

FloorStat

MODEL 500500-120 (120 VAC)

SUMMARY

TO CHANGE THE TEMPERATURE SCALE FROM °C (CELSIUS) TO °F (FAHRENHEIT) AND BACK

Switch the dip switch on the back of the control to either °C or °F. Note: The other three dip switches are not used.

TO SET TEMPERATURE

Press on ▲ or ▼ once to see setpoint temperature appear on display. Every subsequent press will change the setpoint temperature by one degree.

TO RECORD THE ☼ (COMFORT) SETPOINT TEMPERATURE

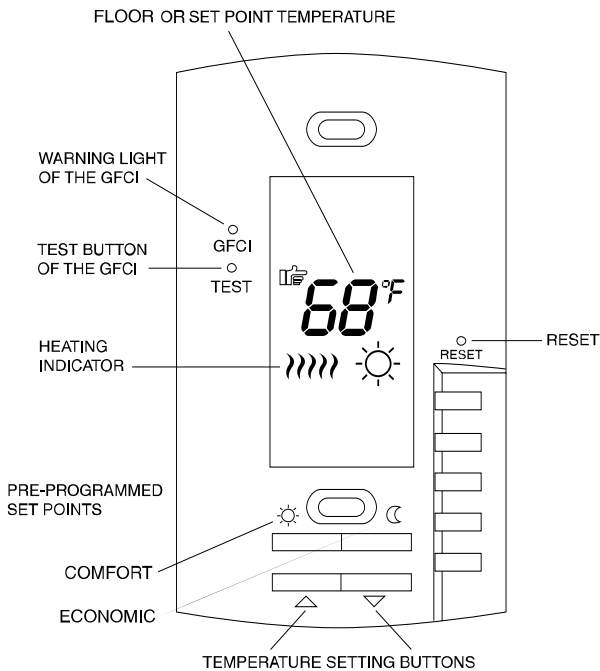
Select chosen setpoint temperature by using ▲ or ▼ button. Press on ☼ button (2 to 3 seconds) until icon appears on display.

TO RECORD THE ☾ (ECONOMIC) SETPOINT TEMPERATURE

Select chosen setpoint temperature by using ▲ or ▼ button. Press on ☾ button (2 to 3 seconds) until icon appears on display.

CHECKING GROUND FAULT CIRCUIT INTERRUPTER (GFCI)

Adjust the setpoint temperature until heating indicator (flames) appears on display. Press TEST button. The test is conclusive if the warning light (GFCI) on thermostat is ON and power to the load is cut-off (flames remain on display though). If these events do not occur, check the installation. Press on RESET button to reset the GFCI.



INSTALLATION

Parts included:

- One (1) 500500-120 (120 VAC) thermostat
- Two (2) 6-32 screws
- Four (4) Solderless connectors (for copper wire)
- One (1) Temperature sensor with a 15-foot extension

TURN OFF POWER TO THE HEATING SYSTEM AT THE MAIN POWER PANEL TO AVOID ELECTRICAL SHOCK. KEEP AIR VENTS OF THE THERMOSTAT CLEAN AND FREE OF OBSTRUCTIONS.

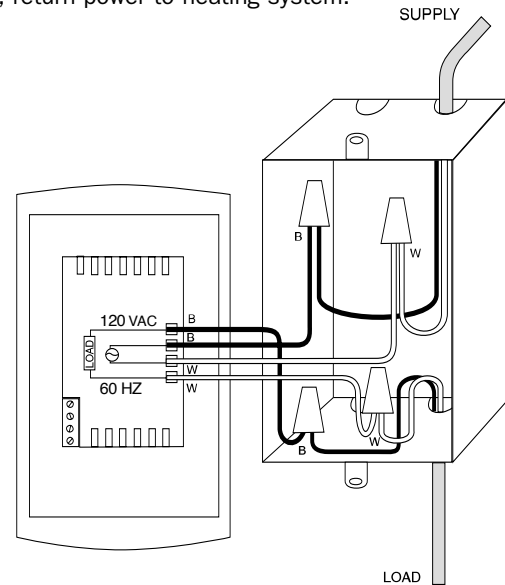
This thermostat should be installed by an electrician or experienced technician. The thermostat must be used with a self-protected heating system equipped with a thermal cut-off and circuit breaker or fuse.

This thermostat was designed to control floor electric heating systems. The resistive load must not exceed 1920 watts at 120 VAC (16.0 A). The thermostat is equipped with a ground fault circuit interrupter (GFCI) and therefore the isolation of the line and load is required for operation. The polarity of line connection must be respected. During a ground fault, only the current in the black wire of the load will be cut-off. Connect thermostat as shown on diagram.

1. CONNECTING WIRES AND MOUNTING THERMOSTAT

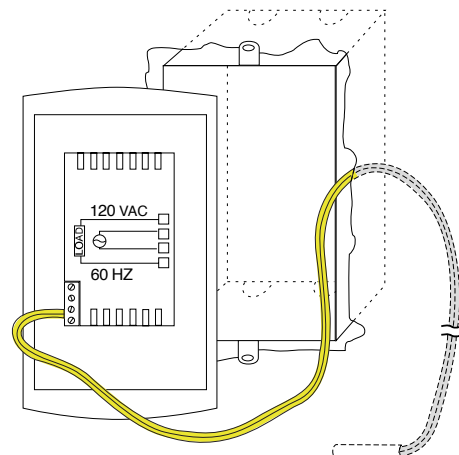
Connect the rear thermostat wires to the power supply and to the load using solderless connectors for copper wires. See schematic diagram below.

Push the excess wire back into the electrical box to prevent interference with the thermostat. Secure the thermostat using two (2) 6-32 screws 1-1/4 inches long. Once the thermostat is properly installed, return power to heating system.



2. CONNECTING TEMPERATURE SENSOR WIRE

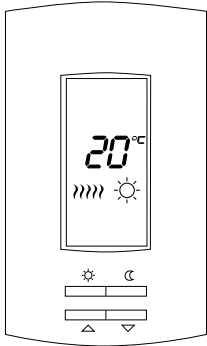
Connect the sensor wire to the two lower screws of the terminal block at the back of the thermostat (no polarity need to be respected). The wire must pass outside the electrical box and follow the wall down to the floor. The sensing probe should be placed in a representative heat area for maximum system performance. The sensing probe should be centered between the wires in the mat. The probe wire cannot cross any heater wires and the temperature sensor must not be directly or adjacent to a heating wire.



POWER UP

To power up thermostat:

When power is applied for the first time, the display must show the floor temperature. Other information might show up on the display if installation is defective or does not comply with the instructions. The warning light (GFCI) must be off.

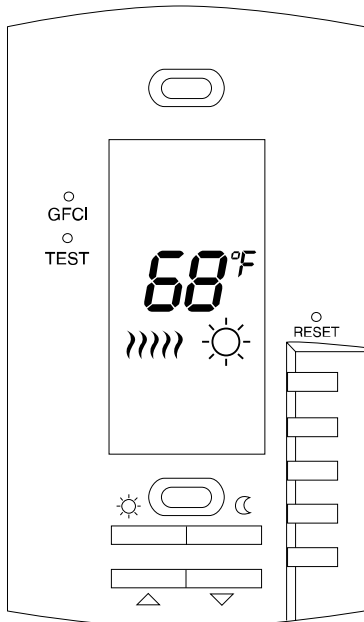


The message L0 will appear on the display if the temperature sensor is not hooked up, is in default or the temperature is below 0°C (32°F). Also, the heating indicator will be present on display and the relays will be close (current going in the load).

The message E1 will appear on the display if the temperature sensor is short-circuited. The message HI will appear on the display if the temperature is higher than (99°F).

If anything else appears on the display, press the ▲ button as you press and release the RESET button.

CHECKING GROUND FAULT CIRCUIT INTERRUPTER (GFCI)



Adjust the setpoint temperature until heating indicator (☀) appears on display. Press TEST button. The test is conclusive if the warning light (GFCI) on the thermostat is ON and power to the load is cut-off. If these events do not occur, check the installation. Press on RESET button to reset the GFCI.

If the GFCI test fails: Check the load wires. The thermostat must be in heating mode to carry out the test (heating indicator ON).

The GFCI test should be carried out monthly. If the test fails, cut off the electric power to the heating system and call customer service or return the thermostat to your supplier for verification. If the warning light comes on during normal operation, cut off power to the heating system and have an electrician verify the installation.

OPERATION

The thermostat has 4 different buttons to control the floor temperature. The ▲ and ▼ buttons increase or decrease the setpoint temperature. The ☀ and ☾ buttons are used to store and recall two temperature settings.

• Default values

To erase the recorded setting temperatures (☀ and ☾) and replace their values by the default ones, ☀ 30°C (86°F) and ☾ 10°C (50°F) press the ▲ button while pressing and releasing the RESET button. Then release the ▲ button.

• Setting a setpoint temperature

Press once the ▲ or ▼ button to see the setpoint temperature on display. Every subsequent press will change the setpoint temperature by one degree.

• Recording setpoint temperature for ☀ (COMFORT) and ☾ (ECONOMIC) settings

By recording two setpoint temperatures you will be able to go from the ☀ setting to the ☾ setting by simply pressing the ☀ or ☾ button.

• Recording a setpoint temperature for the ☀ (COMFORT) setting

Select chosen setpoint temperature by using ▲ and ▼ buttons. Keep pressing on the ☀ button (2 to 3 seconds) until icon appears on display.

• Recording a setpoint temperature for the ☾ (ECONOMIC) setting

Select chosen setpoint temperature by using ▲ and ▼ buttons. Keep pressing on the ☾ button (2 to 3 seconds) until icon appears on display.

NOTE: When the temperature setting used is ☀ or ☾, you can still use the ▲ or ▼ buttons to change the setpoint temperature without changing the recorded temperature.

• Recalling stored setpoint temperatures

Once stored, both setpoint temperatures can be recalled simply by selecting the ☀ or ☾ button.

CHOOSING THE TEMPERATURE SCALE IN °C (CELSIUS) OR °F (FAHRENHEIT) TO APPEAR ON DISPLAY.

To choose the temperature scale, press the ☀ button while pressing and releasing the RESET button. Then release the ☀ button.

CHARACTERISTICS

Model:	500500-120 (120 VAC)
Supply:	120 VAC, 50/60 Hz
Load:	16.0 A maximum (resistiveonly)
Power:	1920 W at 120 VAC
Ground fault circuit interrupter (GFCI):	Class A (5 MA TRIP LEVEL)
Approvals:	CSA NRTL/C
Display range:	0° to 60°C (32°C to 99°F)
Setting range:	10° to 50°C (50°C to 99°F)
☀ Default setting:	30°C (86°F)
☾ Default setting:	10°C (50°F)
Storage:	-20°C to 50°C (-4°F to 120°F)
Temperature regulation:	1°C (2°F)
Precision:	±0.5°C (1°F) (1920 W)

WATTS RADIANT, INC. ONE (1) YEAR LIMITED WARRANTY

This product is warranted against material defects and workmanship innormal use for a period of one year, from the date of the original purchase from authorized dealers. During this period, Watts Radiant, Inc. will repair or replace the product with a new or of equivalent quality at Watts Radiant, Inc. option, without charge, any product proven defective in normal use. Warranty does not cover transportation costs. Nor does it cover a product subjected to misuse or accidental damage. This warranty does not cover the cost of installation, removal or reinstallation.

This limited warranty is in lieu of all other warranties, obligations or liabilities expressed or implied by the company. In no event shall Watts Radiant, Inc. be liable for consequential or incidental damages resulting from installation of this product. Some states or provinces do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above exclusions or limitations may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

The defective product and the original sale receipt must be returned to the original dealer or shipped pre-paid, insured, and addressed to:

Watts Radiant, Inc.
3131 W. Chestnut Expwy.
Springfield, MO 65802

If you have any questions concerning the installation or programming of this product, please call technical assistance at 417-864-6108.