EMERSON 1F83C-11NP Non-Programmable Thermostat User Manual

1F83C-11NP (Non-Programmable)
Installation and Operating Instructions
Single Stage Thermostat
Battery Powered or Hardwired with Common
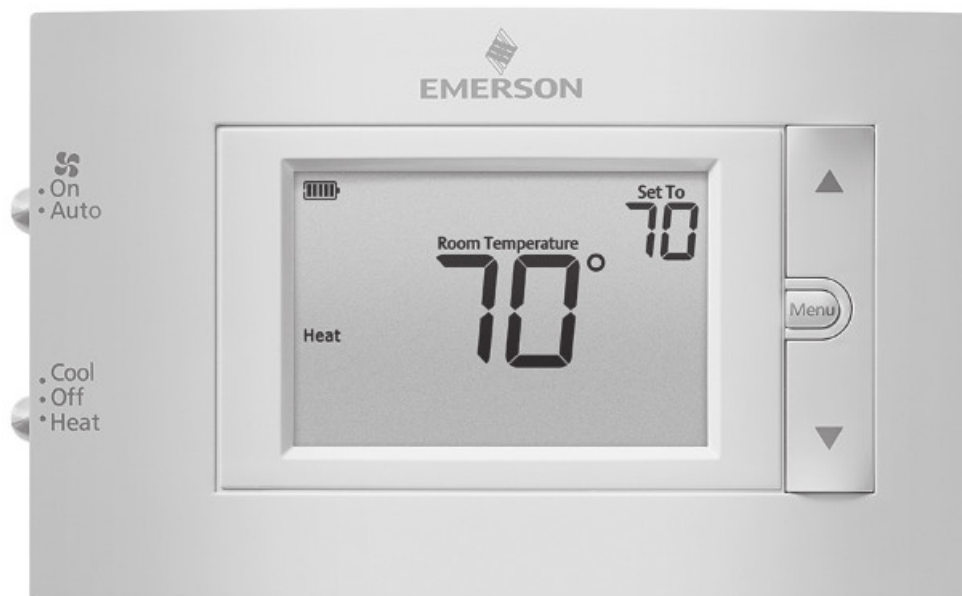
Optional Accessory: Wall
Cover-Up Plate F61-2663,
6 3/4" W x 4 1/2" H

Thermostat Applications	Maximum Stages Heat/Cool
Conventional Gas, Oil, Electric (mV and 24V), Heat Only, Cool Only, or Heat/ Cool Systems	1/1
Heat Pump (air source or geothermal) with no Aux. Heat	1/1

MERCURY NOTICE: This product does not contain mercury. However, this product may replace a product that contains mercury. Mercury and products containing mercury must not be discarded in household trash. Refer to **www.thermostat-recycle.org** for information on disposing of products containing mercury.

Contents

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

**emersonthermostats.com**
white-rodgers.com

THERMOSTAT INSTALLATION

WIRING

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

Terminal Designations	Terminal Function
RC*	Power for Cooling
RH*	Power for Heating
0/B	Changeover Terminal-Energized in Heat (B) or Cool (0) 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
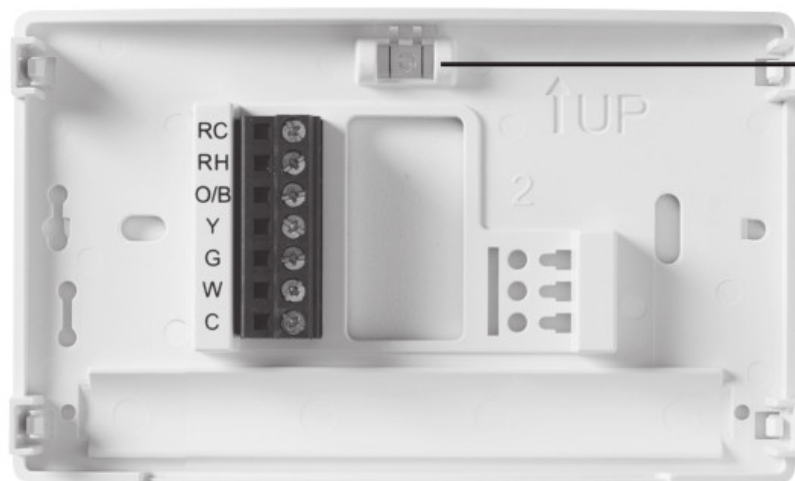
Leveling Thermostat
Leveling is for appearance only and will not affect thermostat operation.

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.

⚠️ **WARNING**

Do not use on circuits exceeding specified voltage. Higher voltage will damage control and could cause shock or fire hazard.

Do not short out terminals on gas valve or primary control to test. Short or incorrect wiring will burn out the thermostat and could cause personal injury and/or property damage.

⚠️ **CAUTION**

To prevent electrical shock and/or equipment damage, disconnect electrical power to the system, at main fuse or circuit breaker box,until installation is complete.

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 is 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 a 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 ▼change a menu setting.

Installer's Menu # (Hold Menu 8 Seconds)	Description	Default Setting (flashing icons)	Settings (Press A 0TV)
30 CR	Heat Cycle Rate (how often the heat will turn on)	MEd	SLO — slow MEd — medium FAS — fast
35 CR	Cool Cycle Rate (how often the cooling will turn on)	MEd	SLO — slow MEd — medium FAS — fast
50 CL	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 setpoint for cool mode)	45	45 to 97

INSTALLER MENU (C0ntinued)

Installer's Menu # (Hold Menu 8 Seconds)	Description	Default Setting (flashing icons)	Settings
79	Fahrenheit or Celsius	°F	°F — Fahrenheit °C -Celsius
81	Temperature Display Adjustment (adjust the displayed "Room Temperature")	0	-5 to +5
dL 83	Continuous Display Light (keep the backlight always on – "C" wire required)	OFF	On — always on OFF— momentarily
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 the 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 the 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 the thermostat setting 1° below room temperature. The blower should come on immediately at 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)

⚠️**CAUTION**

To prevent compressor and/or property damage, if the outdoor temperature is below 50°F,

DO NOT operate the cooling system.

Do not allow the compressor to run unless the compressor oil heaters have been operational for 6 hours and the system has not been operational for at least 5 minutes.

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
1.) Fan Switch	7.) Thermostat is protecting the equipment from short cycling (5-minute delay)
2.) System Switch	8.) Indicates that the system is running in cool or heat
3.) Backlight Button (located on the top of the thermostat	9.) Battery status indicator
4.) Raises Temperature Setting	10.) Low battery indicator *
5.) Access Menu Options	11.) Temperature setpoint
6.) Lowers Temperature Setting	12.)Appears when the keypad is locked (to prevent unwanted changes)
	13.)Next (Menu button) is used to navigate within a menu
	14.)SEE TROUBLESHOOTING
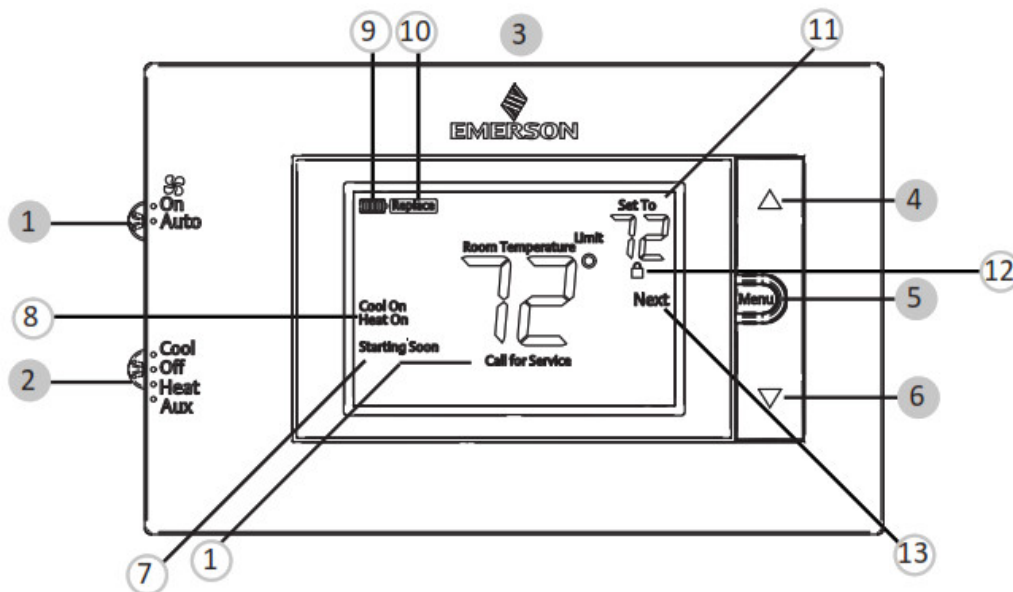
* Whenever " ▭ Replace " appears in the display, new premium brand AA alkaline batteries should be installed. If the house will be unoccupied for an extended period and either "▭" or " ▭ Replace " is displayed, install new batteries before leaving.

USER MENU

To customize thermostat settings, press the Menu button from the home screen. Use the Next button to advance through menu items. Press ▲ or ▼ to change the setting.

User's Menu # (Press Menu button and release)	Description	Default Setting (flashing icons)	Settings (Press ▲A or ▼Y)
01	Fahrenheit or Celsius	°F	°F — Fahrenheit °C – Celsius
02	Temperature Display Adjustment (adjust the Room Temperature)	0	-5 to +5
dL 03	Continuous Display Light (keep the backlight always on —"C" wire required)	OFF	On — always on OFF—momentarily
04	Keypad Lock (prevent unwanted changes to the thermostat)	OFF	On — disable buttons OFF —all buttons are active

• **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.

TROUBLESHOOTING

Symptom	Possible Cause	Corrective Action

No Heat/ No Cool/ No Fan (common problem)	1.)Blown fuse or tripped circuit breaker 2.)Furnace power switch to OFF 3.)Furnace blower compartment door panel loose or not properly installed 4.) Lose connection to thermostat or system	1)Replace fuse or reset the breaker 2.)Turn the switch to ON 3.)Replace door panel in the proper position to engage safety interlock or door switch 4.)Tighten Connections
No Heat	1.)System Switch not set to Heat 2.) Lose connection to thermostat or system 3.)Heating System requires service or thermostat requires replacement	Verify thermostat and system wires are securely attached. 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.
No Cool	1.)System Switch not set to Cool 2.) Lose connection to thermostat or system 3.)Cooling System requires service or thermostat requires replacement	Verify thermostat and system wires are securely attached. 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)
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	The display can be adjusted +/-5°. See User Menu item 04

(Troubleshooting continued on next page)

Symptom	Possible Cause	Corrective Action
Furnace (Air Conditioner) CyclesToo 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 the slow cycle in the Installer menu. (Reference menu items 30 & 35) If an acceptable cycle rate is not achieved, contact your HVAC service person.
"Call for Service" icon appears on display	1.)Heating system is not able to heat the space to within 10 degrees of the setpoint within 2 hours 2.)Cooling system is not able to cool the space to within 10 degrees of the setpoint within 2 hours 3.)If "–" is displayed for the Room Temperature, a replacement thermostat is needed 4.)None of the buttons operate on the thermostat	1.)See corrective action for "No Heat" 2.)See corrective action for "No Cool" 3.)Replace the thermostat 4.)Make sure keypad lockout is not turned on (denoted by A 🔒 icon)

Resetting the Thermostat or Thermostat Settings
If the thermostat has good batteries, but has a blank display or does not respond to keypresses, the thermostat should be reset by removing the batteries for 2 minutes. This reset will not change the menu settings. If the condition persists after reinstalling the batteries, replace the thermostat.
To conveniently reset only the user settings back to factory defaults, press the Menu and Backlight buttons at the same time and hold until the display goes blank and resets.
WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects and other reproductive harm.
HOMEOWNER HELPLINE: 1-800-284-2925

Common

White-Rodgers

white-rodgers.com
emerson.com

Documents / Resources

	[EMERSON 1F83C-11NP Non-Programmable Thermostat](#) [pdf] User Manual Non-Programmable Thermostat, 1F83C-11NP

References

- [Emerson Global | Emerson](#)
- [emersonthermostats.com](#)
- [White-Rodgers Brand | Emerson US](#)
- [Home - Thermostat Recycling Corporation (TRC)](#)

[Manuals+](#),