

THERMOSTAT INSTALLATION

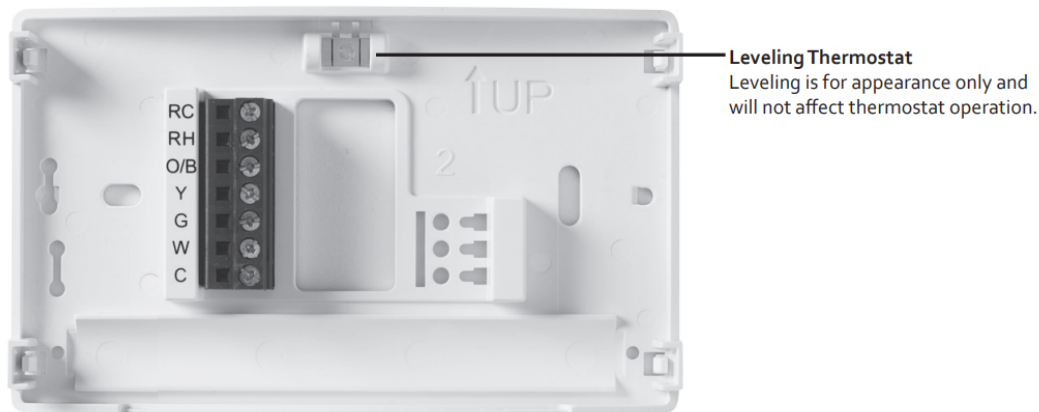
WIRING

Refer to equipment manufacturer's instructions for specific system wiring information. After wiring, see INSTALLER MENU for proper thermostat configuration. Wiring table shown are for typical systems and describe the thermostat terminal functions.

Terminal Designations	Terminal Function
RC*	Power for Cooling
RH*	Power for Heating
O/B	Changeover Terminal-Energized in Heat (B) or Cool (O) for Heat Pump or Damper Systems
Y**	Cooling Relay
G	Fan Relay
W**	Heating Relay
C	Common wire for 24V (optional with batteries)

*When both RC and RH wires are present, cut RC/RH jumper (see next page).

**For heat pump systems, add a jumper wire to connect terminals Y and W



Precautions

- Do not exceed the specification ratings.
- All wiring must conform to local and national electrical codes and ordinances.
- This control is a precision instrument, and should be handled carefully. Rough handling or distorting components could cause the control to malfunction.

Battery Location

Premium AA alkaline batteries are required when C-wire is not available. When C-wire is available, the batteries provide a *back-up source of power* (this will maintain the clock in the event of a power outage).



1.) Gas/Elec Switch

If the system is a heat pump or electric furnace, the GAS/ELEC Switch must be set to Elec. If your system is a gas or oil furnace, the switch must be set to Gas.

2.) O/B Terminal Switch




The O/B switch on this thermostat is factory set to the O position. This will accommodate the majority of heat pump applications, which require the changeover relay to be energized in Cool. If the heat pump being installed requires a B terminal, to energize the changeover relay in Heat, the O/B switch must be moved to the B position.




3.) RC/RH Jumper Wire

This thermostat electrically connects the RC and RH terminals so a jumper wire is not required. If the application provides a separate wire for RC and RH, clip the RC/RH jumper. This will isolate both terminals so they can be independently used.

INSTALLER MENU

To prevent changes that may affect system performance, this thermostat has an INSTALLER'S MENU and an USER MENU. The INSTALLER'S MENU provides access to every option, while the USER MENU provides access to items that will not affect system performance. To access the INSTALLER'S MENU press the Menu button for 8 seconds. The display will show item 30 in the table below. Use Next and Back to navigate through menu items. Press or to change a menu setting.

Installer's Menu # (Hold Menu 8 Seconds)	Description	Default Setting (flashing icons)	Settings (Press ▲ or ▼)
30 	Heat Cycle Rate (how often the heat will turn on)	MEd	SLO – slow MEd – medium FAS – fast
35 	Cool Cycle Rate (how often the cooling will turn on)	MEd	SLO – slow MEd – medium FAS – fast
50 	Compressor Lockout (protects the compressor from short cycling)	OFF	On – 5 minute display OFF – no delay
65	Maximum Heat Limit (maximum set point for heat mode)	99	47 to 99
66	Minimum Cool Limit (minimum set point for cool mode)	45	45 to 97
74	Schedule Type (set as either 7-Day, 5-1-1 Day or Non-Programmable)	5	7 – 7 Day 5 – 5-1-1 Day 0 – Non Programmable

Installer's Menu # (Hold Menu 8 Seconds)	Description	Default Setting (flashing icons)	Settings
76 	Early Start (starts heating or cooling early so your programmed temperature is reached by the programmed time)	OFF	On – start early OFF – start at program period time
79	Fahrenheit or Celsius	°F	°F – Fahrenheit °C – Celsius
81	Temperature Display Adjustment (adjust the displayed "Room Temperature")	0	-5 to +5
83 	Continuous Display Light (keep the backlight always on – "C" wire required)	OFF	On – always on OFF – momentarily
86	Change Air Filter (set up a monthly reminder)	OFF	1 to 12 – reminder time (months) OFF – no filter reminder
99 	Keypad Lock (prevent unwanted changes to the thermostat)	OFF	On – disable buttons OFF – all buttons are active

TEST EQUIPMENT


Turn on power to the system.

Fan Operation

If your system does not have a G terminal connection, skip to Heating System.

- 1.) Move fan switch to On position. The blower should begin to operate.
- 2.) Move fan switch to Auto position. The blower should stop immediately.

Heating System

- 1.) Move System Switch to Heat position.
- 2.) Press  to adjust thermostat setting to 1° above room temperature. The system should begin to operate and the thermostat will indicate Heat On.

3.) Press ▼ to adjust thermostat setting 1° below room temperature. The heating system should stop operating and the thermostat should indicate Heat.

Cooling System

1.) Move System Switch to Cool position.

2.) Press ▼ to adjust thermostat setting 1° below room temperature. The blower should come on immediately on high speed, followed by cold air circulation. The thermostat will indicate Cool On. There can be up to a 5 minute delay. (see INSTALLER MENU, item 50)

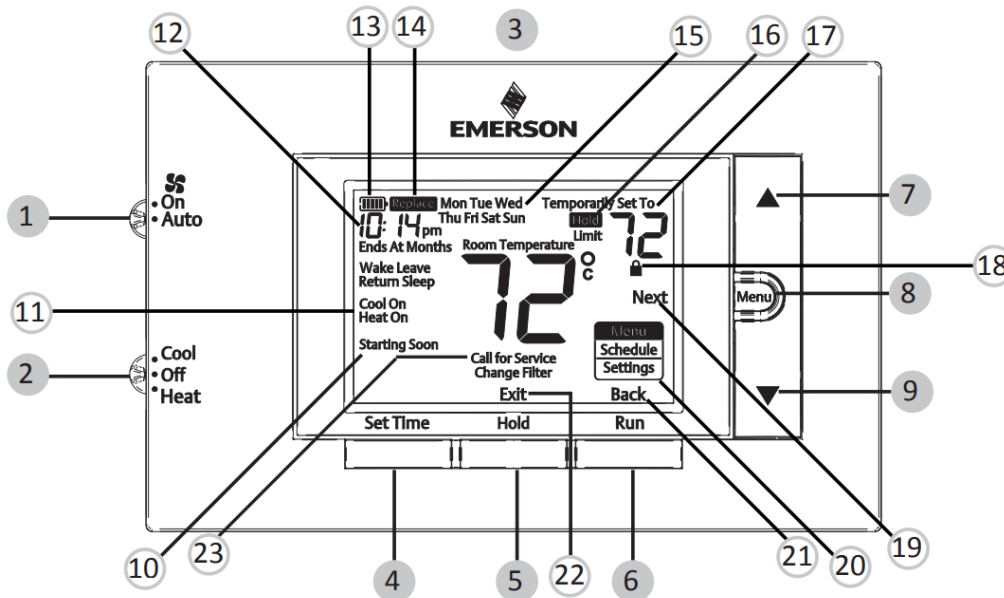
3.) Press ▲ to adjust thermostat setting to 1° above room temperature. The cooling system should stop operating and the thermostat will indicate Cool.

Note: If Starting Soon is shown on the display, the compressor lockout feature is operating. There will be up to a 5 minute delay before the compressor turns on.(see INSTALLER MENU, item 50)




USING THE THERMOSTAT

THERMOSTAT OVERVIEW





Before you begin using your thermostat, you should be familiar with its features, display and the location/operation of the thermostat buttons and switches.





THERMOSTAT BUTTONS AND SWITCHES	THE DISPLAY
<ol style="list-style-type: none"> 1.) Fan Switch 2.) System Switch 3.) Backlight Button (located on the top of the thermostat) 4.) Set Correct Time 5.) Hold a Permanent Temperature 6.) Cancels Hold – Returns to Programmed Schedule 7.) Raises Temperature Setting 8.) Access Menu Options 9.) Lowers Temperature Setting 	<ol style="list-style-type: none"> 10.) Thermostat is protecting the equipment from short cycling (5-minute delay) 11.) Indicates that the system is running in cool or heat 12.) Displays the current time 13.) Battery status indicator 14.) Low battery indicator 15.) Day of the week used when programming a schedule 16.) Permanent hold (bypassing the schedule) 17.) Temperature setpoint 18.) Appears when the keypad is locked (to prevent unwanted changes) 19.) Next (Menu button) is used to navigate within a menu 20.) Access the schedule and customize thermostat features 21.) Back (Run button) is used to navigate within a menu 22.) Exit (Hold button) returns to the home screen 23.) SEE TROUBLESHOOTING

Whenever “ **Replace**” appears in the display, new premium brand AA alkaline batteries should be installed. If the house will be unoccupied for an extended period and either “” or “ **Replace**” is displayed, install new batteries before leaving.

USER MENU



To customize thermostat settings, press the Menu button from the home screen. Use the  or  buttons to highlight Settings and press Next. Use Next and Back to navigate through menu items. Press  or  to change the setting.

User's Menu # (Press Menu button and release)	Description	Default Setting (flashing icons)	Settings (Press ▲ or ▼)
01	Schedule Type (set as either 7-Day, 5-1-1 Day or Non Programmable)	5	7 – 7 Day 5 – 5-1-1 Day 0 – Non-programmable
02 	Early Start (starts heating or cooling early so your programmed temperature is reached by the programmed time)	OFF	On – start early OFF – start at program period time
03	Fahrenheit or Celsius	°F	°F – Fahrenheit °C – Celsius
04	Temperature Display Adjustment (adjust the Room Temperature)	0	-5 to +5
05 	Continuous Display Light (keep the backlight always on – “C” wire required)	OFF	On – always on OFF – momentarily
06	Change Air Filter (set up a monthly reminder)	OFF	1 to 12 – reminder time (months) OFF – no filter reminder
07	Keypad Lock (prevent unwanted changes to the thermostat)	OFF	On – disable buttons OFF – all buttons are active







THERMOSTAT OPERATION


Set Current Time and Day

Note: Time icons will flash at initial power up or after a reset.

- 1.) Press Set Time
- 2.) Use  or  to adjust the hour
- 3.) Press Next to advance to set the minutes and day of the week
- 4.) Press Exit when finished.

The default program is 5-1-1 Day, but can be setup as a 7-Day or Non-Programmable thermostat (refer to the User Menu above)

- Hold Temperature (bypassing the schedule) – With the System switch set to Heat or Cool, momentarily press the Hold button. Hold will be displayed. Use  or  to adjust the temperature. The thermostat will hold the room temperature at the selected setting until you press Run to start program operation again.
- Program Override (Temporary Hold) – Press  or  until the desired temperature is displayed. The thermostat will override the schedule until the next programmed time period with a minimum override of 2 hours. Then the thermostat will automatically revert to the program.
- Keypad Lockout – To prevent unwanted changes, the buttons can be disabled. To turn this feature On, press and hold  and the Menu button until the  icon appears (this can

also be turned on in the menu). To turn Off, press and hold  and the Menu button for 3 seconds.

THERMOSTAT SCHEDULE





Energy Saving Factory Schedule

This thermostat is programmed with the energy saving settings shown in the table below for all days of the week.

	Wake	Leave	Return	Sleep
Heating Schedule	6:00 AM - 70°F	8:00 AM - 62°F	5:00 PM - 70°F	10:00 PM - 62°F
Cooling Schedule	6:00 AM - 75°F	8:00 AM - 83°F	5:00 PM - 75°F	10:00 PM - 78°F

Note: Thermostat can be programmed on or off the subbase

Modify the Heating Schedule

- 1.) Slide the system switch to Heat
- 2.) Press Menu
- 3.) Press Next to enter the schedule
- 4.) The time icons will flash – use  or  to set the time for the start of a period
- 5.) Press Next – the set point icons will flash – use  or  to set the temperature for the current period
- 6.) Continue to press Next to advance through all periods (Wake, Leave, Return, Sleep) for all days of the week.

Note: Press Back to return to the previous setting. Once all days of the week have been programmed the thermostat will display End. Press Exit at any time to save changes and return to home screen.

Modify the Cooling Schedule

- 1.) Slide the system switch to Cool
- 2.) Repeat steps 2-6 from the heating schedule

TROUBLESHOOTING




Symptom	Possible Cause	Corrective Action
No Heat/ No Cool/ No Fan (common problem)	1.) Blown fuse or tripped circuit breaker	1.) Replace fuse or reset breaker
	2.) Furnace power switch to OFF	2.) Turn switch to ON
	3.) Furnace blower compartment door panel loose or not properly installed	3.) Replace door panel in proper position to engage safety interlock or door switch
	4.) Loose connection to thermostat or system	4.) Tighten Connections
No Heat	<p>1.) System Switch not set to Heat</p> <p>2.) Loose connection to thermostat or system</p> <p>3.) Heating System requires service or thermostat requires replacement</p>	<p>Verify thermostat and system wires are securely attached</p> <p>Diagnostic: Set System Switch to Heat and raise the setpoint above room temperature. Within five minutes the thermostat should make a soft click sound and “Heat On” should appear on display. This sound indicates the thermostat is operating properly. If the thermostat does not click, try the reset operation listed below. If the thermostat does not click after being reset, contact your heating and cooling service person or place of purchase for a replacement. If the thermostat clicks, contact the furnace manufacturer or a service person to verify the heating system is operating correctly.</p>
No Cool	1.) System Switch not set to Cool	Verify thermostat and system wires are securely attached.



	<p>2.) Loose connection to thermostat or system</p> <p>3.) Cooling System requires service or thermostat requires replacement</p>	<p>Diagnostic: Set System Switch to Cool and lower setpoint below room temperature. Same procedures as diagnostic for "No Heat" condition except set the thermostat to Cool and lower the setpoint below the room temperature. There may be up to a five minute delay before the thermostat clicks in Cooling if the compressor lock-out option is selected in the installer menu. (see INSTALLER MENU, item 50)</p>
Heat, Cool or Fan Runs Constantly	Possible short in wiring, thermostat, heat, cool or fan system	Check each wire connection to verify they are not shorted or touching other wires. Try resetting the thermostat. If the condition persists contact your HVAC service person.
Thermostat Display & Thermometer Disagree	Thermostat display requires adjustment	Display can be adjusted +/-5°. See User Menu item 04
Furnace (Air Conditioner) Cycles Too Fast or Slow (narrow or wide temperature swing)	The location of the thermostat and/or the size of the Heating System may be influencing the cycle rate	Digital thermostats provide precise control and cycle faster than older mechanical models. The system turns on and off more frequently but runs for a shorter time. If you would like to increase cycle time, choose SLO for slow cycle in the Installer menu. (Reference menu items 30 & 35) If an acceptable cycle rate is not achieved, contact your HVAC service person
	1.) Heating system is not able to heat the space to within 10	



"Call for Service" icon appears on displayed	degrees of the setpoint within 2 hours	1.) See corrective action for "No Heat"
	2.) Cooling system is not able to cool the space to within 10 degrees of the setpoint within 2 hours	2.) See corrective action for "No Cool"
	3.) If "--" is displayed for the Room Temperature, a replacement thermostat is needed	3.) Replace thermostat
	4.) None of the buttons operate on the thermostat	4.) Make sure keypad lockout is not turned on (denoted by  icon)

Resetting the Thermostat or Thermostat Settings

If the thermostat has good batteries, but has a blank display or does not respond to key presses, the thermostat should be reset by removing the batteries for 2 minutes. This reset will not change the menu settings or program. If the condition persists after reinstalling the batteries, replace the thermostat.

To conveniently reset only the schedule and user settings back to factory defaults, press Menu and Backlight buttons at the same time and hold until the display goes blank and resets.

SPECIFICATIONS

Electrical Rating:			
Battery Power	mV to 30 VAC, NEC Class II, 50/60 Hz		
Input-Hardwire	20 to 30 VAC, NEC Class II, 50/60 Hz		
Terminal Load	1.0 A per terminal, 1.5A maximum all terminals combined		
Setpoint Range	45° to 99° F (7° to 37° C)		
Rated Differentials:	Fast	Med	Slow
Heat (@ 6°F/ Hr).....	0.5°F	0.75°F	1.9°F
Cool (@ 6°F/ Hr).....	0.9°F	1.2°F	1.7°F
Operating Ambient	32°F to +105°F (0° to +41°C)		
Display Temperature Range	32°F to +99°F (0 to 37°C)		
Operating Humidity	90% non-condensing max		
Shipping Temperature Range	-20°F to + 150°F (-29° to +65°C)		
Thermostat Dimensions.....	3-3/4" H x 6" W x 1-1/8" D		

Warning

This content is compiled from multiple sources and is provided for reference purposes only. It may not be complete or fully applicable to all situations. If you are unable to resolve your issue, please contact the product manufacturer or an authorized service provider for official support.

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