SSHC, INC.

ENERJOY RADIANT HEATMODULES®

# INSTALLATION INSTRUCTIONS

## RADIANT PANEL OPTIONS

ENERJOY® Model RCL/RCH RADIANT Ceiling Panels are designed for surface mounting or installation in a t-bar grid by electrician. Model RCLD/RCHD module is designed for installation on surfaces such as concrete and for surface wiring where end mount junction for wire mold or conduit is desired.
ENERJOY HEATERS are ideal as total or auxiliary heat in new or retrofit applications. RCL/RCH modules installed on surface may be enhanced by decorative molding or painted using whatever water acrylic base paint color that is desired.

## ENERJOY® MODULE SPECIFICATIONS

*Watts per kilowatt hour **British Thermal Units produced per hour

*All models available in 208 volt (RCL-3) and 277 volt (RCL-1). For additional sizes, voltages, wattages, please call SSHC at 860 399-5434*

**Radiant Ceiling Panel Series : additional wattages, voltages available.**

| Model No. | Voltage | Watts | Size | Weight(lbs.) |
|---|---|---|---|---|
| 22RCL-2 | 240 | 200 to 375 | 23¾" x 23¾ x 1" | 5 |
| 22RCL-4 | 120 | 200 to 375 | 23¾" x 23¾ x 1" | 5 |
| 22RCL-2or4TBar | 120 or 240 | 200 to 375 | 23¾" x 23¾ x 1" | 5 |
| 23RCL-2 | 240 | 250 to 550 | 23¾" x 35¾ x 1" | 7 |
| 23RCL-4 | 120 | 250 to 550 | 23¾" x 35¾ x 1" | 7 |
| 24RCL-2 | 240 | 300 to 750 | 23¾" x 47¾ x 1" | 8 |
| 24RCL-4 | 120 | 300 to 750 | 23¾" x 47¾ x 1" | 8 |
| 24RCL-2or4TBar | 120 or 240 | 300 to 750 | 23¾" x 47¾ x 1" | 8 |
| 24RCL-2 or -4 | 120 or 240 | 300 to 750 | 23¾" x 47¾ x 1" | 8 |
| 25RCL-2 | 240 | 400 to 950 | 23¾" x 59¾ x 1" | 10 |
| 25RCH-4 | 120 | 400 to 950 | 23¾" x 59¾ x 1" | 10 |
| 26RCL-2 | 240 | 600 to 1150 | 23¾" x 68¾ x 1" | 12 |
| 26RCL-2 | 240 | 600 to 1150 | 23¾"x 68¾" x 1" | 12 |
| 26RCH-4 | 120 | 600 to 1150 | 23¾" x 68¾" x 1" | 12 |
| 27RCL-2 | 240 | 600 to 1350 | 23¾" x 83¾ x 1" | 14 |
| 27RCH-4 | 120 | 600 to 1350 | 23¾" x 83¾ x 1" | 14 |
| 28RCL-2 | 240 | 700 to 1550 | 23¾" x 95¾ x 1" | 16 |
| 28RCL-2 | 240 | 700 to 1550 | 23¾" x 95¾ x 1" | 16 |
| 28RCL-4 | 120 | 700 to 1550 | 23¾" x 95¾ x 1" | 16 |

**Bathroom Fan/light/nightlight package - complete: includes Decora switch/cover & thermostat**

| Model No. | Voltage | Watts | Size | Weight(lbs.) |
|---|---|---|---|---|
| 22RCLFL-2or4 | 240 or 120 | 200 to 375 | 23¾" x 34¼ x 1" | 5+25 |
| 23RCLFL-2or4 | 240 or 120 | 250 to 550 | 23¾" x 46¼ x 1" | 6+25 |
| 24RCLFL-2or4 | 240 or 120 | 300 to 750 | 23¾" x 58¼ x 1" | 8+25 |
| 25RCLFL-2 or 4 | 240 or 120 | 400 to 950 | 23¾" x 69¾ x 1" | 12+25 |

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**Placement – Clearance must be 1/8".**
Module should be placed in the area between the center of the room and the outside wall, or above area(s) of high heat loss (i.e. window, door). ENERJOY® Radiant panels may also be placed over a specific area for "spot heating," or centered in small rooms with limited heat loss and super insulated houses.

**Insulation**
**NOTE:** Keep module connection box visible when insulating a ceiling. Typical insulation specifications are R19 wall; R-38 ceiling, with R-15 system value over unheated basement or crawl space (use reflective insulation and obtain a vapor, infiltration, radon, and infestation barrier also).

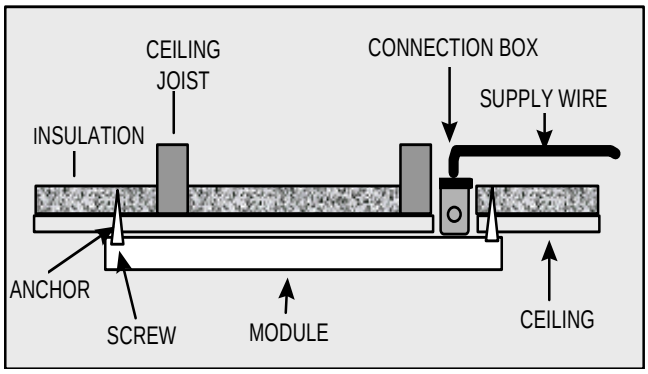
**Components and Wiring Instructions**
Module is normally supplied with two red 8" wire leads (#14 AWG 105°C), to standard #12 power supply for wire nut connection with junction box. Refer to appropriate diagram for wiring. Screw hole-plugs are provided to close module mounting entry holes.
**Caution:** TURN BREAKER OFF BEFORE INSTALLING MODULE. Conform to local and national codes. Total wattage of modules per circuit is limited to 80% of circuit capacity. Use GFCI, ground fault circuit interrupter, circuits in bathrooms and other high humidity areas; use appliance white, uncoated panels in high humidity areas. Measure voltage and branch circuit amperage to determine wattage and module circuit load. **DO NOT** use wall switch; use 24 Volt or line voltage thermostat. **DO NOT** wire to higher than label voltage. Wiring to lower voltage is permitted, but module will operate at reduced wattage**. DO NOT** puncture, nail, or screw into module; use frame holes for mounting. **DO NOT** cover module face with any material. Do not retard heat distribution or cause over-heating. Module may be over-sprayed or painted with acrylic water base flat paint or solid aggregate material. **DO NOT** use oil paint, as it retards heat transfer and may discolor. **FIRE PROTECTION SPRINKLER SYSTEM** clearance is six (6) inches below or beside panel; spacing is 1 inch for electric housings such as fans, lights, or other electrical devices.

## MODULE INSTALLATION

**Surface Mounting (Fig. 1)** - (check for bag of hole-plugs)

1. Make connection box nesting opening in ceiling.
2. Install connection box to back of module using the prepositioned screws.
3. Connect the power supply conductors to the module leads in the connection box and install cover blank.
4. Position on ceiling, holding module in layout place.
5. Punch or drill holes into the ceiling to provide a hole for the screw/anchor assembly, or mark holes for drilling. The frame mounting holes are designed to accept #6 - 1 ¾" X 1/8" Pan Head screws.
6. Insert installer provided screw/anchor molly butterfly or Zip-it assembly into the ceiling, and tighten into place so that frame is flush with ceiling surface or caulk. Insert plastic caps to close frame screw holes.

SURFACE MOUNTING FIGURE 1

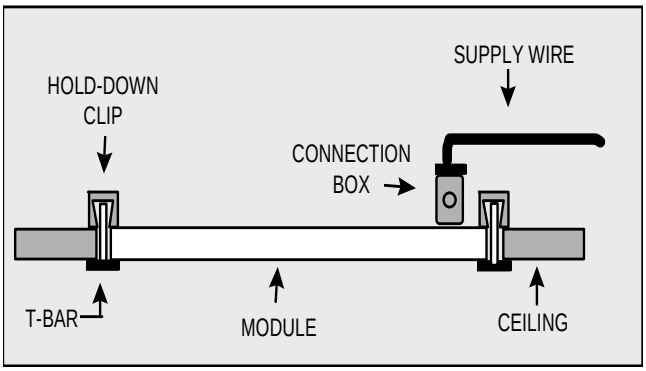



**T-Bar Mounting (Fig. 2)**

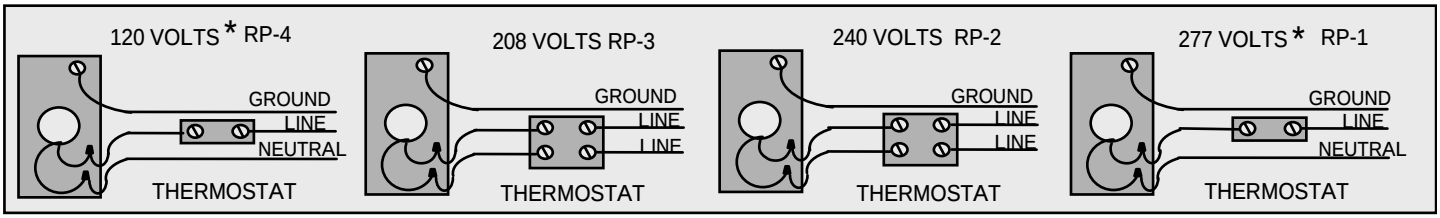
1. Install connection box to back of module using the two prepositioned screws.
2. Lay the module carefully onto the T-Bar grid and secure with installer provided hold-down clips or support wire as directed by code.
3. Connect the power supply conductors to the module leads in the module connection box.

**Note:** Junction box is located 1" from panel edge and centered left to right on one of the narrow ends

FIGURE 2




## WIRING DIAGRAM




* DOUBLE LINE BREAK THERMOSTAT MAY BE USED WHERE POSITIVE OFF IS DESIRED BY CONNECTING LINE AND NEUTRAL.

### ENERJOY RADIANT PANEL® OPERATION TEST

Each panel has been individually checked at the factory. However each panel should be field checked by measuring cold resistance for confirmation with label wattage.
After panel installation, the entire circuit should be tested, to check the on-sight electrical work. Two methods of testing will be discussed in the following paragraphs.

**Full Power Available** - Apply rated voltage to the heater load circuit. Branch loads are to be read with a suitable amp meter. The amp meter value should be the same as that calculated for the heating load and, if the values agree, all panels are operating. If the values do not agree, installation should be re-checked. For physical check without a meter, it is only necessary to feel the panels. If they are warm but can only be touched for a few seconds, they are working.

**Without Power Available** - This check of the panel installation requires the use and knowledge of an ohmmeter. A resistance measurement is taken at the load circuit, with all other circuits isolated. This will give the total resistance of the heater load. Knowing the total heater load of the panel in watts and the heater rated voltage, a simple calculation will give
the same values as that read on the ohm meter. (The same test procedure applies to test of an individual panel)
Example: For a branch circuit of 1500 watts and panel rated voltage of 240, the resistance will be 38.4 ohms:

$$\text{Formula: } \frac{\text{voltage x voltage}}{\text{wattage}} = \text{Resistance in ohms} \qquad \frac{240 \times 240}{1500} = 38.4 \text{ ohms}$$