

Installing the SunStat™ Control



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SunStat™

(Model 500700-120)

The SunStat thermostat is a simple way to control an electric floor-warming system. It is designed for connection to normal 120-VAC home wiring.

PARTS INCLUDED

- SunStat thermostat
- Floor sensor (15' long wire)
- 2 screws for mounting in electrical box
- 5 wire nuts for wiring connections

If any parts are missing or damaged, contact the store where you purchased the thermostat. Do not install a damaged part.

INSTALLATION

It is recommended that a qualified electrician install the thermostat and follow all local electrical codes.

The thermostat must only be used to control a resistive floor warming system. This system must not exceed 1800 watts (15 amps) at 120 V.

Locate the thermostat about 4-1/2' to 5' above the floor on an interior wall away from direct sunlight and other heat sources. Do not locate the thermostat on a wall with hot-water or cold-water piping, or ducting in close proximity. The floor sensor can be extended up to 50' away from the thermostat with standard two-conductor 18-gauge wire (uncoiled). The floor sensor wire cannot pass near high-voltage electrical appliances such as electric water heaters, air conditioners or electric ranges. Embed the sensor tip in the heated floor area, locating it halfway between heating elements.

Install a single-gang extra-deep box (not a "gangable" type) when only one mat will be connected to the thermostat. In new construction, you may install a 4" square box when more than one mat will be connected to the thermostat. With a 4" square box, you will need to attach a mud-ring or other filler plate to properly install the thermostat.

Pull the round dial off the front. Gently pull the thin face-plate from the face of the thermostat to reveal the holes for the mounting screws provided.



WIRING

Turn off the power to this electrical circuit at the breaker panel. Do not turn it back on until connections are finished and protected.

Begin making connections on the back of the thermostat with the wire nuts included using one of the following diagrams. Remember to connect the floor sensor wire!

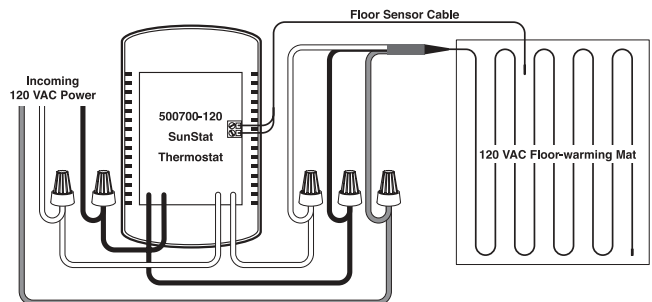


Fig. 1. Connection to a single set of mat leads.

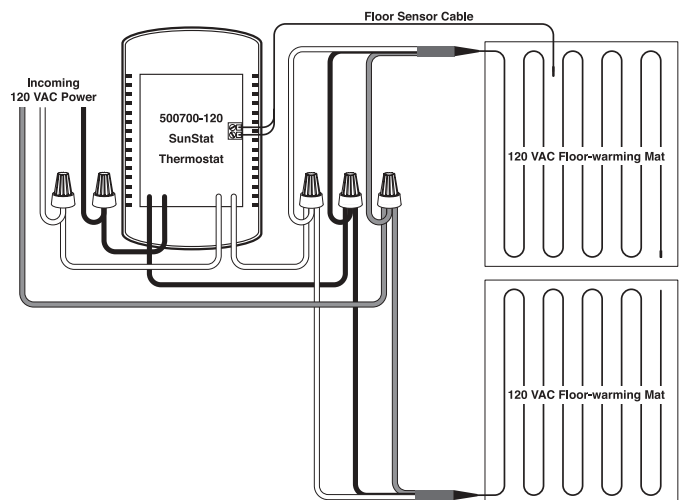


Fig. 2. Connection to more than one set of mat leads.

Note: Do not connect more than 1800 watts (15 amps) to the thermostat. Refer to your mat specifications for information.

Note: If the floor sensor is not connected to the thermostat the thermostat will sense the air temperature in front of it instead, becoming an air thermostat.

When all wiring connections are complete, carefully insert the thermostat into your electrical box and secure it with the screws provided. Re-attach the thin faceplate and round dial to the front. Now you may turn the circuit breaker on to power this thermostat.

OPERATION

The SunStat is very simple to operate. Just turn the dial clockwise to select a temperature that turns on the mat. The light above the dial should turn on, indicating the floor is now warming.

Allow enough time for your floor temperatures to stabilize at the temperature you selected. This may take a half hour or up to four hours depending on your flooring construction. If the floor is still too cool, turn the dial slightly clockwise. If the floor is too warm, turn the dial slightly counterclockwise and again wait for the floor temperatures to stabilize.

Once you have the desired floor temperature, press the "ON/OFF" button to turn the system on or off.

GFCI

The SunStat has a built-in Ground Fault Circuit Interrupter (GFCI) to protect you in case of problems. The GFCI "test" button should be pressed each month to verify that it is working.

While the heating light is on, press the "test" button. The heating light will turn off, the light next to "GFI" will turn on, and a click will be heard indicating the power is turned off to the floor warming system. Press the "ON/OFF" button off then back on to return the thermostat to normal operation.

If the GFCI "test" button does not function properly, turn off the circuit breaker that feeds this thermostat. Do not use the system. Contact your electrician for assistance.

TROUBLESHOOTING TIPS

Heating light does not come on, or floor does not warm:

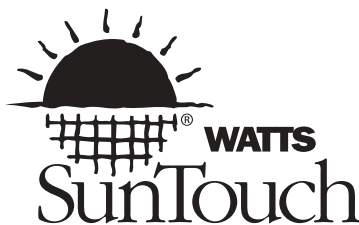
Reset your circuit breaker. Check wiring connections including the sensor wires. Press the "ON/OFF" button to the off position and then back on.

Heat will not shut off:

Check the sensor wire connections.

LIMITED WARRANTY

Watts Radiant warrants the SunStat control to be free from defect in material and workmanship for a period of one year from the date of the original purchase. Watts Radiant assumes no responsibility for any damage to the product or related products as a result of misapplication or improper installation or misuse of this product. If the product is proven defective in normal use, Watts Radiant will replace the product or refund the original cost of the product. Watts Radiant will not be responsible for costs of materials, labor, and related costs associated with proving defect, replacement, or installation.



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