

## INTRODUCTION

The 8051 is a temperature sensor. It can be used to remotely measure temperature with compatible Aprilaire® thermostats and support modules.

## INSTALLATION INSTRUCTIONS

### 1. Select a location for mounting the sensor.

Locate the sensor as you would locate a thermostat.

- Mount on an interior wall, in a frequently occupied space.
- Keep the sensor 18" away from an outside wall.
- DO NOT mount the sensor:
  - Behind doors, in corners or other dead air spaces.
  - In direct sunlight or near lamps, appliances, dimmer switches or other sources of heat.
  - On an outside wall or wall exposed to an unconditioned space (i.e. garage).
  - In the flow path of a supply register, in stairways or near outside doors.
  - On a wall where a concealed pipe or ductwork could influence the sensor.
  - Near sources of electrical interference such as light switches.

Maximum wire length from the sensor to the thermostat or support module is 300 feet.

### 2. Install the sensor – see back page.

### 3. Disconnect power to the thermostat or support module to which the sensor will be wired.

**⚠ CAUTION**

Damage to components can occur if power is not disconnected.

### 4. Verify the sensor resistance.

Use an ohm-meter or multimeter to measure the resistance of the sensor. Measure at the wires near the thermostat or support module to check any wire splices. Confirm the resistance corresponds (within 5%) to the temperature where the sensor is installed.

The following table shows the correct resistance at various ambient temperatures without the sensor wires attached to a thermostat or support module.

Temperature (°F)	Resistance (kΩ)
30	34.6
40	26.1
50	19.9
60	15.3
70	11.9
80	9.4
90	7.4
100	5.9

### 5. Wire the sensor to the component.

**⚠ CAUTION**

Excessive bare wire can lead to shorts. Strip only as much insulation as is necessary.

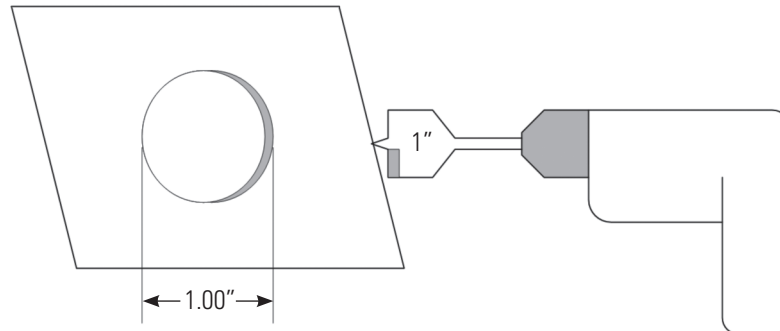
- The sensor is not polarity specific. Either sensor lead may be connected to either terminal on the component to which it is wired. To select the appropriate terminals for wiring please see the installation manual for the thermostat or support module.
- Use care when routing and stripping the wire. Sharp bends (kinks) or cuts in the wire (particularly susceptible where the insulation has been stripped) can lead to eventual conductor failure.

### 6. Reconnect power to the thermostat or support module to which the sensor is installed.

Sensor Specifications	
Voltage	20-30 VAC
Resistance @ 25°C (77°F)	10 kΩ
Tolerance @ 25°C (77°F)	±3%

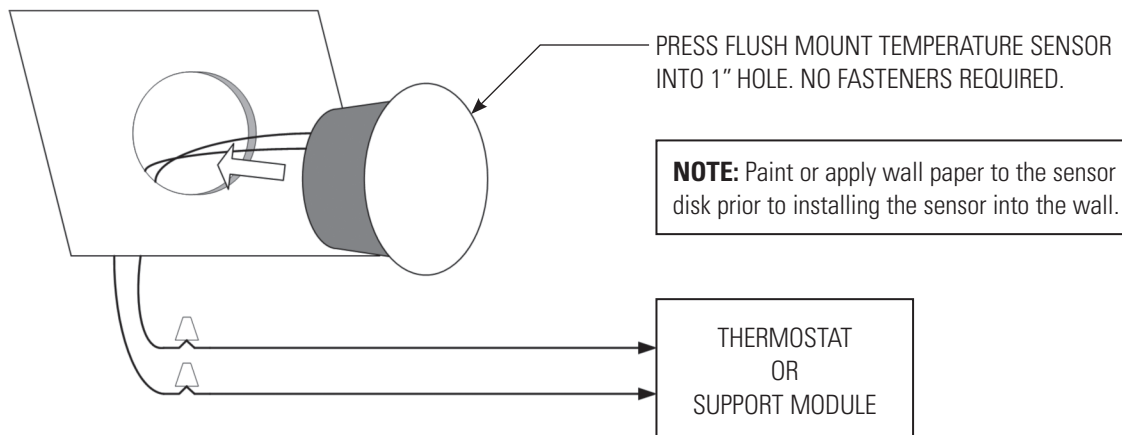
## APRILAIRE® MODEL 8051 FLUSH MOUNT SENSOR INSTALLATION INSTRUCTIONS

**Step 1:** Use a 1" paddle bit to drill a 1" dia. hole in the drywall/sheetrock. Keep the drill steady and horizontal to ensure a clean finished hole.



**Step 2:** Wire nut the sensor to cable run between the flush mount sensor and the thermostat or support module. Press the sensor into the 1" hole after the wires are connected.

**IMPORTANT:** Do not spackle or mud over the sensor. The sensor must protrude 1/64" from the wall for accurate temperature reporting.



**Step 3:** Wire the sensor to the thermostat or support module. Refer to the instructions provided with these devices for additional details.

**Aprilaire®**

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