

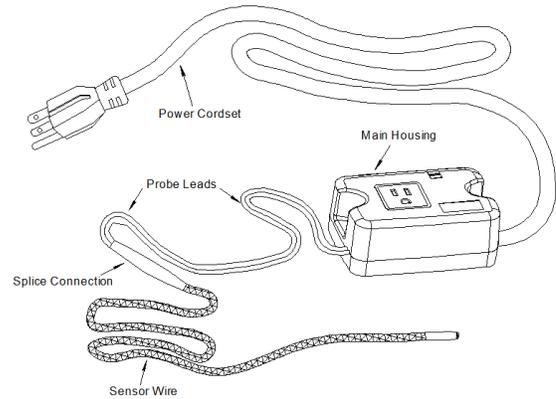
# RCR-U

## Automatic Roof De-Icing Cable Control Installation and Operation Instructions

Fig.1



- Kit also includes:
- 1 Clips (6pcs)
  - 2 Spacer (2pcs)
  - 3 Mounting screws (2pcs)



### GENERAL:

The Roof Heating Cable Control is intended to be used with Roof and Gutter Deicing cable. It only energizes your roof and gutter deicing cable when necessary by sensing temperature and moisture. It prevents excess electrical waste while helping to protect your roof from ice dams.

When the weather is warm, the meltwater will continue to drain to the ground, so there is no reason for the roof heating cable to be energized. Also, when the ambient temperature is cold enough that the heat dissipated from the roof does not melt snow, there is no need for the roof heating cable to be energized. De-icing cables only need to operate when there is a possibility of meltwater refreezing and causing ice dams.

**Improper installation, use, operation and/or maintenance of electrical roof de-icing cables can cause fire, electrical shock and/or formation of ice dams.**

### WARNING

1. Read this instruction manual and the manual of your roof and gutter deicing kit thoroughly prior to installation.
2. Do not connect more than one roof cable to the RCR-U. The maximum cable size that can be connected to the RCR-U is 1200 Watts. *Risk of fire, electric shock or the formation of ice dams can result from a larger cable or from multiple cables being connected.*
3. The main housing must be kept dry as it is not water resistant and will fail if directly exposed to the weather. See more information in the installation instructions.
4. It is mandatory that the circuit supplying the RCR-U and heating cable have ground fault protection; If no Ground Fault Circuit Interrupted (GFCI) outlet is near the roof edge, please have a licensed electrician install an outlet for use. Heating cables must be installed in compliance with the National Electric Code and/or Canadian Electrical Code.
5. These instructions must be saved and made available to owners or users of this product and/or transferred to future owners.
6. Any roof de-icing cable that is to be connected to the RCR-U must be installed according to the manufacturer's instructions.

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## INSTALLATION INSTRUCTIONS

1. Mount the main housing under the soffit, or equivalent location protected from the weather, using the screws provided. Refer to Fig. 2. Ensure that the mounting location is close enough to the receptacle supplying power to the unit to allow the power cord on the control to be plugged in. The power connection should be located for the best protection from the weather and a drip loop used as appropriate. If desired, this receptacle can be controlled by a switch (with a pilot light) located inside the house. See Fig. 2.
2. Lay the Splice Connection and sensor wire along the bottom of the gutter within two inches of the roof de-icing cable. *Route the sensor wire over at least one gutter support strap or nail, in order to sense the full depth of the gutter*, then route along one triangular weave of the heating cable on the roof as per diagram. At the peak of the second triangle, attach the sensor wire up the roof, at least 2 feet (60.96 cm) past the heater wire as illustrated. Use the clips provided to secure the sensor wire to the roof. Gently squeeze the coated end of the clip around the sensor wire. See Fig. 3. Use one of the included spacers, create a drip loop on the probe lead on the housing end.
3. Plug the RCR-U power plug into the receptacle (*Ensure that this connection remains dry*). The green power indicator light on the housing will lighten. Use one of the included spacers, create a drip loop on the power cable between the housing and the plug end.
4. Plug in roof & gutter de-icing heating cable to the control unit. Use one of the included spacers, create a drip loop on the power cable on plug end. The RCR-U is now ready to control the de-icing cable on your roof.
5. The roof de-icing cable will be energized when blue "Heating" light is lit. Fig. 4.
6. For Roof without gutter- Lay the sensor wire along the triangular weave of the heating cable as shown on Fig. 5 and secure the main housing under the eave of the roof as shown on Fig. 5.
7. The RCR-U may be used on metal and membrane roofs. A typical installation of the roof clips on these types of roofs requires an adhesive to bond the clip to metal or membrane material. The choice of adhesive is left to the installer. Care must be taken on metal roof installations to ensure the sensor wire is protected from sliding snow or ice, which could damage the sensor wire and render the RCR-U inoperable. Prior to installing on a membrane roof ensure the sensor wire will be able to reach the area

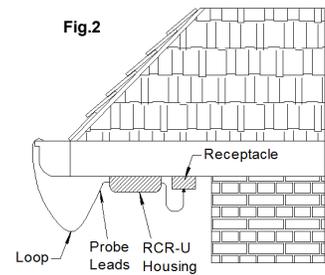


Fig.3 Sensor Wire Application with Gutter

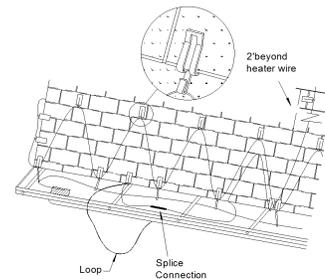


Fig.4

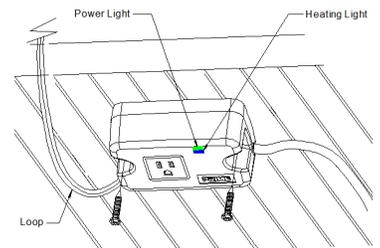
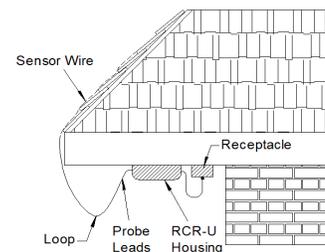


Fig.5 Sensor Wire Application without Gutter



We recommend testing the unit prior to installation:

- a. The unit is programmed to turn on with any presence of water regardless ambient temperatures for 2 minutes every time the unit is plugged into a power socket.
- b. In order to test the unit, submerge a minimum of 10 inches of the sensor wire in water. Plug in the unit, if the blue "HEATING" light is lit, the unit is working properly.
- c. After this two-minute testing phase is over, if ambient temperatures are above 39.2°F (4°C) the blue light will turn off; If ambient temperatures are below 39.2°F (4°C) and the sensor wire is still submerged by 10 inches, the blue "HEATING" light will stay on and the unit will continue to energize the outlet.

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## **ANOMALY DETECTION:**

- If the blue “HEATING” indicator light is continually flashing, it indicates your de-icing cable is severely damaged or aged. The cable is having electrical leakage and is no longer safe to use. Immediately unplug RCR-U and then replace your de-icing cable with new one.

**WARNING:** This detection function cannot be utterly relied on, because minor damage and other abnormal situation cannot be detected. Routine checks on the cable are advisable.

- We recommend regular maintenance at the beginning of each heating season.
  - ♦ Disconnect the power to the RCR-U during summer months.
  - ♦ At the beginning of the heating season and monthly during operation, inspect the RCR-U control and its connection to the electric power source.
  - ♦ Discontinue use and remove any unit that has been cut, damaged, or has deteriorated for any reason. Other conditions to look for are chewing by animals or any physical abuse. This RCR-U does not contain any serviceable parts. Inspect for and remove all leaves and combustible debris from roof, gutters and downspouts.