



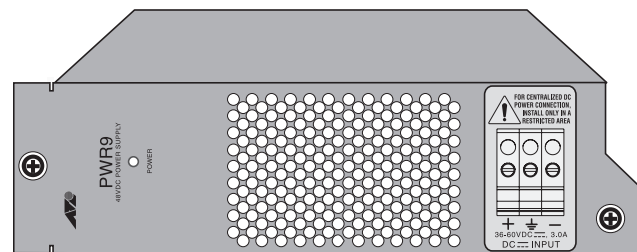
613-000750 Rev. B



## AT-PWR9 DC Power Supply Installation Guide

### Overview

The AT-PWR9 Power Supply, as shown below, is a DC power supply for the AT-MR12 Media Conversion Rack-Mount Chassis. The power supply is shipped preinstalled in slot A in the rear of the DC version of the AT-MCR12 chassis.



This guide describes how to install the AT-PWR9 Power Supply as an auxiliary power supply for the chassis, and how to hot swap a power supply if one fails.

### Related Documents

For details on the features and functions of the AT-MCR12 Media Conversion Rack-Mount Chassis, refer to the following document on our web site, [www.alliedtelesis.com](http://www.alliedtelesis.com):

- ❑ *AT-MCR12 Media Conversion Rack-Mount Chassis Installation Guide*

### Verifying Package Contents

Make sure that the correct components are included in your package:

- ❑ One AT-PWR9 Power Supply
- ❑ This installation guide
- ❑ Warranty card

If any item is missing or damaged, contact your Allied Telesis sales representative for assistance.

### LED

The AT-PWR9 Power Supply has one POWER LED as described in the following table.

Color	Description
Green	The power supply is operating normally.
Off	The power supply is off or has failed.

### Reviewing Safety Precautions

Before you install the AT-PWR9 Power Supply, review the following safety precautions.

#### Note

The ⚡ indicates that a translation of the safety statement is available in a PDF document titled *Translated Safety Statements* on the Allied Telesis website at [www.alliedtelesis.com](http://www.alliedtelesis.com).

**Warning:** Do not work on equipment or cables during periods of lightning activity. ⚡ E2

**Caution:** Air vents must not be blocked and must have free access to room ambient air for cooling. ⚠ E6

**Warning:** Operating Temperature. This product is designed for a maximum ambient temperature of 40 degrees C. ⚠ E7

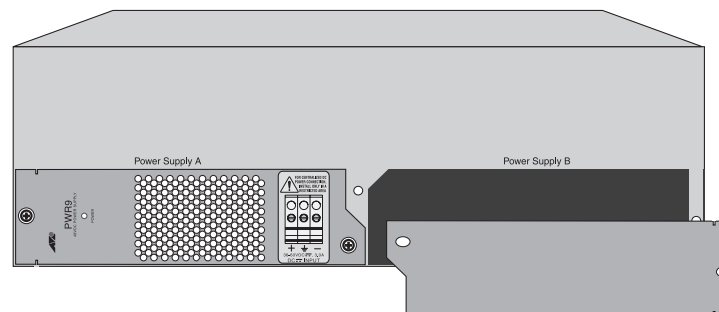
All Countries: Install product in accordance with local and National Electrical Codes. ⚠ E8

### Installing an AT-PWR9 Power Supply as an Auxiliary Power Supply

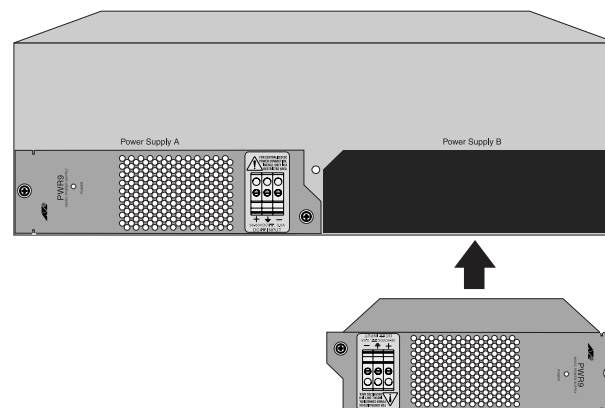
You can install an AT-PWR9 Power Supply as an auxiliary power supply when the AT-MCR12 chassis is operating and installed in a rack. To replace a power supply that has failed, refer to “Hot Swapping an AT-PWR9 Power Supply.”

To install an AT-PWR9 Power Supply, perform the following procedure:

1. Unpack all the items from the shipping container and store the packaging material in a safe place. You must use the original shipping package if you need to return the unit to Allied Telesis.
2. Remove the two screws that secure the blank faceplate covering the auxiliary power supply slot, as shown below.



3. Turn the AT-PWR9 Power Supply upside down and slide it into the slot, as shown below.



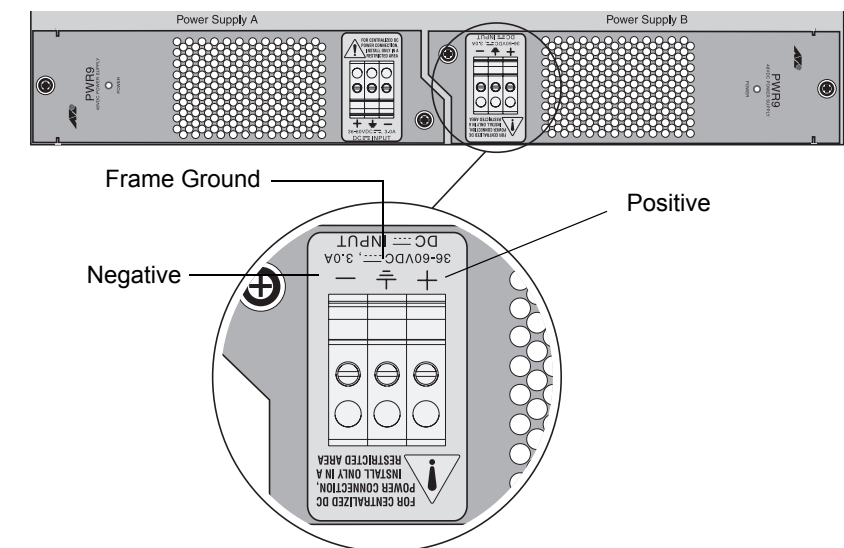
4. Press the power supply firmly into the backplane.

5. Secure the power supply by tightening the captive screws.

**Warning:** As a safety precaution, install a circuit breaker with a minimum value of 15 Amps between the equipment and the DC power source. ⚡ E9

Always connect the wires to the LAN equipment first before you connect the wires to the circuit breaker. Do not work with HOT feeds to avoid the danger of physical injury from electrical shock. Always be sure that the circuit breaker is in the OFF position before connecting the wires to the breaker. ⚠ E9

6. Identify the **negative**, **frame ground**, and **positive** terminals on the terminal block, as shown below.



7. Before you strip and attach the wires, review the following safety precautions.

This system works with positive grounded or negative grounded DC systems. ⚠ E13

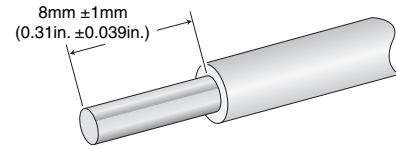
**Warning:** For centralized DC power connection, install only in a restricted access area. ⚡ E23

A tray cable is required to connect the power source if the unit is powered by centralized DC power. The tray cable must be UL listed Type TC tray cable and rated at 600 V and 90 degrees C, with three conductors, minimum 14 AWG. ⚠ E24

**Warning:** Circuit breaker is used as a disconnection device. To de-energize equipment, shut down the circuit breaker and then disconnect the input wire. ⚠ E38

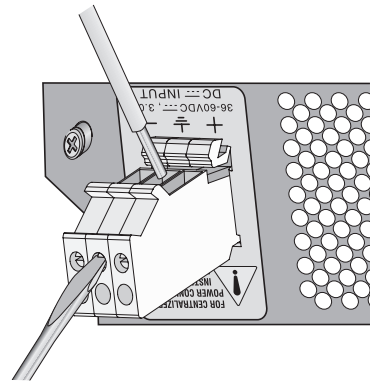
**Warning:** The DC input shall be from a secondary source isolated from the mains by reinforced insulation. ⚡

- With a 14-gauge wire-stripping tool, strip the three wires in the tray cable coming from the DC input power source to 8 millimeters  $\pm$  1 millimeters (0.31 inches  $\pm$  0.039 inches), as shown below.



**Warning:** Do not strip more than the recommended amount of wire. Stripping more than the recommended amount can create a safety hazard by leaving exposed wire on the terminal block after installation. E10

- Connect the frame ground wire to the terminal marked with the ground symbol by inserting the wire into the terminal block and tightening the connection with a flathead screwdriver, as shown below.



**Warning:** When installing this equipment, always ensure that the frame ground connection is installed first and disconnected last. E11

- Connect the positive feed wire to the terminal block marked + (**positive**).
- Connect the negative feed wire to the terminal block marked - (**negative**).

**Warning:** Check to see if there are any exposed copper strands coming from the installed wire. When this installation is done correctly there should be no exposed copper wire strands extending from the terminal block. Any exposed wiring can conduct harmful levels of electricity to persons touching the wires. E12

- Secure the tray cable near the rack framework using multiple cable ties (not provided) to minimize the chance of the connections being disturbed by casual contact with the wiring. Allied Telesis recommends that you use at least four cable ties 10 centimeters (4 inches) apart with the first one located within 15 centimeters (6 inches) of the terminal block.
- Ensure that the circuit breaker is in the Off position.
- Connect the DC wires to the circuit breaker.
- Power on the circuit breaker.
- Verify that the Power LED is green. If it is not, refer to “Testing and Troubleshooting the Installation.”

### Hot Swapping an AT-PWR9 Power Supply

This section describes how to replace a failed AT-PWR9 Power Supply in an AT-MCR12 chassis.

#### Note

Hot swapping requires that the main and auxiliary power supplies be connected to separate DC circuits.

- Power off the appropriate DC circuit to the failed power supply.



**Warning:** When installing this equipment, always ensure that the frame ground connection is installed first and disconnected last. E11

- Remove the positive and negative feed wires from the terminal block by loosening the screws to the wire connections with a flathead screwdriver.
- Remove the frame ground wire from the terminal block by loosening the screw to the wire connection with a flathead screwdriver.
- Loosen the captive screws on the failed power supply and slide it out of the chassis.
- Slide a new power supply into the slot.
- Refer to “Installing an AT-PWR9 Power Supply as an Auxiliary Power Supply” for information about installing and wiring the replacement power supply.

### Testing and Troubleshooting the Installation

Follow the guidelines in this section for testing and troubleshooting the installation in the event that a problem occurs.

- Verify that the Power, PWR A and PWR B LEDs are green. If one of the LEDs is OFF, do the following:
  - Check to be sure that the power supply is securely connected to the power outlet.
  - Check to be sure that the power supply is securely seated in the chassis.
  - Check to be sure that the wires are connected to the correct terminals.
  - Check to be sure that the DC power circuit is powered ON.
- Check to be sure that the fans for both power supplies are operating. If a fan is not operating, it is likely that the power supply has failed.

If you still have problems after testing and troubleshooting the installation, contact Allied Telesis Technical Support at [www.alliedtelesis.com](http://www.alliedtelesis.com) for assistance.

### Warranty Registration

Allied Telesis hardware products are covered under limited warranties. Some products have a longer warranty coverage than others.

This AT-PWR9 power supply has a limited warranty of 5 years.

All Allied Telesis warranties are subject to the terms and conditions set out on the Allied Telesis website at [www.alliedtelesis.com/warranty](http://www.alliedtelesis.com/warranty).

### Specifications

#### Physical Characteristics

Dimensions (H x W x L)	225 mm x 61 mm x 120 mm (8.9 in x 2.4 in x 4.7 in)
Weight	.75 kg (1.65 lbs)
Operating Temperature	0° C to 40° C (32° F to 104° F)
Storage Temperature	-25° C to 70° C (-13° F to 158° F)
Operating Relative Humidity	5% to 90% RH (non-condensing)
Storage Relative Humidity	5% to 95% RH (non-condensing)

#### Power Requirements

Input Supply Voltage	36 to 72 V DC
Maximum Inrush Current	10 A maximum
Maximum Current	4 A at 48 V DC

#### Agency Certifications

Electrical Safety	UL60950-1 (cUL <sub>us</sub> ), EN60950-1 (TUV), CSA 950
Immunity	EN50082-1
Emission	EN55022-1 Class A

### Electrical, Safety, and Emissions Statements

This product meets the following standards.

#### U.S. Federal Communications Commission

##### Radiated Energy

Note: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Note: Modifications or changes not expressly approved of by the manufacturer or the FCC, can void your right to operate this equipment.

#### Industry Canada

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.  
Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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