INSTALLATION AND MAINTENANCE

king

F802GFCI
Thermostat

⚠ **DANGER** ⚠

ELECTRIC SHOCK OR FIRE HAZARD

READ ALL WIRE SIZING, VOLTAGE REQUIREMENTS AND SAFETY DATA TO AVOID PROPERTY DAMAGE AND
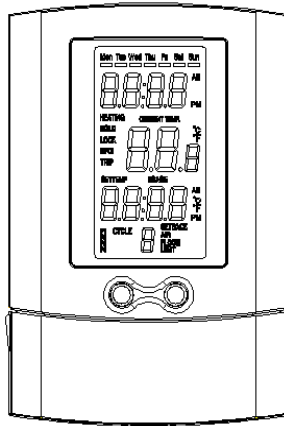
Specifications:
Thermostat is suitable for floor heating systems,
Power Supply AC 120/ 240V，50/60Hz
Maximum Load 15A, resistive
Maximum Power 1800W at 120VAC; 3600W at 240VAC
GFI Class A （5 milliamp trip）
Display Range 32℉-99℉（0℃-37℃）
Setting Range 41℉-99℉（5℃-37℃）Accuracy 1 （0.5℃）
Storage Temp. 32℉-120℉（0℃-49℃）
cETLus listing.

⚠ **WARNING** ⚠

READ CAREFULLY - These instructions will help prevent difficulties that might arise during thermostat installation. Studying the instructions first may save considerable time and money later. Observing the following procedures will keep installation time to a minimum. Save these instructions for future use.

FUNCTIONS AND FEATURES

This Thermostat has been designed for floor heating applications. The built in Ground Fault Circuit Interrupt (GFCI) provides worry-free operation and includes the floor sensor. Required for Floor Heat applications

- Dual Voltage (120vac and 240vac)
- 7 day programmable settings
- 4 Preset Heating Schedules
- Floor and Ambient air sensing
- Blue Backlit Display
- Built-in GFCI and Floor Sensor Included

Breaker

Thermostat

Floor Heater Cable
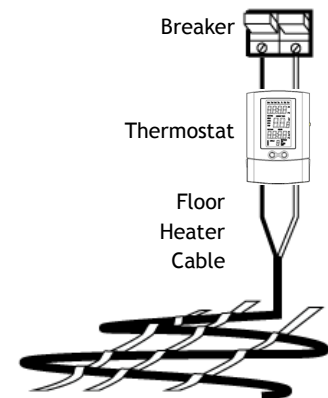
INSTALLATION INSTRUCTIONS

Warning: Turn OFF the power at the circuit breaker before Installing. Installation should be performed by a qualified electrician.

Refer to thermostat and heater load specifications before installation of the thermostat to see if it can handle the amp load. The maximum this thermostat can run is 3600 Watts at 240 Volts, 1800 Watts at 120 Volts.

Install unit in a grounded metal or plastic wall junction box, indoors 4 ½' to 5' above the floor. Avoid any area where it can come in contact with external sources of heat and cold. This includes plumbing pipes, direct sunlight, a T.V. set, lamps, and drafts from a door or window, as this may cause inaccurate temperature readings. The most convenient place is above the light switch. Not for Outdoor use.

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REV. 10.25.13

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INSTALLATION CON'T

Power Module

Front Module

Keypad Cover

Attachment Screw

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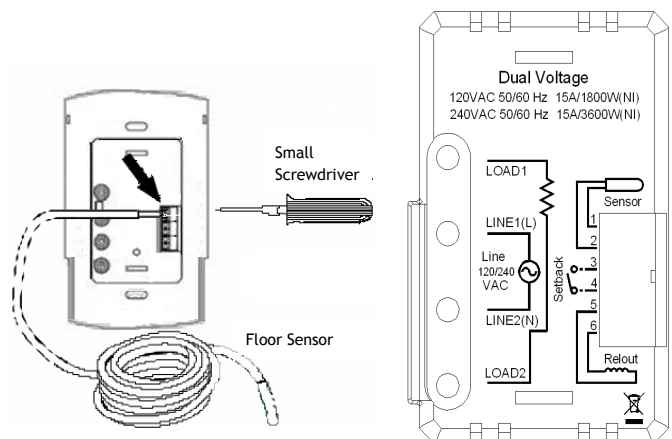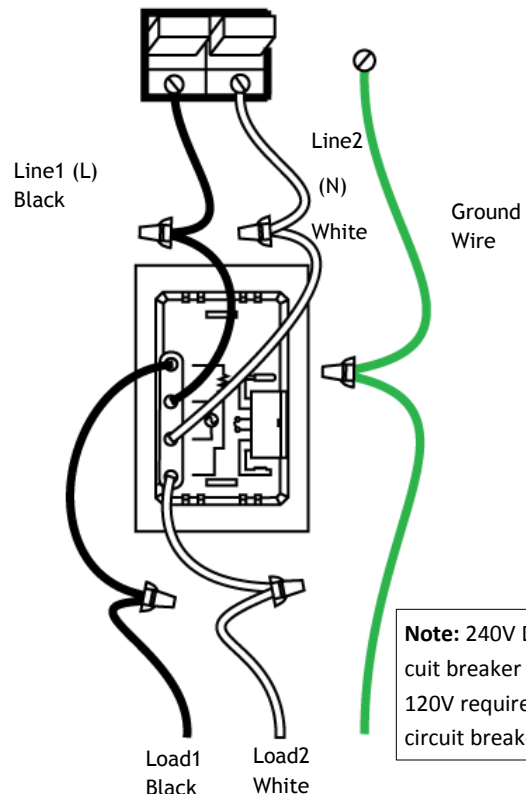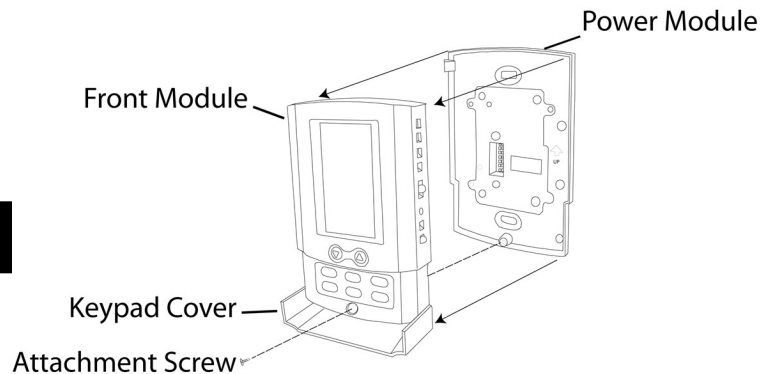READ ALL WIRE SIZING, VOLTAGE REQUIREMENTS AND SAFETY DATA TO AVOID PROPERTY DAMAGE AND

WIRING INSTRUCTIONS

1: Open keypad and loosen the screw on the bottom of the front module. Pull gently from the bottom of thermostat and lift to separate front module from power module.

2: Determine which pair of wires are coming from the Breaker (supply wires) and which are going to the heater (load wires).

3: Pull supply wires from wall box and for **120 VAC** attach black wire in box coming from the Circuit Breaker to Line1 (L) and white wire to Line2 (N). Secure with wire nuts. For **240 VAC** connect either supply wire to Line1 (L) then connect other supply wire to Line2 (N) of the thermostat. Secure with wire nuts.

4: Next take the black load wire from heater and attach it to Load1 on thermostat. Then take the other load wire coming from heater and attach it to Load2. Secure with wire nuts.

5: Tie the braided ground wire from heater to ground wire from the panel.

Line1 (L) Black

Line2 (N) White

Ground Wire

Note: 240V DP circuit breaker shown. 120V requires SP circuit breaker
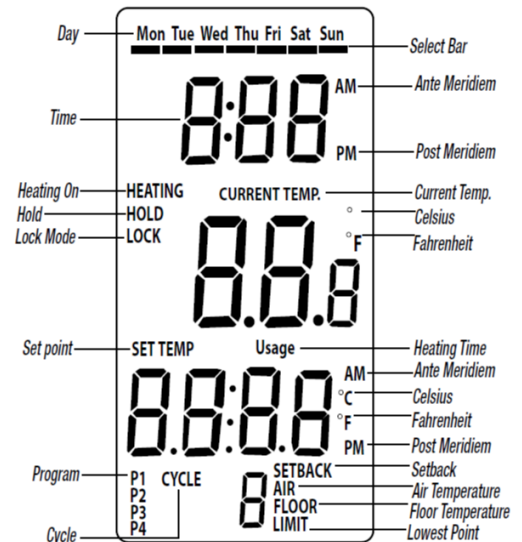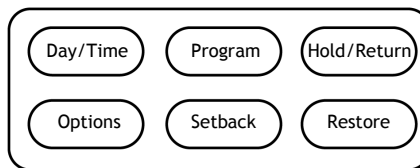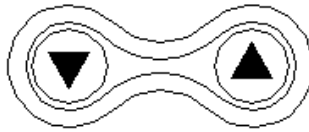
Load1 Black

Load2 White

Floor Sensor Installation

6: Using a small flat head screwdriver loosen the connection screws on the green terminal board on the back of the power module. Insert both wires of the floor sensor to the connector 1 and 2 and tighten screws.

7: Secure the power module onto the wall box with screws and replace the front module securing with the screw.

Small Screwdriver

Floor Sensor

Dual Voltage
120VAC 50/60 Hz 15A/1800W(NI)
240VAC 50/60 Hz 15A/3600W(NI)

LOAD1

LINE1(L)

Line 120/240 VAC

LINE2(N)

LOAD2

Sensor

Setback

Relout

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GENERAL INFORMATION

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READ ALL WIRE SIZING, VOLTAGE REQUIREMENTS AND
SAFETY DATA TO AVOID PROPERTY DAMAGE AND

PRODUCT SETUP AND SETTINGS

Initial Setup:

Note: Unit must have the **On/Standby** switch in the **On** position to program. In **Standby** mode the buttons will not work and no power will go to the heater.

When you first apply power if the day and time appear but **OFF** does not display on the unit, *hold* **Day/Time** button until hour blinks and set local time. The other buttons will not work until time is set.

Setting Local Day and Time,

Hold the **Day/Time** button until the hour blinks and use the ▼ and ▲ to adjust time. *Press* **Day/Time** to go to minute and adjust using ▼ and ▲. *Press* again to adjust day, *press once more* or wait 16 seconds to save settings.

SETTING THERMOSTAT OPTIONS (Options)

Hold the **Options** button to access options. *Press* the **Options** button again to cycle through the various options. *Pressing* **Hold/Return,** or **Options**, or waiting 16 seconds will save you settings.

Fahrenheit/Celsius Options (Options)

This thermostat has both **°F/12 hr** and **°C/24 hr** formats. *Hold* **Options** until °F/12 hr or °C/24 hr appears and *press* ▼ and ▲ to switch between them.

Sensor and Timer Mode Options (Options)

This thermostat has three temperature control modes.

1: **Room and Floor Temperature Sensor Mode (Sens/Air)** senses the ambient air temperature and the floor temperature to regulate temperature. To select *hold* **Options** until you get the options menu, *press* **Options** until **Sens or Regu** appear. *Press* the ▼ and ▲ to select **Sens/Air** *press* **Hold/Return** or wait 16 seconds to save settings. (Options)

2: **Floor Temperature Sensor Only Mode (Sens/Flr)** uses the floor sensor to regulate floor temperature only. *Hold* **Options** to get Options menu and then *press* **Options** until **Sens or Regu** appears. Then *press* ▼ and ▲ until **Sens/Flr** appears. *Press* **Hold/Return** or wait 16 seconds to save settings.

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3: **Timer Cycle Mode (Regu)** sets the thermostat to turn Off and On in a 15 minute cycle. *Hold* **Options** to get the Options menu then *press* **Options** until **Sens or Regu** appears. *Press* ▼ and ▲ until **Regu** appears, *press* **Hold/ Return** to activate. To change the **ON** time *hold* either the ▼ and ▲ to adjust the on time in the 15 minute cycle.

(Options)

Example: Setting of 6 would have the floor heat on for 6 Minutes out of the 15 Minute cycle while a setting of 1 would have the floor heat on 1 minute out of the 15 Minute cycle.

Floor Sensor Temperature Limit

(Options)

User can set a maximum temperature to prevent the floor from over heating, In **Room and Floor Sensor Mode (Sens/Air).** *Hold* **Options** to access the options menu, *press* **Options** until a temperature appears and use ▼ and ▲ to set the limit.

Calibration (Optional)

(Options)

This thermostat comes with an optional calibration mode. This is not needed for normal operation nor is it recommended but may be necessary in certain instances. Hold Options until the options menu comes up then press Options until **Cal** apears and press ▼ and ▲ to adjust temperature offset.

Display Power Usage

(Options)

On the last page of the options menu you have the power usage display. This displays how much time the heater is on in a given time period. There is a 1 day, 7 day, and 30 day view. To select *hold* **Options** until the options menu come up, then press **Options** until you see **1d** Use ▼ and ▲ to cycle through the views.

Manual Override Mode

(▼)(▲)

User can manually override the temperature setting. The temperature will be held until the next cycle. *Hold* either the ▼ and ▲ buttons to override the current temperature setting.

Hold Mode

(Hold/Return)

Hold the **Hold/Return**, after adjusting Manual Mode. This will turn on **Hold Mode** holding the setting until changed or **Hold/ Return** is *held* again.

Remote Sensor Mode

This Thermostat comes with a remote sensor override that can be interfaced with a home automation system. Hook the home automation wire to the setback on the green connector strip on the power module

Setback Mode

(Setback)

This mode overrides the current setting to a preset temperature. Just *press* the **Setback** Button. The thermostat will remain at the setback temperature until the next cycle.

To set the Setback temperature *hold* **Setback** until Setback appears on the screen. Use the ▼ and ▲ to change the temperature settings.

Lockout Mode

(▼)(▲)

Lockout Mode *hold both* ▼ and ▲ to lock the buttons, hold both ▼ and ▲ again to unlock.

Restoring Factory Defaults

(Return)

You can restore the thermostat to factory default by *holding* the **Restore** button until **Done/Rst** appears.

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PROGRAMING FUNCTIONS

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The thermostat has four Preset Heating Schedules **P1, P2, P3, P4** and a User Defined Programmable Mode **U1**. To select one of these *hold* **Program** and use ▼ and ▲ to select one of these.

USER PROGRAMMABLE AND PRESET HEATING SCHEDULES

U1 (USER PROGRAMMABLE MODE)

Cycle		Mon-Fri	Saturday	Sunday
1	AM/PM			
	°F/°C			
2	AM/PM			
	°F/°C			
3	AM/PM			
	°F/°C			
4	AM/PM			
	°F/°C			

Programing U1 (Program)

1. Design your custom heating schedule, then fill out the table (on left) for reference while programming U1.

2. *Hold* **Program** until it says **Pro**, and then select U1. Press Program.

3. Use the ▼ and ▲ adjust the Hour.

4. *Press* **Program** to go to Minutes and use ▼ and ▲ to adjust.

5. *Press* **Program** again to go to **Temperature** and use ▼ and ▲ adjust.

6. *Press* **Program** to go to the Sat and repeat steps 1-5. Repeat all steps for Sunday.

7. *Press* **Hold/Return** or wait 16

(Program)

Preset Modes Time and Temperature Schedules

To select a program hold the program and use the ▼ and ▲ to select one.

P1 （EARLY RISER）

Cycle	Mon-Fri	Saturday	Sunday
1	5:00 am	5:00 am	5:00 am
	82F	82F	82F
2	7:00 am	9:00 am	9:00 am
	75F	75F	75F
3	5:00 pm	5:00 pm	5:00 pm
	82F	82F	82F
4	10:00 pm	10:00 pm	10:00 pm
	75F	75F	75F

P2 (LONGER DAY)

Cycle	Mon-Fri	Saturday	Sunday
1	5:00 am	6:00 am	6:00 am
	82F	82F	82F
2	8:00 am	9:00 am	9:00 am
	75F	75F	75F
3	6:00 pm	5:00 pm	5:00 pm
	82F	82F	82F
4	11:00 pm	11:00 pm	11:00 pm
	75F	75F	75F

P3 (AT HOME DURING THE DAY)

Cycle	Mon-Fri	Saturday	Sunday
1	6:00 am	6:00 am	6:00 am
	82F	82F	82F
2	8:00 am	9:00 am	9:00 am
	79F	79F	79F
3	6:00 pm	6:00 pm	6:00 pm
	82F	82F	82F
4	10:00 pm	10:00 pm	10:00 pm
	75F	75F	75F

P4 (TAKE THE CHILL OFF)

Cycle	Mon-Fri	Saturday	Sunday
1	6:00 am	7:00 am	7:00 am
	75F	75F	75F
2	9:00 am	10:00 am	10:00 am
	70F	70F	70F
3	6:00 pm	6:00 pm	6:00 pm
	75F	75F	75F
4	10:00 pm	10:00 pm	10:00 pm
	70F	70F	70F

TROUBLESHOOTING

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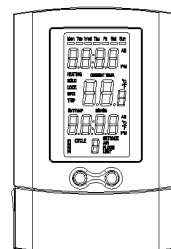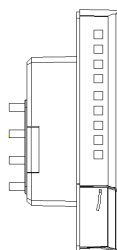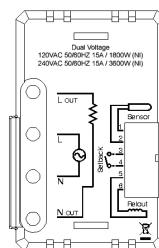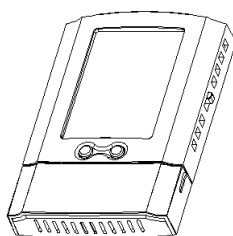
GFCI INSTRUCTIONS AND MONTHLY TEST

This thermostat is designed with a Ground Fault Circuit Interrupt (GFCI) that cuts power to the floor heat if current leak to ground occurs. A red light on the side will illuminate and GFCI TRIP will show on the display.

To reset, *turn* the thermostat to **standby** and then back **on**. If unit continues to trip, turn unit off and call a qualified service professional.

A monthly test is recommended for the GFCI. To test the GFCI turn the thermostat up so it begins heating. *Press* the **GFCI** button on the right side of the heater. The red light should illuminate, a **GFCI Trip** should be on the display, and an audible click sound should have been heard. Turn the thermostat to standby and then on again. If the GFCI is still tripped or none of the indicators happen replace the unit immediately.

TROUBLESHOOTING TABLE

PROBLEM	SOLUTION
Thermostat works but no heat from the system	1. Check wiring connections 2. If GFCI is tripped, reset thermostat with on/standby switch. 3. Check resistance on floor warming system, see floor heating system manual.
No display	1. Check wiring connections 2. Check circuit breaker or other protection "upstream" of thermostat
GFCI is tripped	1. Check wiring connections 2. Reset thermostat by switching On/Standby. 3. Check resistance of the floor heating system, see floor heat system manual.
Heating occurs at wrong times	1. Check that the current time and schedule time are properly set to AM or PM.
Er 1 (Only at start up)	Floor sensor not correct type or out of range. Check floor sensor resistance.
Er2	Floor sensor short-circuited. Check or replace sensor
Er3	Floor sensor not attached and thermostat in floor heating control mode, connect the sensor
Er4 Er5	Internal sensor is faulty. Replace thermostat or switch to floor sense mode

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