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White-Rodgers 1F78-151

White-Rodgers Emerson 1F78-151 Single-Stage Programmable Digital Thermostat User Manual

Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the White-Rodgers Emerson 1F78-151 Single-Stage Programmable Digital Thermostat. This thermostat features an easy-to-read digital display and offers 5-2 day programming capabilities. It is designed for use with most single-stage systems, including 24-Volt and millivolt systems. Please note, this thermostat is not compatible with electric baseboard heat or certain other specialized systems.



Image: Front view of the White-Rodgers Emerson 1F78-151 thermostat, showcasing its digital display and control buttons.

Safety Information

WARNING: Always turn off power to the heating and cooling system at the main fuse or circuit breaker panel before installing or servicing the thermostat. Failure to do so could result in electrical shock or equipment damage. This device operates on 24-Volt and millivolt systems. Do not use with line voltage systems (120/240V).

- Read all instructions carefully before installation and operation.
- Ensure all wiring complies with local electrical codes and ordinances.
- If you are unsure about any part of the installation process, consult a qualified HVAC technician.

Package Contents

The product package typically includes the following items:

- White-Rodgers Emerson 1F78-151 Thermostat Unit
- User Manual
- 2 AAA Batteries (included for convenience)
- Mounting Screws
- Screw Anchors

Key Features

- Easy-to-read display with backlight for enhanced visibility.
- 5-2 day programmable functionality, allowing distinct schedules for weekdays and weekends.
- Compatibility with single-stage heating, cooling, and heat pump systems (without auxiliary heat).
- Precise temperature control within plus/minus 1 degree Fahrenheit.
- Battery-powered operation for broad system compatibility, utilizing two AAA batteries (included).
- Features a clock display and a low battery indicator.

Setup and Installation

Pre-Installation Checklist

1. Confirm system compatibility: This thermostat works with single-stage heating, cooling, and heat pump systems (without auxiliary heat). It is compatible with 24-Volt and millivolt systems.
2. Gather tools: You will need a screwdriver, wire strippers, and potentially a drill.
3. **IMPORTANT:** Turn off power to your HVAC system at the circuit breaker before proceeding.

Removing Your Old Thermostat

1. Carefully remove the cover of your old thermostat.
2. Take a clear photograph of the existing wiring connections. This will serve as a reference.
3. Label each wire with the terminal designation it was connected to (e.g., R, W, Y, G, C).
4. Disconnect the wires and remove the old thermostat base from the wall.
5. Ensure the wires do not fall back into the wall cavity.

Mounting the New Thermostat

1. Position the new thermostat base on the wall where the old thermostat was located.
2. Mark the mounting holes.
3. Drill pilot holes if necessary and insert the wall anchors.
4. Secure the thermostat base to the wall using the provided mounting screws.

Wiring Instructions

Refer to the photograph taken during removal of the old thermostat. Connect the labeled wires to the corresponding terminals on the new 1F78-151 thermostat base. The terminals are screw-down type. Ensure wires are securely fastened without overtightening.

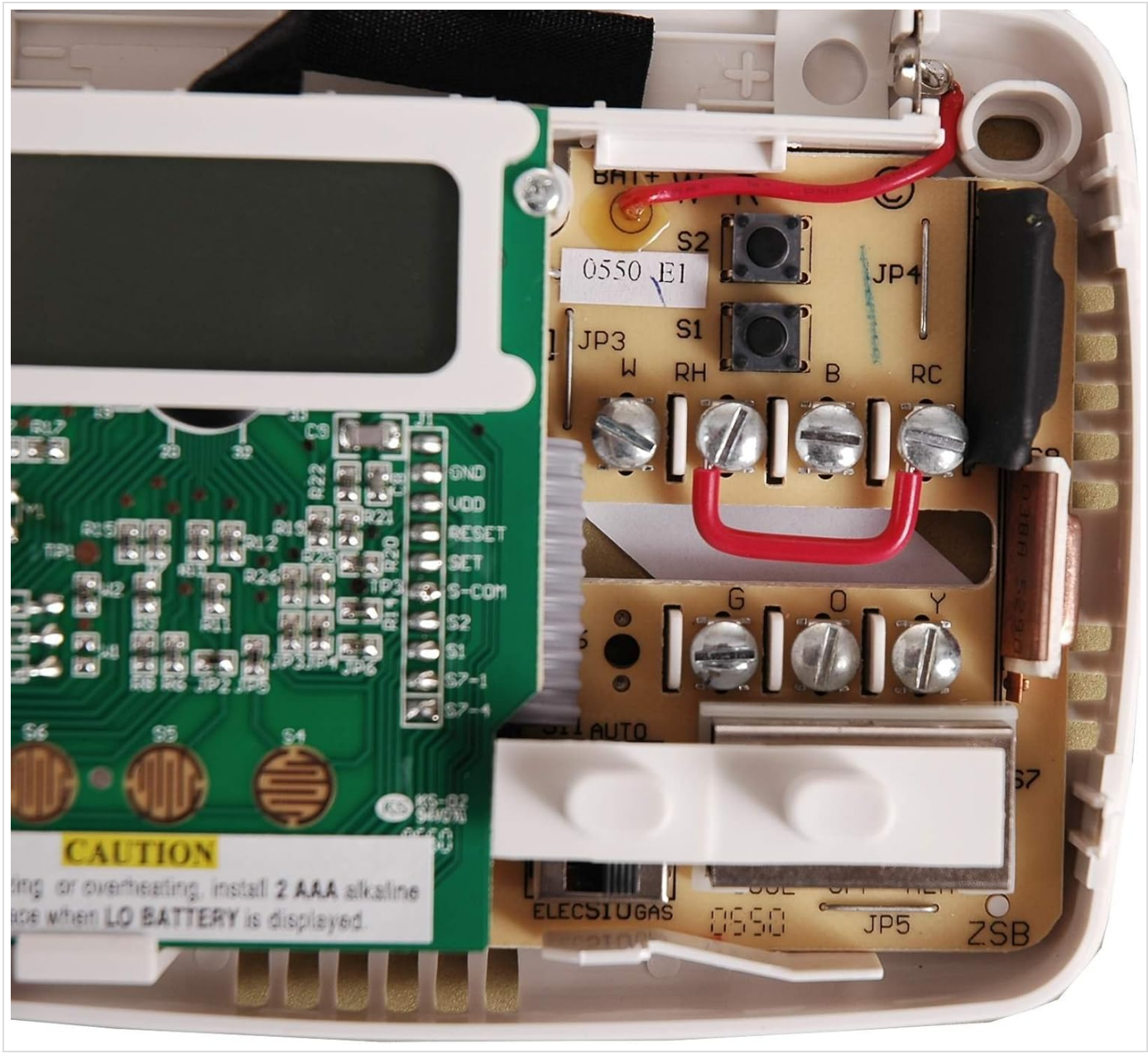


Image: Internal view of the thermostat base, illustrating the wiring terminals for connection to the HVAC system.

Note: The wiring terminals are closely spaced. Take care to ensure each wire is connected to its correct terminal without touching adjacent terminals.

Installing Batteries

Insert the two AAA batteries into the battery compartment, observing the correct polarity (+/-). Once batteries are installed, attach the thermostat faceplate to the mounted base.

Finally, restore power to your HVAC system at the main circuit breaker.

Operating Instructions



Image: Close-up of the thermostat's digital display and control buttons.

Setting the Current Time and Day

1. Press the **TIME** button.
2. Use the **UP**/**DOWN** arrow buttons to adjust the hour.
3. Press **TIME** again to adjust the minutes.
4. Press **TIME** a third time to set the day of the week.
5. Press **RUN** to save and exit.

System Mode Selection

Use the **SYSTEM** switch to select the desired operating mode:

- **COOL:** Activates the cooling system.
- **OFF:** Turns off both heating and cooling systems.
- **HEAT:** Activates the heating system.

Fan Operation

Use the **FAN** switch to select the fan operation mode:

- **ON:** The fan runs continuously, regardless of heating or cooling calls.
- **AUTO:** The fan runs only when the heating or cooling system is actively operating.

Programming the 5-2 Day Schedule

The 1F78-151 allows for two distinct programs: one for weekdays (Monday-Friday) and one for weekends (Saturday-Sunday). Each program can have up to four time periods (e.g., Wake, Leave, Return, Sleep).

1. Press the **PRGM** button. The display will show the first programmable period (e.g., "M-F WAKE").
2. Use the **UP**/**DOWN** arrow buttons to adjust the desired temperature for this period.
3. Press **TIME** to adjust the start time for this period. Use **UP**/**DOWN** arrows.
4. Press **PRGM** to advance to the next programmable period (e.g., "M-F LEAVE").
5. Repeat steps 2-4 for all four weekday periods and then for all four weekend periods.
6. After setting all periods, press **RUN** to save the schedule and return to normal operation.

Energy Management Recovery (EMR): This feature automatically adjusts the system start time to ensure the desired temperature is reached by the programmed time. For heating, it may start approximately 5 minutes early for each degree below the set temperature. For cooling, it may start approximately 15 minutes early for each degree above the set point. EMR can be disabled if preferred (refer to the full manual for advanced settings).

Hold Function

The **HOLD** button allows you to temporarily or permanently override the programmed schedule. Press **HOLD**, then use the **UP**/**DOWN** arrow buttons to set a new desired temperature. The thermostat will maintain this temperature until **RUN** is pressed to resume the schedule, or until the hold is manually canceled.

Maintenance

Battery Replacement

The thermostat is powered by two AAA alkaline batteries. When the "LO BATTERY" indicator appears on the display, it is time to replace the batteries. Prompt replacement ensures continuous operation and prevents system shutdown.

1. Gently pull the thermostat faceplate away from the wall-mounted base.
2. Remove the old AAA batteries.
3. Insert two new AAA alkaline batteries, ensuring correct polarity.
4. Snap the thermostat faceplate back onto the base.

It is recommended to replace batteries annually, even if the low battery indicator has not appeared, to ensure optimal performance.

Troubleshooting

If you encounter issues with your White-Rodgers Emerson 1F78-151 thermostat, consider the following common solutions:

- **No Display or Blank Screen:** Check if the batteries are installed correctly and are fresh. Replace batteries if necessary. Ensure power to the HVAC system is on.
- **System Not Responding (Heating/Cooling):** Verify that the system switch is set to the correct mode (HEAT or COOL) and the fan switch is set to AUTO or ON. Check the circuit breaker for your HVAC system. Ensure wiring connections are secure.
- **Incorrect Temperature Readings:** Ensure the thermostat is not exposed to direct sunlight, drafts, or heat sources that could affect its sensor.
- **Programming Issues:** Double-check your programmed schedule following the instructions in this manual. Ensure the thermostat is in RUN mode for the schedule to be active.

For persistent issues, it is advisable to contact a qualified HVAC technician or the manufacturer's customer support.

Technical Specifications

Specification	Detail
Brand	White-Rodgers
Model Name	70 Series Economy
Model Number	1F78-151
Product Dimensions	1.75"D x 6.25"W x 4.25"H
Controller Type	Push Button
Special Features	Clock Display, Low Battery Indicator, Low Voltage, Programmable, Temperature Display
Color	White
Specific Uses	Air Conditioner, Boiler, Furnace, Heat Pump
Temperature Control Type	Cooling/Heating
Power Source	Battery Powered
Voltage	24 Volts
Display Type	LCD
Backlight	Yes
Batteries Required	Yes (2 AAA batteries included)
Average Battery Life	20000 Hours
Item Weight	7 ounces



Image: The thermostat shown with a ruler to indicate its physical dimensions.

Warranty and Support

For warranty information or technical support, please refer to the documentation included with your purchase or contact White-Rodgers / Emerson customer service directly. Contact details can typically be found on the manufacturer's official website or on the product packaging.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question