

- A management host such as a laptop or desktop PC

- A serial-to-USB adapter (if your laptop or desktop PC doesn't have a serial port)

- A grounding cable: 14-10 AWG (2-5.3 mm²), stranded wire, or as permitted by the local code, with a Panduit LCD10-10A-L or equivalent lug attached

- Two #10-32 screws to secure the grounding lug

> ⚠️ **CAUTION:** Ensure that a licensed electrician has attached the appropriate grounding lug to your grounding cable. Using a grounding cable with an incorrectly attached lug can damage the router.

Install the ACX7100-32C in a Rack

Here's how to install the ACX7100-32C in a four-post rack:

1. Review the General Safety Guidelines and Warnings.

2. Wrap and fasten one end of the ESD grounding strap around your bare wrist, and connect the other end to a site ESD point.

3. Decide which end of the router you want to place at the front of the rack. Position the router so that the **AIR OUT** labels are facing the hot aisle.

4. Attach the mounting rails to the sides of the router using the 12 flat head screws.
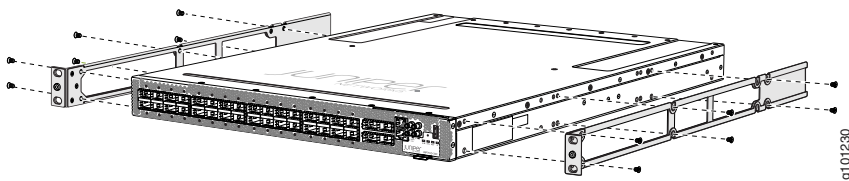

5. Lift the router and position it in the rack. Line up the bottom hole in each mounting rail with a hole in each rack rail, making sure the router is level.

6. While you're holding the router in place, have a second person insert and tighten the rack mount screws to secure the mounting rails to the rack rails. Make sure they tighten the screws in the two bottom holes first, and then tighten the screws in the two top holes.
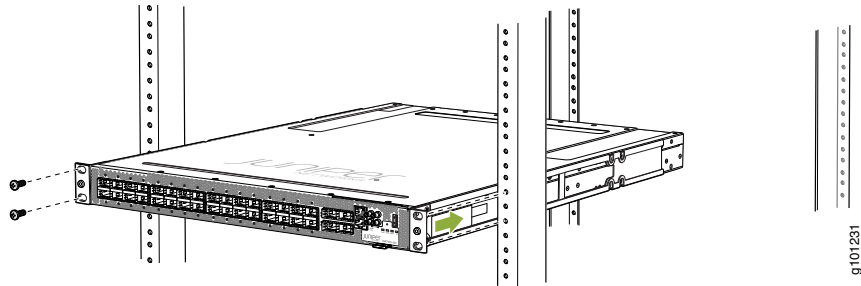
7. Continue holding the router in place, and have the second person slide the mounting blades into the channel of the mounting rails.

8. Secure the mounting blades to the rack using the rack mount screws (and cage nuts and washers, if your rack requires them).
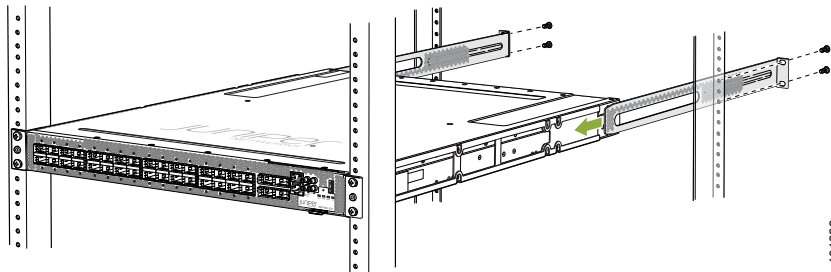
9. Verify that the mounting brackets on each side of the rack are level.

> **NOTE:** If you have unused ports, plug them using dust covers to prevent dust from entering the router.

Power On

Now that you've installed your ACX7100-32C in the rack, you're ready to connect it to power.

The AC-powered ACX7100-32C comes with two AC power supplies preinstalled on the rear panel.

1. Wrap and fasten one end of the ESD grounding strap around your bare wrist, and connect the other end to one of the ESD grounding points on the router.

2. Use two #10-32 screws to secure the grounding lug and attached cable to the chassis. Attach the lug through the left rail and blade assembly to the chassis.
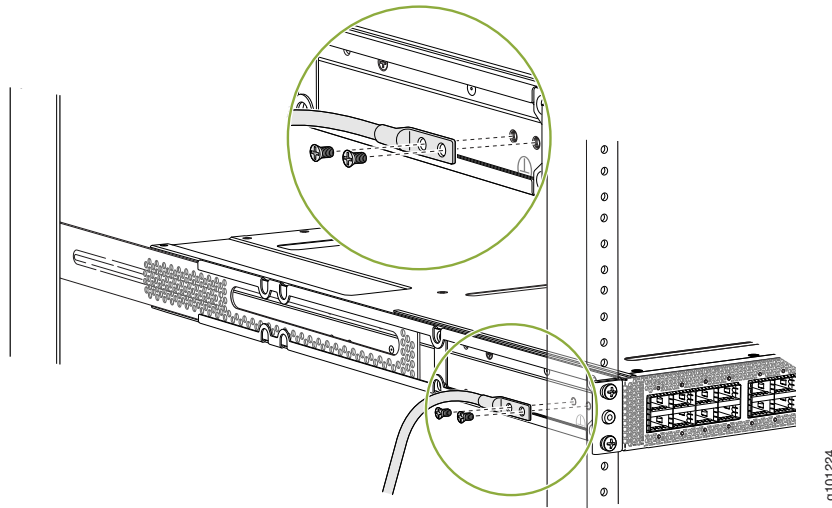

3. Connect the other end of the grounding cable to a proper earth ground, such as the rack.

4. Dress the grounding cable and ensure that it doesn't touch or block access to other device components, and that it doesn't drape where people could trip over it.

5. Ensure that the power supplies are fully inserted in the chassis and the latches are secure.

6. For each power supply, ensure that the loop on the power cord retainer is open and there's enough space to insert the power cord coupler into the inlet. If the loop is closed, press the small tab on the retainer to loosen the loop.
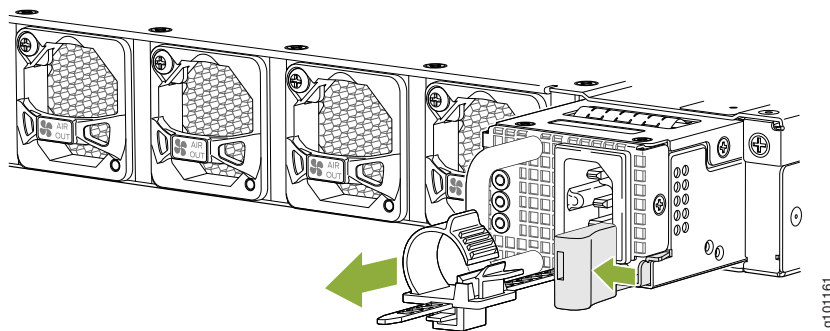
7. On the first power supply, thread the power cord coupler through the power cord retainer loop.

8. Plug in the power cord to the power supply socket.

9. Slide the power cord retainer loop toward the power supply until the loop is snug against the base of the coupler.

10. Press the tab on the loop, and draw out the loop into a tight circle.
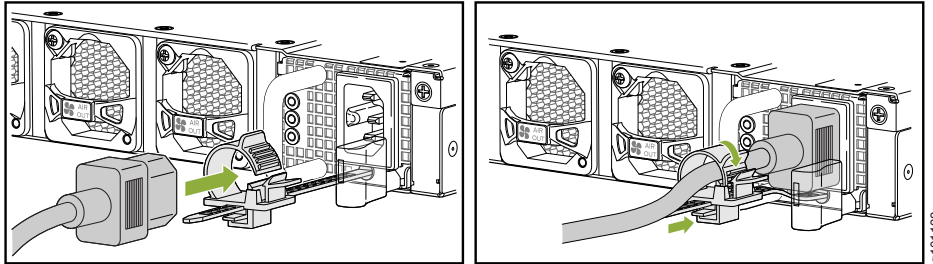
> ⚠️ **WARNING:** Ensure that the power cord does not block access to router components or drape where people can trip on it.

11. If the AC power source outlet has a power switch, turn it off.

12. Plug in the power cord to the AC power source outlet.

13. If the AC power source outlet has a power switch, turn it on.

> **NOTE:** The router powers on as soon as you connect it to power. The ACX7100-32C doesn't have a power switch.

14. Verify that the AC LED on the power supply is lit green. If the LED is lit steadily amber or is blinking amber, disconnect the power supply from the power source, and replace the power supply (see Maintain the ACX7100-32C Power Supplies in the ACX7100-32C Hardware Guide).

15. Repeat steps 7 through 14 to power on the second power supply.

Step 2: Up and Running

IN THIS SECTION

Now that the ACX7100-32C is powered on, let's do some initial configuration to get it up and running on the network. It's simple to configure and manage the ACX7100-32C using the CLI.

Plug and Play

The ACX7100-32C router ships with factory-default settings that enable plug-and-play operation. These settings load as soon as you power on the router.

Customize the Basic Configuration

You can easily customize the factory-default configuration with just a few commands. Initially, you'll need to make changes through the console port. After you configure the management port, you can access the ACX7100-32C using SSH and make additional configuration changes. You can always revert to the factory-default configuration whenever you want.

Have the following information ready before you begin customizing the router:

- Hostname
- Root authentication password
- Management port IP address
- Default gateway IP address
- IP address and prefix length of remote prefixes
- (Optional) SNMP read community, location, and contact information

1. Verify that the following default serial port settings are configured on your laptop or desktop PC:
   - Baud Rate—9600
   - Flow Control—None
   - Data—8
   - Parity—None
   - Stop Bits—1
   - DCD State—Disregard

2. Connect the console port on the ACX7100-32C to a laptop or desktop PC using the RJ-45 cable and RJ-45 to DB-9 adapter. The console (**CON**) port is the lower RJ-45 port on the right side of the port panel.

   > **NOTE:** If your laptop or desktop PC doesn't have a serial port, use a serial-to-USB adapter (not provided).

3. At the Junos OS login prompt, type **root** to log in.

   You don't need to enter a password. If the software boots before you connect your laptop or desktop PC to the console port, you might need to press the Enter key for the prompt to appear.

   ```
   re0 login: root
   ```

4. Start the CLI.

```
[vrf:none] root@re0:~# cli
```

5. Enter configuration mode.

```
root@re0> configure
```

6. Stop the chassis auto-upgrade process.

```
[edit]
root@re0# delete chassis auto-image-upgrade
```

7. Stop zero-touch provisioning (ZTP).

```
[edit]
root@re0# delete system commit factory-settings
```

> **NOTE:** ZTP is enabled on the ACX7100-32C in the factory-default configuration. You must stop ZTP before you configure any settings. Until you assign a root password and make an initial commit, you might see ZTP-related messages on the console. You can safely ignore these messages while you configure the root password.

8. Add a password for the root administration user account.

```
[edit]
root@re0# set system root-authentication plain-text-password
New password: password
Retype new password: password
```

9. Commit the configuration, and wait for the ZTP process to stop.

```
[edit]
root@re0# commit
```

A message appears on the console, confirming that the ZTP process has stopped.

```
root@re0# [  968.635769] ztp.py[20083]: 2021-06-09 16:47:52 INFO: ZTP: aborted in state
DISCOVERING_INTERFACES
[  968.636490] ztp.py[20083]: 2021-06-09 16:47:52 INFO: ZTP: checkZTPAbort: Upgrade detected
 pending abort
[  968.636697] ztp.py[20083]: 2021-06-09 16:47:52 INFO: ZTP: aborted by user config commit
[  968.782780] ztp.py[11767]: Notice: PID found for app ztp in /var/run/pid/ztp.pid is
20083.Executing command: (/usr/sbin/cleanzk -c /var/run/zkid/20083.id;rm /var/run/zkid/20083.id
```

```
    2>/dev/null)
```

10. (Optional) Give the router a name. If the name includes spaces, enclose the name in quotation marks (" ").

    ```
    [edit]
    root@re0#  set system host-name host-name
    ```

11. Configure the default gateway.

    ```
    [edit]
    root@re0#  set routing-options static route 0.0.0.0/0 next-hop destination-ip
    ```

12. Configure the IP address and prefix length for the management interface on the router. On the ACX7100-32C, the management (**MGMT**) port is the upper RJ-45 port on the right side of the port panel.

    ```
    [edit]
    root@#  set interfaces re0:mgmt-0 unit 0 family inet address ip-address/prefix-length
    ```

13. (Optional) Configure specific static routes to remote prefixes if you do not want the remote prefixes to use the default route.

    ```
    [edit]
    root@re0#  set routing-options static route address/prefix-length next-hop destination-ip
    ```

14. Enable Telnet service, if required.

    ```
    [edit]
    root@re0#  set system services telnet
    ```

    > **NOTE:** When Telnet is enabled, you cannot log in to the ACX7100-32C through Telnet using root credentials. Root login is allowed only for SSH access.

15. Enable SSH service.

    ```
    [edit]
    root@re0#  set system services ssh
    ```

16. To allow users to log in to the router as root through SSH, include the **root-login** statement.

    ```
    [edit system services ssh]
    root@re0#  root-login allow
    ```

> **NOTE:** By default, users are not allowed to log in to the router as root through SSH.

17. Commit the configuration.

   Your changes become the active configuration for the router.

   ```
   [edit]
   root@re0# commit
   ```

Step 3: Keep Going

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Congratulations! Your ACX7100-32C is configured and ready to go. The ACX7100-32C uses paper licenses that provide access to all Junos OS features. Here are some things you can do next.

What's Next?

If you want to	Then
Configure user access and authentication features	See User Access and Authentication Administration Guide for Junos OS Evolved
Configure backup routers	See Understanding Backup Routers
Familiarize yourself with Junos OS	See Getting Started with Junos OS

General Information

If you want to	Then
See all documentation available for the ACX7100	See the ACX7100 Documentation in the Juniper Networks TechLibrary
Find more information about how to install and configure the ACX7100-32C	See the ACX7100-32C Hardware Installation Guide
Manage software upgrades for your ACX7100	See Installing Software on ACX Series Devices
See, automate, and protect your network with Juniper Security	Visit the Security Design Center
Stay up-to-date about new and changed features, and known and resolved issues	See the Junos OS Evolved Release Notes

Learn With Videos

Our video library continues to grow! We've created many, many videos that demonstrate how to do everything from install your hardware to configure advanced Junos OS network features. Here are some great video and training resources that will help you expand your knowledge of Junos OS.

If you want to	Then
View a Web-based training video which provides an overview of the ACX7100 and describes how to install and deploy it	See Juniper Networks ACX7100 Series Online Training Program
Get short and concise tips and instructions that provide quick answers, clarity, and insight into specific features and functions of Juniper technologies	See Learning with Juniper on Juniper Networks main YouTube page
View a list of the many free technical trainings we offer at Juniper	Visit the Getting Started page on the Juniper Learning Portal