



# Model 65 Humidifier Control Installation Instructions

## READ AND SAVE THESE INSTRUCTIONS

The Model 65 is for use with any humidifier requiring an ON/OFF signal for a 24 volt circuit.

## SAFETY INSTRUCTIONS

### WARNING

1. Improper installation may cause property damage or injury. Installation, service, and maintenance must be performed by a qualified service technician.
2. 120 Volts may cause serious injury from electric shock. Disconnect electrical power before starting installation or servicing. Leave power disconnected until installation/service is completed. This control is not a 120 Volt (line voltage) device.

### CAUTION

1. Read all instructions before beginning installation.
2. Do not adjust humidity set-point above recommended level or to recommended level if condensation occurs on inside surface of windows or on other surfaces. Excess condensation can cause damage to structure or furnishings. Excess moisture can also allow the possibility for mold growth to occur.
3. Do not use solvents or cleaners on or near the display and circuit board. Chemicals can damage components.

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## OVERVIEW

The Aprilaire® Model 65 Humidifier Control provides control of the humidifier from the living space. The control allows the homeowner to set and adjust the humidity setting and turn the humidifier on or off from a convenient location. The Model 65 uses an onboard sensor to monitor the relative humidity in the space in which it is located and displays the measured relative humidity on the digital display.

## SPECIFICATIONS

ELECTRICAL	
Input Voltage and Current	Voltage: 24V AC +/-20% Current: 25mA (nominal), 50mA (max.) at 24V AC
Output	Dry Contact, Normally Open – H Terminals

CONTROL	
Humidity Setting Range	10% – 50% RH
Accuracy	+/-5% RH
Differential	3%
Low Temp	40°F
High Temp	99°F

## MATERIALS PROVIDED

### MATERIALS PROVIDED

- Wall-Mount Control
- Mounting Screws
- Drywall Anchors
- RH Setting Label

### MATERIALS NOT PROVIDED

- Wires
- Wire Nuts

A self-adhesive label (RH Setting Label) showing recommended RH settings based on outdoor temperature is provided. The label can be attached to the front of the control to serve as a guideline and a reminder for the homeowner to adjust the RH setting as outdoor temperature changes.

## LOCATION RECOMMENDATIONS

### MOUNT CONTROL

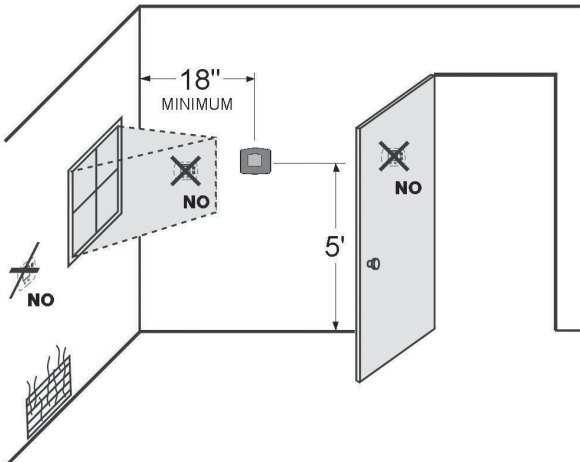
- In an area the homeowner wants to monitor and control moisture levels.
- On an interior wall.
- Approximately 5' off the floor.
- At least 18" from an outside wall.

See **Figure 1**.

### DO NOT MOUNT CONTROL

- **In the flow of a supply register.**
- Behind doors, in corners or other dead air spaces.
- In direct sunlight, near lighting fixtures, or other appliances that give off heat.
- On an outside or unconditioned area wall.
- In stairwells or near outside doors.
- On a wall with concealed pipes or ductwork.

**FIGURE 1 – Mounting Location**



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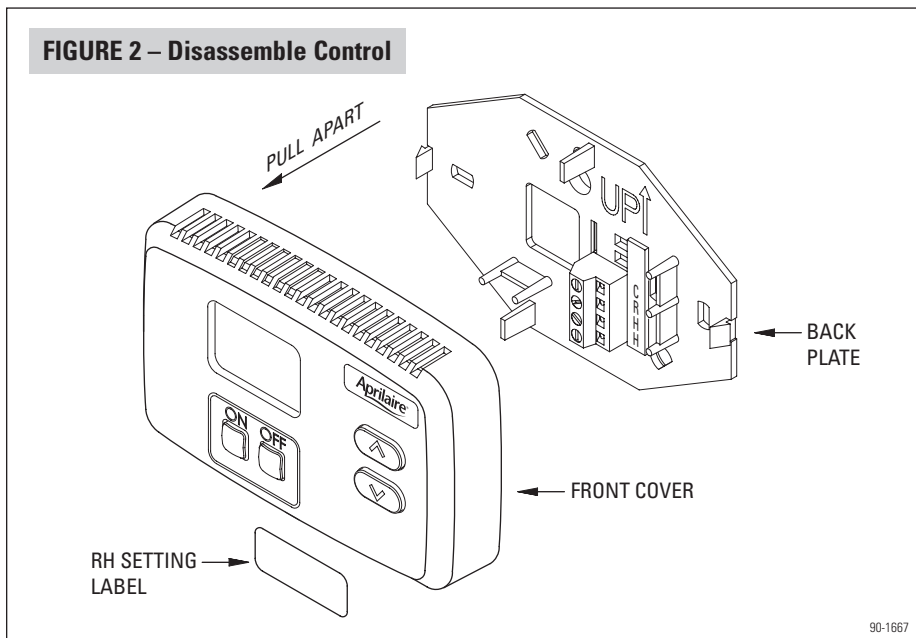
# INSTALLATION

## MOUNT CONTROL

See **Figures 2 & 3**.

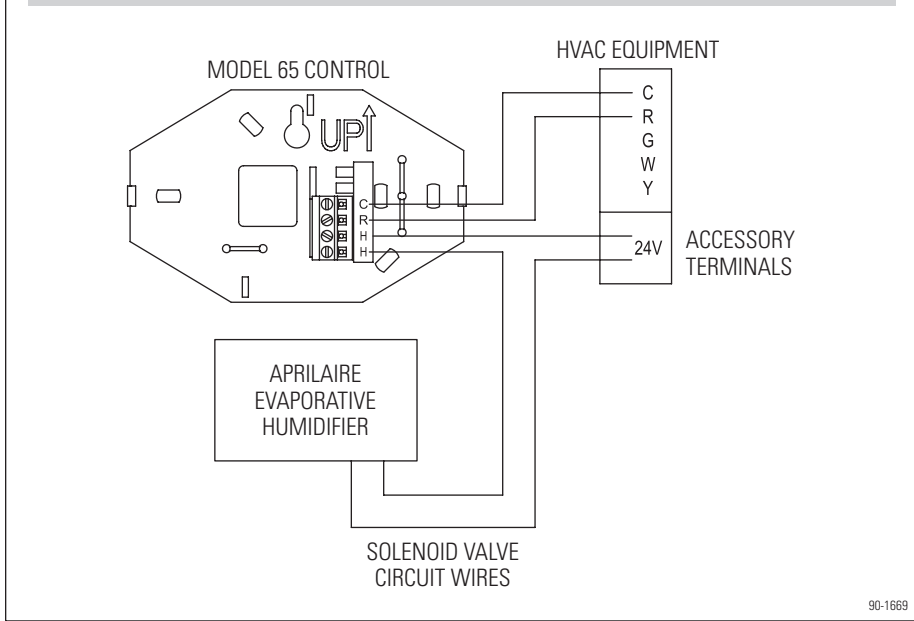
1. Remove front cover by pulling straight out.
2. Position the back plate on the wall and mark the locations for the wire access hole and the mounting screws. **NOTE:** The mounting holes can also be used to secure the back plate to a standard horizontally mounted junction box.
3. For mounting on drywall, drill two 3/16" dia. mounting holes and a 3/4" opening for the wires.
4. Insert the drywall anchors provided into the mounting holes flush with the wall surface.
5. Run 4-wire cable from the humidifier to the control location.
6. Secure back plate using the two #8 x 1-1/2" screws provided.
7. After connecting the wires, tuck excess wire into the wall and fill the opening with insulating material. Failure to seal the opening may result in inaccurate operation due to drafts.

**FIGURE 2 – Disassemble Control**



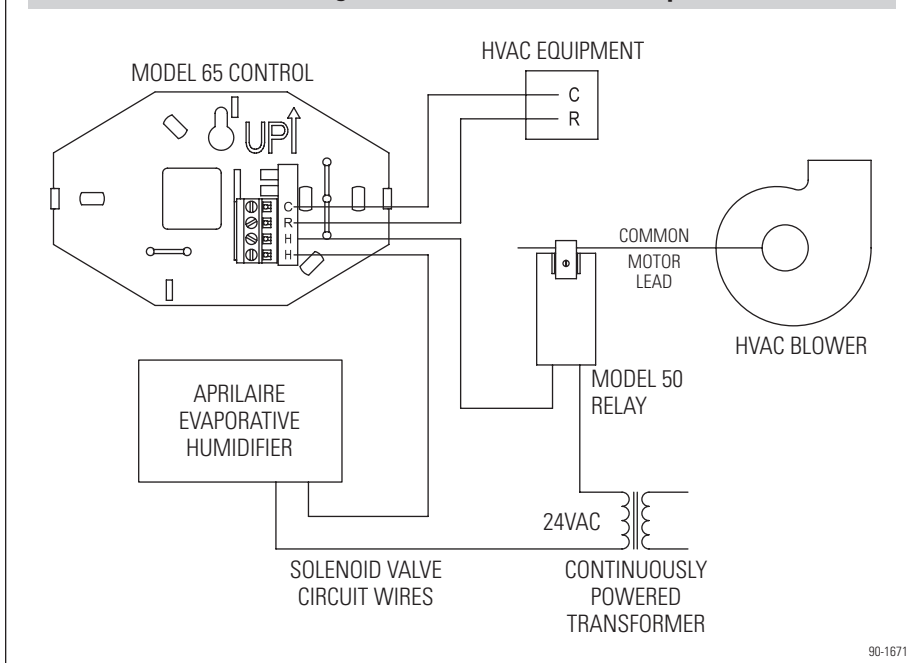


**FIGURE 4 – Recommended Wiring for Model 65 Control and Evaporative Humidifier**



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**FIGURE 5 – Alternate Wiring for Model 65 Control and Evaporative Humidifier**



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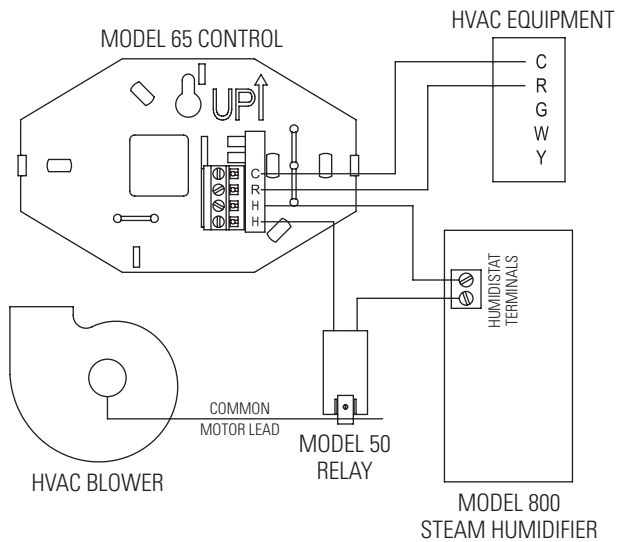
## WIRING – Model 65 with Model 800 Steam Humidifier

The Model 65 control requires 24VAC. See **Figure 6**.

1. Disconnect power from the Model 800 and HVAC system.
2. Connect 24VAC to the C and R terminals on the Model 65.
3. Connect the H terminals on the Model 800 to the H terminals on the Model 65.
4. Snap the Model 65 front cover on the back plate. The 4-pin terminal aligns with the terminal block receptacle on the back plate.
5. Proceed to **SYSTEM CHECKOUT** on page 9.

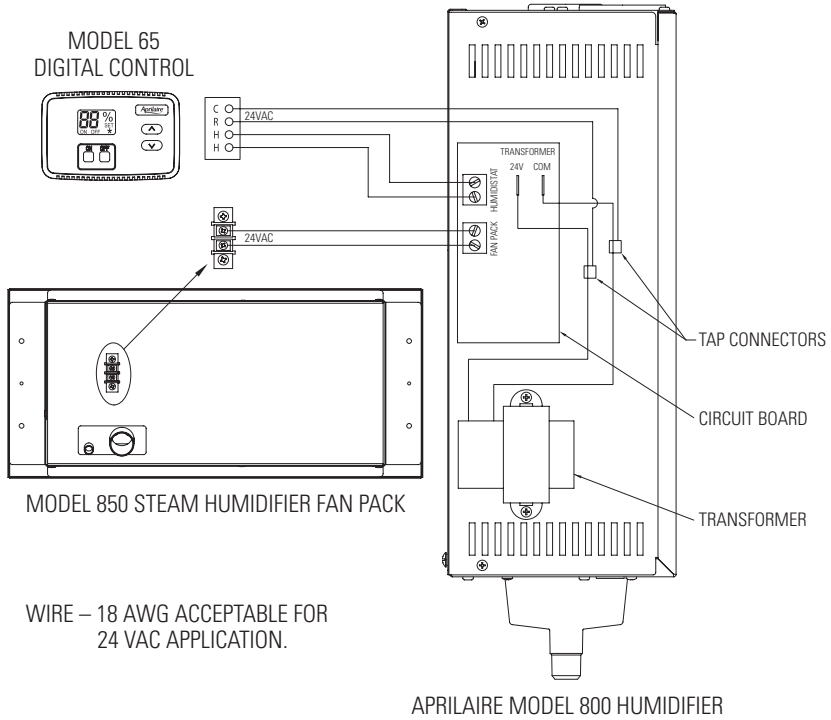
**NOTE:** If the Model 800 Steam Humidifier is installed with a Model 850 Fan Pack, the Model 65 Control can be powered from the 24VAC secondary wires on the Model 800 transformer, by splicing into the wires using tap connectors. See **Figure 7**.

**FIGURE 6 – Recommended Wiring for Model 65 Control and Model 800 Steam Humidifier**



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**FIGURE 7 – Recommended Wiring for Model 65 Control and Model 800 Steam Humidifier with Model 850 Fan Pack**



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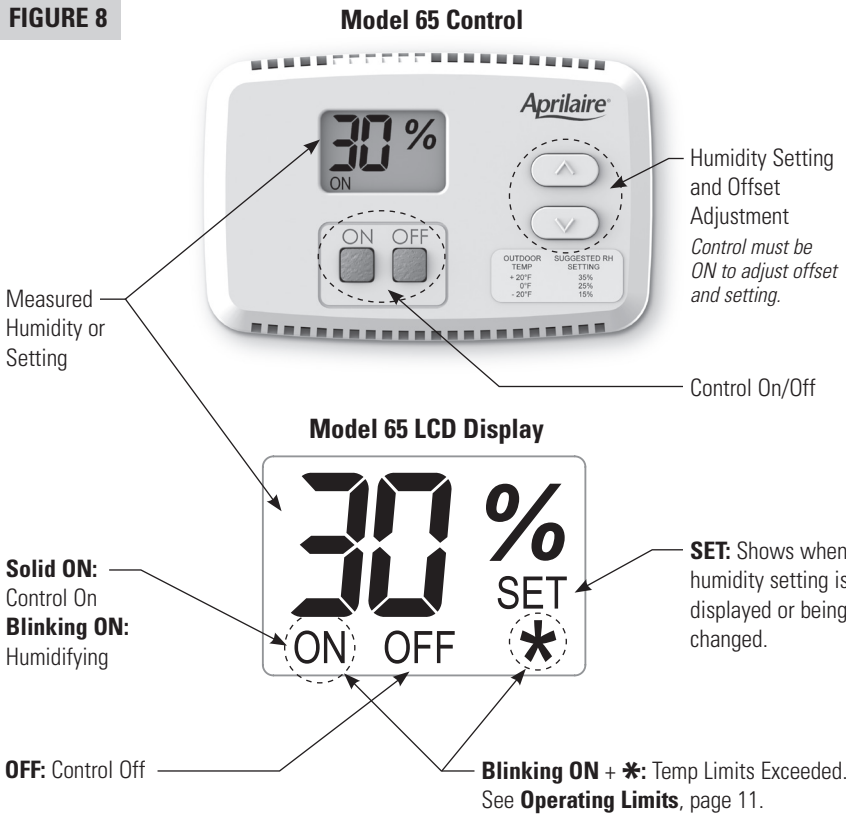


# SYSTEM CHECKOUT

## POWER UP

1. Check all wiring.
2. Restore power to the HVAC system and humidifier.
3. After a 4 second start up sequence all buttons on the Model 65 will be functional.
  - The control will be OFF.
  - The humidity setting will be 30%.
  - The control will display the measured humidity.

**FIGURE 8**



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## TEST MODE

1. Press and hold the ON button for 5 seconds to enter Test Mode.
  - a. Verify all LCD segments blink every second.
  - b. Verify humidifier turns on.
2. After 5 minutes or after pressing the OFF button, the control will enter Off mode.  
Verify the humidifier turns off.

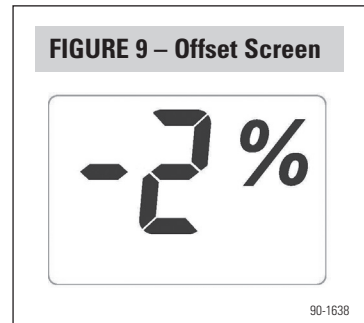
## HUMIDITY SETTING

- The control must be ON to adjust the humidity setting.
- The ▲ (up) and ▼ (down) buttons are used to increase or decrease the humidity setting.
- The first press of either button will display the current setting on the LCD display and SET will be displayed below the % sign.
- Each subsequent push of the up or down buttons will change the setting by 1%.
- If a button is held down, the setting will continually change by 1% every 1/2 second for as long as the button is pressed.
- The control will return to Normal Mode, displaying the measured humidity, 5 seconds after the last button press/release.

## OFFSET

An offset can be applied to the humidity reading to avoid discrepancies with other humidity measuring devices in the home. Allow 48 hours for the control to acclimate before applying an offset. The control must be ON to enter the Offset screen.

- Press and hold the OFF button for 5 seconds to enter the Offset screen. See **Figure 9**.
- The ▲▼ buttons can be used to set an offset value between -5% RH and +5% RH.
- The control will return to Normal Mode, displaying the measured humidity, 5 seconds after the last button press/release.



## TURNING ON AND SETTING CONTROL

1. Press the ON button.
2. Use the ▲▼ buttons to set the control at 30%.
  - ▲ Increasing the humidity setting will increase humidifier run time, resulting in higher humidity levels.
  - ▼ Decreasing the humidity setting will decrease humidifier run time, resulting in lower humidity levels.

## SEQUENCE OF OPERATION

### Normal Mode

- When the measured humidity is lower than the setting, the control will activate the humidifier, and ON will blink on the LCD display.
- When the measured humidity increases to 3% RH above the setting, the control will deactivate the humidifier, and the LCD will display a solid ON.

### Operating Limits

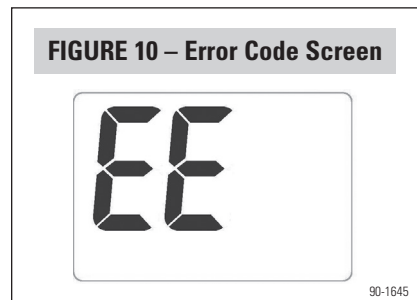
- If the control senses temperature below 40°F or above 99°F, the control will not allow the humidifier to operate, and **ON** and ✱ will blink on the display.
- The control will resume normal operation once the temperature is within the specified limits.

## TROUBLESHOOTING

Technical Support is available Monday through Friday, 7:00 a.m. to 5:00 p.m. CST, at (800) 334-6011. Use the guide on the following page to help find and correct system faults. Contact Technical Support before replacing the control or for additional troubleshooting.

### ERROR CODES

When the control detects an internal error, it will stop controlling, deactivate the humidifier, and the LCD will display the Error Code. See **Figure 10**. The control will attempt to recover from the error every 10 minutes. The Error Code will continue to be displayed as long as the error condition exists. Button presses are not registered when in Error Mode. Cycling power to the control will not clear the code and the control will need to be replaced.



**TABLE 1 – Troubleshooting Guide**

<b>Symptom</b>	<b>Possible Reason</b>	<b>Troubleshooting Procedure</b>
No power to the control.	Incorrect wiring.	Verify wiring connections between control, humidifier and HVAC system (where applicable).
	No power to humidifier.	<ul style="list-style-type: none"> <li>• Verify that the humidifier is wired correctly.</li> <li>• Verify the circuit breaker has not tripped.</li> </ul>
	No power to HVAC equipment.	<ul style="list-style-type: none"> <li>• Verify HVAC system switch is on.</li> <li>• Verify the circuit breaker has not tripped.</li> </ul>
Control does not turn on humidifier.	Incorrect wiring.	Verify wiring connections between control and humidifier.
Display does not flash all LCD segments during Test Mode.	LCD error.	Replace control.
Display shows EE.	Control detected an internal error.	Replace control.
Inaccurate humidity reading.	Control recently installed after being stored in an uncontrolled temperature and humidity environment.	Allow 48 hours for control to acclimate.
	Offset has been applied to the humidity reading.	Change the offset.
	Control is mounted in direct sunlight, above a heat or humidity source, or in the path of a supply register.	Relocate the control.



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**Description of Literature:** Installation Instructions, Model 65

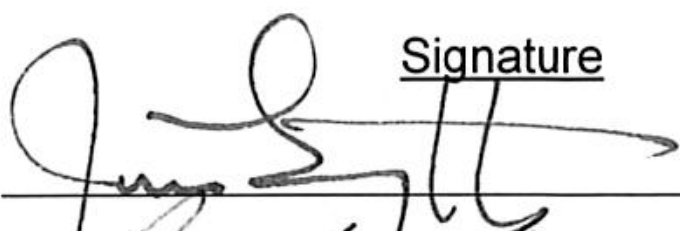
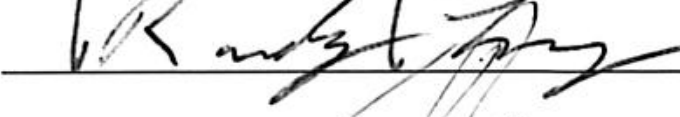

**Description of Change:** Updated Wiring Diagram to Model 800 RSH

**Approval Checklist:**

*(Check all that apply)*

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|---|---|
| <input type="checkbox"/> Size                           | <input checked="" type="checkbox"/> Part Number           |
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