

## RA Series

### Recessed Architectural Battery Unit



**WARNING:**  
Risk of Shock.  
Disconnect Power before Installation.



### IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed including the following:

### READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. All servicing should be performed by qualified service personnel.
2. All unused wires must be capped to prevent shorting.
3. Indoor use only.
4. Do not let power supply touch hot surfaces.
5. Do not mount near any heat source.
6. Equipment should be mounted in locations where it will not readily be subjected to tampering by unauthorized personnel.
7. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
8. Do not use this unit for other than its intended use.
9. Unit to be installed only as per configuration described in this instruction manual.
10. Use caution when handling batteries.
  - a. This equipment uses a sealed lithium iron phosphate battery.

### SAVE THESE INSTRUCTIONS

#### Installation Instructions

The unit comes with a rectangular and round trim plate pre-assembled and secured with a peel-off plastic sheet.

For round trim plate installation: no action is required, continue with installation.

For rectangular trim installation: only remove enough of the peel-off sheet to easily lift the round trim plate up and over the back box leaving enough of the peel-off sheet to protect the rectangular trim.

1. Turn off AC power.
2. Refer to proper section according to preferred installation.

#### Suspended Ceiling Mount (T-bar) (figure 2)

i

**Important:**

Before cutting opening in ceiling see figure 1 for unit alignment along the corridor.

To ensure a proper fit, a maximum of 1/16" clearance around the perimeter of the hole is permitted (for a total of 1/8" on overall length or width). Oversizing hole would yield a visible opening.

1. Cut rectangular opening in ceiling using the metal ceiling plate as a template.  
Note: Unit should be centered along bar hanger direction.
2. Assemble the adjustment hanger brackets to the ceiling mounting plate leaving the keps loose.
3. Install the bar hangers in the adjustment brackets.

**Figure 1**  
**Reflector Orientation vs Corridor Direction**  
(Rectangular trim shown for clarity)

**Figure 2 - Suspended ceiling mount (T-bar)**



**CAUTION:**



**DO NOT LOOK DIRECTLY INTO ILLUMINATED LUMINAIRE.**

i

**Important:**

Install product no higher than the maximum mounting height of 12 feet (3.6 meters) from the floor.

Tel: (888) 552-6467  
© 2020 ABB. All rights reserved.

Fax: (800) 316-4515

10/20 750.0048 Rev. B

1/4

4. Install bar hanger/ceiling plate assembly onto T-bar ensuring the notches clip onto the T-bar.

 <p><b>WARNING:</b></p>	<p>FOR SAFETY, THE NOTCHES ON THE BAR HANGER MUST CLIP ONTO THE T-BAR (SEE FIGURE 3). T-BAR MUST BE INSTALLED FROM 15 INCHES TO A MAXIMUM OF 24 INCHES CENTER TO CENTER TO PROPERLY ACCOMMODATE BAR HANGER IN CORRECT ORIENTATION (SEE FIGURES 1 &amp; 2 or 1 &amp; 4).</p>
---	---

5. Adjust height of bar hanger/ceiling plate assembly such that the ceiling plate is flush with the top surface of the ceiling panel then tighten keps-nuts to hold the ceiling plate in place.
6. See electrical connections.

**Recessed Ceiling Mount (Plenum or Insulated) (figure 4)**

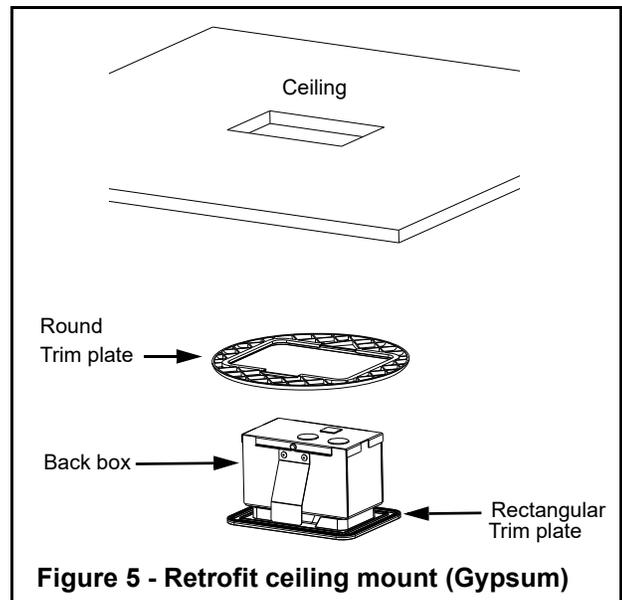
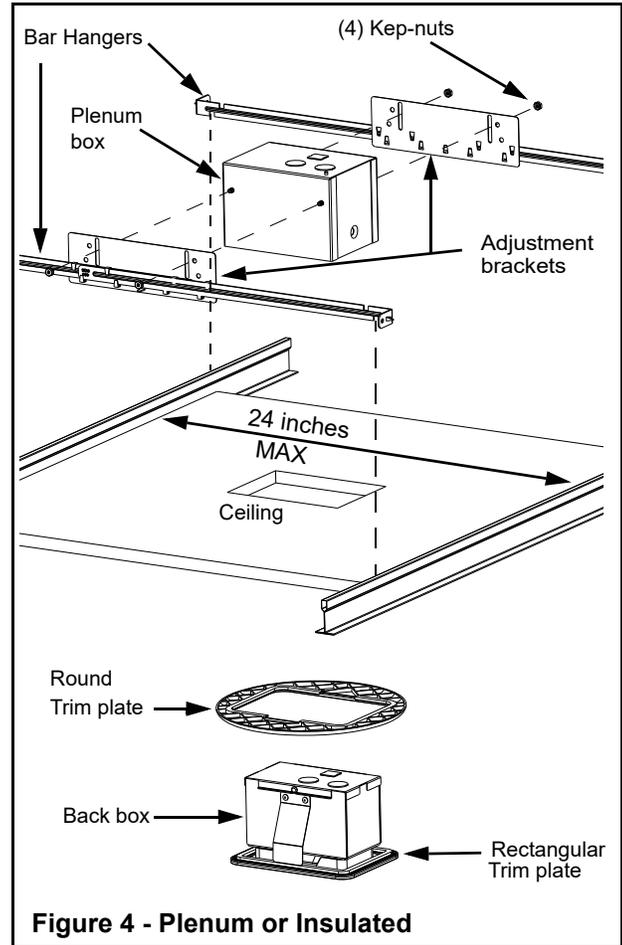
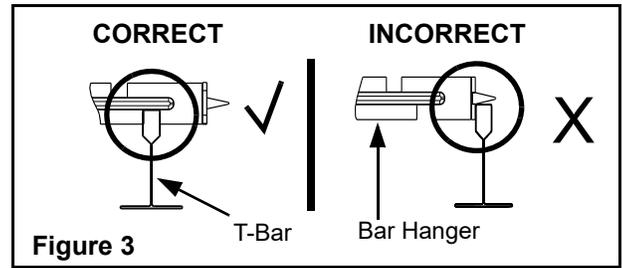
1. Remove the proper knockout in the plenum box.
  - a. For AC connection: Remove round knockout on the plenum box for AC conduit entry.
  - b. Route AC circuit of rated voltage into the plenum box and leave 6" of wire length.

 <p><b>Important:</b></p>	<p>Before cutting opening in ceiling see figure1 for unit alignment in corridor.</p>
---	--

2. Cut rectangular opening in ceiling using the plenum box as a template. Note: Plenum box should be centered along bar hanger direction plus the opening must be tight against the plenum box.
3. Assemble the adjustment hanger brackets to the plenum box leaving the nuts loose.
4. Install the bar hangers in the adjustment brackets.
5. Install bar hanger/plenum box assembly onto T-bar ensuring the notches clip onto the T-bar.
6. Adjust height of bar hanger/plenum box assembly such that the plenum box is flush with the top surface of the ceiling panel then tighten the nuts to hold the plenum box in place.
7. See electrical connections.

**Retrofit in Gypsum Ceiling (figure 5)**

1. Cut rectangular opening in gypsum using the metal ceiling plate as a template.
2. See electrical connections.



## Electrical Connection

### T-bar or Gypsum (figure 7):

- a. Remove back box cover.
- b. Remove the round knockout on the back box cover and install AC conduit.
- c. Route AC circuit of rated voltage into the back box and leave 6" of wire length.
- d. Connect ground wire.
- e. The system accepts input voltages of 120 VAC to 347 VAC: Connect the white lead to neutral and purple lead to AC line voltage.
- f. Respecting connector polarity snap connector into PCBA with red wire facing the outer edge of the unit (see figure 6).
- g. Install battery with wires facing downwards into the unit.
- h. Reinstall back box cover and ensure AC wires are inside compartment shown in figure 6.
- i. Secure cover with screw.
- j. See final installation.

### Plenum box (figure 7):

- a. Connect ground wire.
- b. The system accepts input voltages of 120 VAC to 347 VAC: Connect the white lead to neutral and purple lead to AC line voltage.
- c. Respecting connector polarity snap connector into PCBA with red wire facing the outer edge of the unit (see figure 6).
- d. Install battery with wires facing downwards into the unit.
- e. See final installation.

## Final Installation

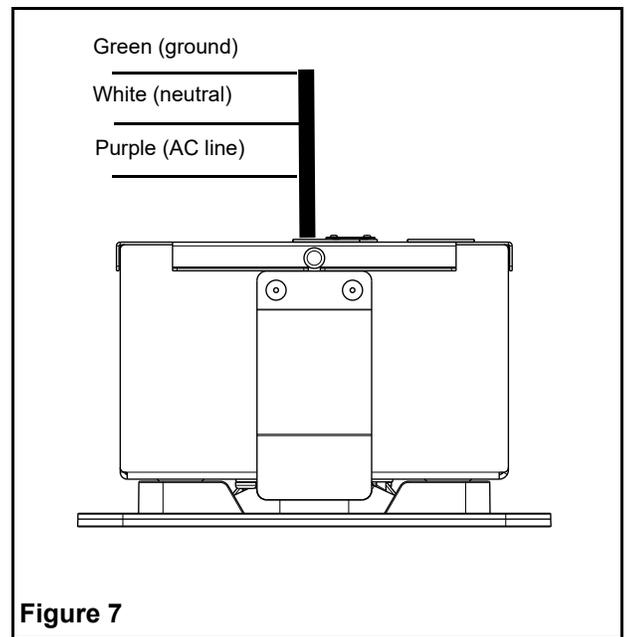
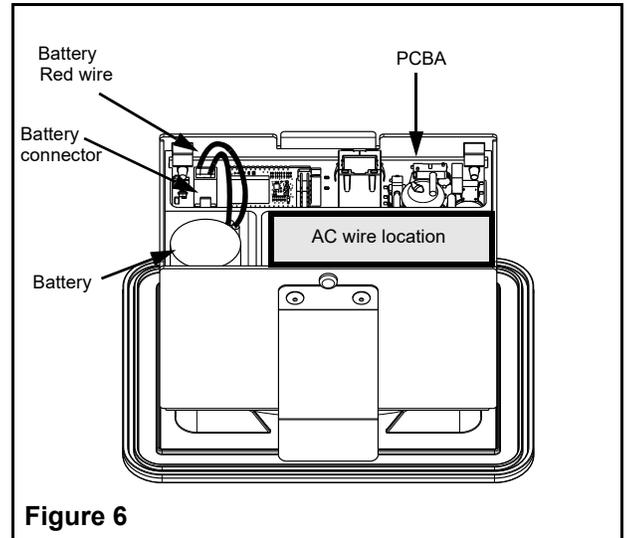
Insert unit into rectangular opening by compressing springs and pushing upwards until the trim plate is tight against the surface.

Note: if the trim plate is not tight on the surface, remove unit and gently pull outward on each spring to widen then reinsert unit.

Remove peel-off sheet from trim.

## Manual Testing

The equipment comes standard with a one key infrared remote control. First remove the plastic tab from the battery compartment of the remote control. To initiate a test: orient the remote control towards the unit and click on the TEST button: the unit will start a one-minute test. Click again to abort the test in progress.



### Automatic Self-test and Diagnostic (Option)

Once power is supplied, the unit will automatically initiate a routine self-test calendar as follows:

- a. Verifies battery connection, battery failure, charger board failure and lamps failure.
- b. Executes one-minute monthly self-test.
- c. Executes a 30-minute self-test every 6th month.
- d. Executes a 90-minute self-test every 12th month.

Diagnostic:

The unit is equipped with a bi-color pilot light and indicates the following status:

- a. Green color: AC-on / self-test. Red color: Service alarm.
- b. A diagnostic label is placed on the unit cover (see figure 8).

**Figure 8**

	LABEL	INDICATOR ACTIVITY	MEANING
●	AC ON	Steady green	AC on
-●	IN TEST	Blinking green	Testing in progress
●	BATTERY / LAMP DISCONNECT	Steady red	Battery disconnected and/or load disconnected
-●	BATTERY FAILURE	1 red blink, then a 5-second pause	Battery failure
●●	CHARGER FAILURE	2 red blinks, then a 4-second pause	Charger failure
●-●-●	LAMP FAILURE	3 red blinks, then a 3-second pause	Lamp failure

### Transfer Time Delay (Option)

When power is restored, the Time Delay keeps the emergency lighting active for 15 minutes (factory set). If the battery depletes before the end of the time delay, the lights turn off and the unit goes in stand-by mode.

### Nexus<sup>®</sup>Pro (Option)

After installation and power up, the pilot light will alternate color between green and orange every other second. A diagnostic label is placed on the unit cover (see figure 9).

**Figure 9**

	LABEL	INDICATOR ACTIVITY	MEANING
●	AC ON	Steady green	AC on
-●	IN TEST	Blinking green	Testing in progress
●	BATTERY / LAMP DISCONNECT	Steady red	Battery disconnected and/or load disconnected
-●	BATTERY FAILURE	1 red blink, then a 5-second pause	Battery failure
●●	CHARGER FAILURE	2 red blinks, then a 4-second pause	Charger failure
●-●-●	LAMP FAILURE	3 red blinks, then a 3-second pause	Lamp failure
●	SERVER FAILURE	Steady yellow	Server failure
-●	BLINK MODE	Blinking yellow	Wink mode
-●-●	NOT COMMISSIONED	Alternating yellow and green blinks	Unit not commissioned

For Nexus commissioning follow the instructions of the User Manual.

### Maintenance

Models equipped with batteries: if AC supply is to be disconnected for 2 months or more, the battery must be disconnected.

**Warranty:** For the complete warranty information, please refer to ([www.emergi-lite.com/warranty](http://www.emergi-lite.com/warranty)).