



M39009



Owner's Guide

TH114-A/AF-024T

Non-programmable thermostat

Thermostat non programmable

Termostato no programable

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Before you start

Read the entire document

CAUTION:

- For a new installation, choose a location about 1.5 m (5 ft.) above the floor.
- The thermostat must be installed on an inside wall facing the heating system (except for floor heating systems).
- Avoid locations where there are air drafts (top of staircase, air outlet), dead air spots (behind a door), direct sunlight or concealed chimney or stove pipes (except for floor heating systems).
- Do NOT install the thermostat in an area where it can be exposed to water or rain.
- Keep the thermostat's top and bottom air vents (openings) clean and unobstructed at all times.

About your thermostat

The TH114-A/AF-024T non-programmable thermostat has three temperature control modes:

- | | |
|-----------------|---|
| A mode: | • controls the ambient air temperature |
| F mode: | • controls the floor temperature |
| AF mode: | • controls the ambient air temperature
• maintains the floor temperature within desired limits |

See page 10 on how to change the temperature control mode setting.

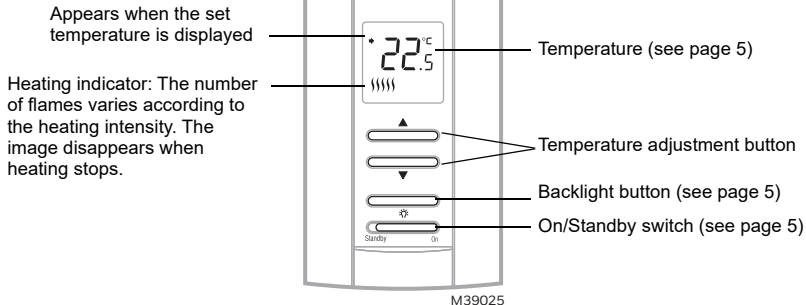
Supplied Parts

- | | |
|---------------------------|----------------------------------|
| • One (1) thermostat | • One (1) floor sensor * |
| • Two (2) mounting screws | • One (1) flat-tip screwdriver * |
| • Two (2) plastic anchors | |

* *Select models only; required for floor heating applications only.*

Controls and display

ENGLISH



Temperature Display and Setting

The thermostat usually displays the room temperature. To view the set (desired) temperature, press either of the ▲▼ buttons once. The set temperature is displayed for 5 seconds.

To set a new temperature, press one of the ▲▼ buttons repeatedly until the desired temperature is displayed. To scroll faster, press and hold the button.

Backlight

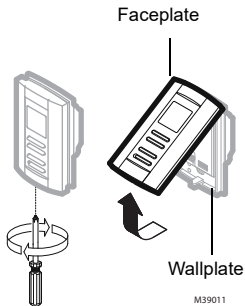
The display illuminates for 5 seconds when the backlight button is pressed. When either of the ▲▼ buttons is pressed, the display illuminates for 10 seconds. The set temperature appears for the first 5 seconds, then the room temperature is displayed.

On/Standby Switch

You can set the thermostat to Standby to cut power to the heating system when it is not in use (e.g. in summer). The thermostat screen becomes blank but all settings are saved.

Installing the thermostat

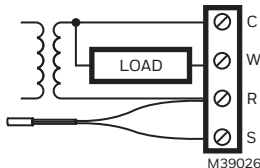
- 1) Turn the heating system off at the main electrical panel.
- 2) Loosen the bottom screw and remove the thermostat faceplate from its wallplate. (The screw cannot be completely removed.)
- 3) Wire the thermostat. See typical wiring on pages 8-11.
- 4) If the thermostat will be used in F or AF mode (see page 12), connect the floor sensor (see page 7).
- 5) Install the wallplate on the wall using the provided screws and wall anchors.
- 6) Set the configuration switches (see page 12).
- 7) Install the faceplate back on the wallplate and tighten the screw. If there is a sticker on the screen, peel it off.
- 8) Return power to the heating system at the main electrical panel.



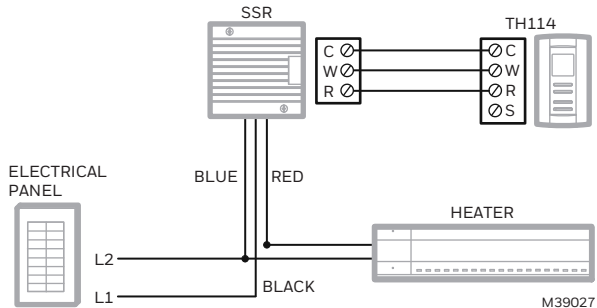
Connecting the floor temperature sensor

Connect the sensor between terminals R and S (no polarity).

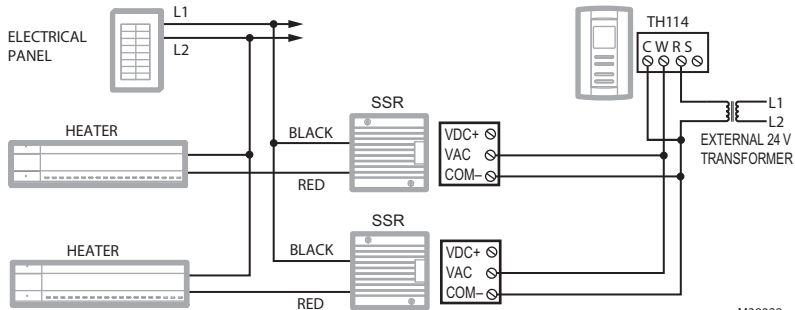
- The sensor cable must not come in contact with the electrical wires and must be routed outside the electrical box and follow the wall down to the floor.
- Position the sensor cable such that it does not come in contact with the floor heating wires. The sensor must be centered between two floor heating wires for best temperature control.
- Do NOT staple the sensor head (the plastic end) to the floor. Doing so might damage the sensor. Any damage might not be noticeable during testing but can become apparent several days later.



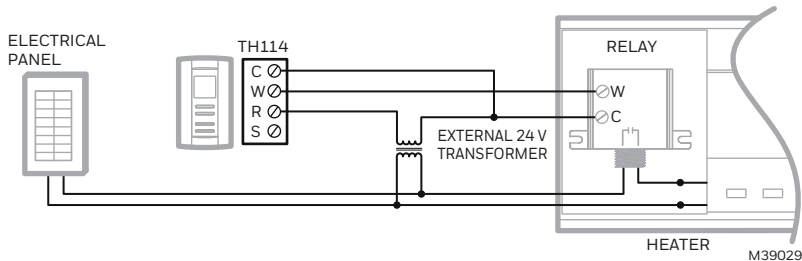
Wiring diagram - Single SSR with Built-in Transformer



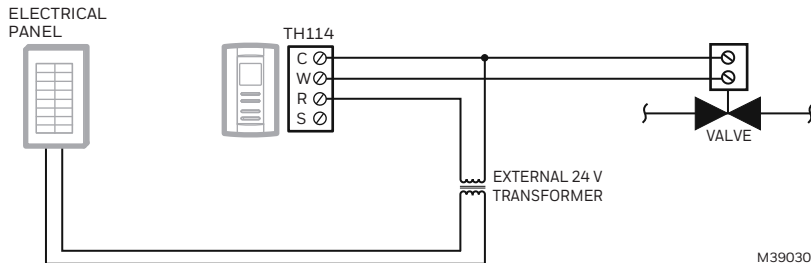
Wiring diagram - Multiple SSRs with External Transformer



Wiring diagram - Electromechanical Relay with External Transformer



Wiring diagram - Hot Water Heater Valve



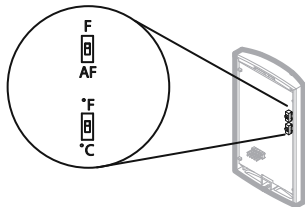
Setting the configuration switches

Configuration switches are on the back of the faceplate.

#	Configurations	Up	Down
S1	Displayed temperature unit	°F	°C
S2	Temperature control mode*	F	AF

* See page 3 for definition of each mode.

- To select the F Mode, connect the floor temperature sensor (see page 7) and place the switch in the F position.
- To select the AF Mode, proceed as follows: Connect the floor temperature sensor (see page 7). Place the switch in the F position. If the thermostat displays **Er**, the sensor is improperly connected or damaged. If the thermostat displays a temperature reading, place the switch in the AF position.
- To select the A Mode, place the switch in the AF position but do NOT connect the floor temperature sensor.



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Floor temperature limits (AF mode only)

The minimum and maximum floor temperature limits are available only if the temperature control mode is **AF** (see page 12). If the floor temperature drops below the minimum limit or rises above the maximum limit, the thermostat will turn heating On or Off respectively, regardless of the ambient temperature, to maintain the floor temperature within the set limits.

NOTE: *The desired ambient temperature might not be attainable if the maximum floor temperature is set too low.*

The minimum and maximum floor temperature limits are factory-set at 10 °C (50 °F) and 28 °C (82 °F) respectively. To modify the limits, proceed as follows:

WARNING: *To avoid damaging your floor, follow your floor supplier's recommendations regarding floor temperature limits.*

- 1) Switch the thermostat to Standby.
- 2) While pressing either ▲▼ button, switch the thermostat back to On to access the floor temperature limit settings.
- 3) Press the Backlight button briefly to switch between minimum and maximum floor temperature settings.
- 4) Press the ▲▼ buttons to set the desired limit.
- 5) Press the Backlight button for 3 seconds to save your modifications. After the data are saved, the thermostat displays the current temperature or “— —”.

NOTE: *Your modifications are automatically saved if no button is pressed for 60 seconds.*



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Error Messages

LO

The measured temperature is below the display range. Heating is activated.

HI

The measured temperature is above the display range. Heating is deactivated.

Er

Verify the thermostat and sensor connections. Heating is deactivated.

Technical Specifications

Maximum Load: 0.5 A / 24 VAC

Wire gauge: 14 to 22 AWG

Heating cycle length: 15 minutes

Setpoint range - **F mode:** 5 °C to 40 °C (40 °F to 104 °F)
- **A/AF mode:** 5 °C to 30 °C (40 °F to 86 °F)

Floor limit range (AF mode): 5 °C to 40 °C (40 °F - 104 °F)

Display range - **F mode:** 0 °C to 60 °C (32 °F to 140 °F)
- **AF mode:** 0 °C to 50 °C (32 °F to 122 °F)

Resolution: $\pm 0.5^{\circ}\text{C}$ (1°F)

Data protection: All settings are saved during a power failure.

Warranty

Resideo warrants this product, excluding battery, to be free from defects in workmanship or materials, under normal use and service, for a period of three (3) years from the date of first purchase by the original purchaser. If at any time during the warranty period the product is determined to be defective due to workmanship or materials, Resideo shall repair or replace it (at Resideo's option).

If the product is defective,

- (i) return it, with a bill of sale or other dated proof of purchase, to the place from which you purchased it; or
- (ii) call Resideo Customer Care at 1-800-633-3991. Customer Care will make the determination whether the product should be returned to the following address: Resideo Return Goods, 1985 Douglas Dr. N., Golden Valley, MN 55422, or whether a replacement product can be sent to you.

This warranty does not cover removal or reinstallation costs. This warranty shall not apply if it is shown by Resideo that the defect was caused by damage which occurred while the product was in the possession of a consumer.

Resideo's sole responsibility shall be to repair or replace the product within the terms stated above. RESIDEO SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND, INCLUDING ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING, DIRECTLY OR INDIRECTLY, FROM ANY BREACH OF ANY WARRANTY, EXPRESS OR IMPLIED, OR ANY OTHER FAILURE OF THIS PRODUCT.

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