



PROMENTUM™

INSTALLATION INSTRUCTIONS

1U Power Enclosure



This document describes how to install the 1U power enclosure and one or two AC power supplies for use with the Promentum™ ATCA-6002 and ATCA-6006 shelves.

Obey safety precautions

WARNING! Failure to follow recommendations below may cause personal injury or damage electronic equipment. An electrical voltage of up to 75 VDC may be present at any power connection.

- Do not wear an electrostatic discharge (ESD) wrist strap when working with frame-ground and power-feed connections.
- Keep one hand behind your back and use tools with properly insulated handles for maximum safety.
- Do not touch a power cable when power is supplied.
- Do not place wires, screwdrivers, meter probes, oscilloscope probes, or other electrically conducting material into contact with a live power cable or anything connected to a live power cable.
- Do not wear any watches, bracelets, and rings when working with a live power cable or anything connected to a live power cable.
- Disconnect power from the power enclosure and the power entry modules (PEMs) before servicing.

Unpack the components

The 1U power enclosure and the DC cables are shipped together in one carton. The power supplies and the AC power cords may be packed separately.

1. Remove the 1U power enclosure and the DC power-feed cables from their carton.

Identification of the correct 48V, 8-AWG power-feed cables for the ATCA-6002 and ATCA-6006 is aided by Figures 2 and 1 on page 2.

2. Remove the power supplies and the AC power cords from their packaging. Each power supply requires an AC power cord. Use the AC power cord appropriate for the installation site.

Prepare the installation site

1. Verify the installation site meets the following requirements:
 - Access to the installation site and the equipment must be restricted to qualified personnel.
 - Each power supply is capable of drawing 15A @120 VAC (7.5A @ 240VAC). Each AC power cord must be connected to a separate circuit. Do not attempt to operate multiple power supplies from a single power source.
2. Determine how the cables will be routed between the power enclosure and the main power source, and between the power enclosure and the shelf's power entry modules (PEMs) or power inputs.

For information on the installation site requirements for the ATCA-6002 and ATCA-6006 shelves, see the *SYS-6002 Platform Installation Guide* and the *SYS-6006 Platform Installation Guide*, respectively.

Connect frame-ground cables

Connect frame-ground cables to the shelf before proceeding to connect DC cables to the power enclosure and the shelf. Refer to the *SYS-6002 Platform Installation Guide* or the *SYS-6006 Platform Installation Guide* for more information on how to connect the frame-ground cables.

Connect DC cables to power enclosure

Use a DC multimeter (DMM) if you are unsure of the polarity and the voltage output of the connections on the power enclosure when performing these procedures.

1. Loosen the screws on the DC cable connector on the back of the power enclosure. This opens the slots where the cables will be inserted.
2. Insert the ferule-tipped end of the cables into the slots that match their polarity. As shown in Figures 2 and 1 below, red and green cables typically go into the top slot, and black cables typically go into the bottom slot.
3. Tighten the screws on the DC cable connector.

Figure 1. Rear view of power enclosure with cables for use with ATCA-6002



Figure 2. Rear view of power enclosure with cables for use with ATCA-6006



Connect DC cables to shelf

These steps cover connecting the DC cables to the power inputs or power entry modules (PEMs) located on the back of the shelf.

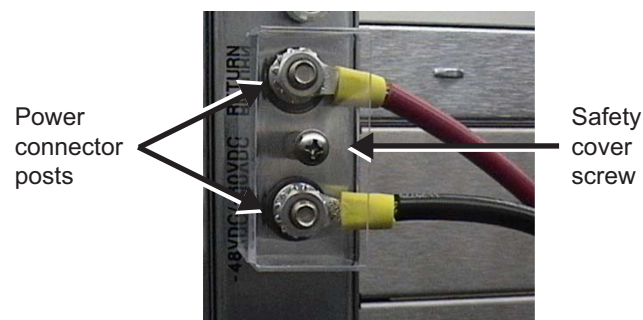
1. Follow the safety precautions as described [on page 1](#).
2. Verify the shelf power supply will not overload the external power feed's overcurrent protection and supply wiring. The external power feed should be capable of delivering the equipment nameplate ratings of $-48V @ 40A$ or $-60V @ 40A$.
3. Route the DC cables from the power enclosure to the area behind the shelf, but *do not* attach them to a power connection yet.
4. **For the ATCA-6002:** Insert one of the keyed plugs into each of the keyed power connectors on INPUT A and INPUT B.

Figure 3. ATCA-6002 INPUT B with keyed power connector in place



For the ATCA-6006:

Figure 4. ATCA-6006 PEM R with power connectors and safety cover in place



- A. Switch the toggle switch circuit breakers on PEM R and PEM L to the OFF position.
- B. Use a Phillips screwdriver to remove the #6 screw on the PEM's safety cover. Set the screw aside. Remove the safety cover to expose the power connectors.

- C. Use a 7/16" wrench to remove the 1/4"-20 top nuts and washers from each of the power connector posts on the PEM. Verify the bottom nut is still secure on the connector post. Set the top nuts and washers aside.
- D. Connect the power-feed cables (with Panduit connector LCAX8-14-L or equivalent) to the appropriate connectors. Be sure to check the labels next to the connectors for polarity.
- E. Reattach the removed nuts and washers. Torque the nuts to 5.9 N•m (52.2 lbf-in).
- F. Reattach the safety cover. Torque the safety cover screw to 0.90 N•m (8 lbf-in).

Install power supplies

Only one –48V power supply is necessary to provide full power to the ATCA-6002. Installing two power supplies will provide redundancy and fault tolerance.

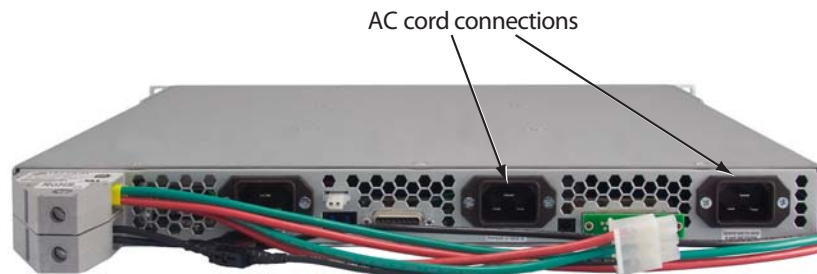
A second power supply is recommended for use with the ATCA-6006, which can exceed the capacity of a single power supply when fully populated with blades.

1. Follow the safety precautions as described [on page 1](#).
2. Face the front of the power enclosure as shown [on page 1](#).
3. Insert a power supply into the empty slot on the *left* side of the enclosure. Slide the supply in until it is fully seated. Push in the spring-loaded screws, and tighten them with a Phillips screwdriver.
4. If you want to install a second power supply (such as for use with the ATCA-6006), insert it into the *middle* slot of the enclosure. Slide the supply in until it is fully seated. Push in the spring-loaded screws, and tighten them with a Phillips screwdriver.
5. Leave the slot on the *right* side empty. No power supply will be installed in this slot for either the ATCA-6002 or ATCA-6006.

Connect AC power cords

1. Follow the safety precautions described [on page 1](#).
2. Face the rear of the power enclosure.
3. Plug the C21 connector end of one of the AC power cords into the C22 connector on the far right of the power enclosure. This is the connector for the power supply that was installed in the front left slot of the enclosure (see [Install power supplies on page 4](#) for more information).

Figure 5. AC cord connections used with ATCA-6002 and ATCA-6006 (shown with DC cables for ATCA-6002)



4. If you installed a second power supply, plug its power cord into the C22 connector on the mid-right of the power enclosure. This is the connector for the power supply that was installed in the front middle slot of the enclosure.
5. Plug the wall connector ends of the AC power cords into the AC outlets on the wall. Remember that each AC power cord must be connected to a separate circuit.
Power is immediately provided to the power enclosure.

Power up

For the ATCA-6002:

For information on diagnosing and resolving alarm or LED problems, see the *Shelf Management Software Reference*.

1. Ensure that the shelf ground terminals are connected to the grounded conductor or protective earth of the building before powering up the shelf.
2. Switch on the external power at the power distribution source (e.g., circuit breaker).
3. Verify the power LED is on.
4. Wait for any automatic boot-up actions to occur on the modules. Check that the blue hot-swap LEDs on all the modules stop blinking. If any hot-swap LED continues to blink for more than two minutes, verify the module is properly latched. If the hot-swap LED continues to blink, see the *Shelf Management Software Reference*.

For the ATCA-6006:

In the following steps, a loud alarm may sound if an alarm condition occurs and the shelf has the alarm panel installed. Be prepared to insert the end of a pen or a paperclip into the pinhole labeled with the "alarm off" graphic (a bell with line through it) on the front panel to press the button, acknowledging and silencing the alarm. For additional information on the alarm panel, see the *SYS-6006 Platform Hardware Reference* and the instructions that come with the alarm panel.

1. Switch the PEM circuit breakers to the ON position, one at a time.
2. Verify the power LEDs on the PEMs and any installed front modules are all lit solid green. If any of the power LEDs are not lit, see the *SYS-6006 Platform Hardware Reference*.
3. Allow any automatic boot-up actions to occur on the shelf and then verify the hot-swap LEDs stop blinking on all modules. If any hot-swap LED continues to blink for more than two minutes, verify the module is properly latched. If the hot-swap LED continues to blink, see the *Shelf Management Software Reference*.

Where to go from here

For an in-depth description of the platform and its hardware components, including more information on the shelf, see the *SYS-6002 Platform Hardware Reference* or the *ATCA-6006 Hardware Reference*.

Where to get more product information

Please visit the RadiSys Web site at www.radisys.com for product information and other resources. Downloads (manuals, release notes, software, etc.) are available at www.radisys.com/downloads.