Wall-mounted RH Sensor and RH/Temperature Sensor

Installation Guide

Emerson specs a wall-mounted relative humidity (RH) sensor (P/N 203-5751) and combined RH and temperature sensor (P/N 203-5752 and 203-5756) for use in building control and anti-sweat control applications using Emerson input boards.

Humidity (RH) and Temperature Sensor

Specifications

INPUT POWER	
Voltage	Class 2; 12 to 24 Vdc or 24 Vac
AC Voltage Tolerance	±10%
AC Frequency	50/60 Hz
OUTPUT	
Voltage Output	0 to 5 V or 0 to 10 V (jumper selectable)
Voltage Min. Load Resistance	5 kΩ
Voltage Min. Sinking Current	0.2 mA
HUMIDITY	
RH Element	Digitally profiled thin-film capacitive, non-removable
Accuracy *P/N 203-5752*	3% (10 to 90% RH, 20 to 30°C)
Accuracy *P/N 203-5756*	2% (10 to 90% RH, 20 to 30°C)
Temperature Effect (Outside 20° to 30°C)	≤0.1% RH per °C
Response Time (to 90% change at 20°C)	110 sec

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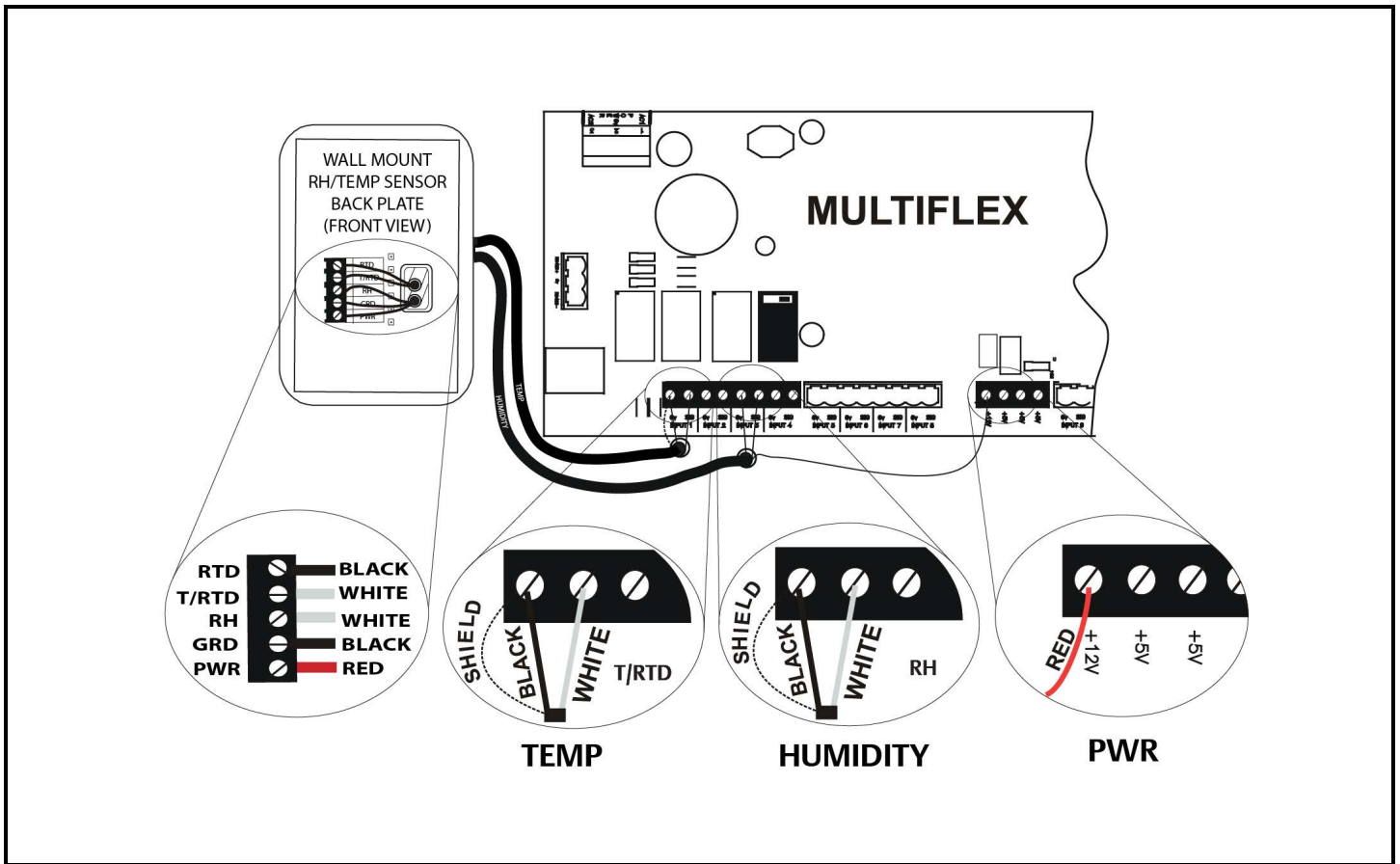|	
Annual Drift	≤1%
Output Scaling	0 to 100% RH
TEMPERATURE OPTION	
Sensor Type	Thermistor, 10k Ohm
OPERATING ENVIRONMENT	
Operating Temperature	0 to 50 °C (32 to 122 °F)
Operating Humidity	0 to 100% RH non-condensing (Unit will recover from saturation)
HOUSING	
Material	ABS plastic with UL V-0 5VB Flame Class
Mounting Holes	US and European junction box
AGENCY APPROVAL	
CE	*The CE mark indicates RoHS2 compliance. Please refer to the CE Declaration of Conformity for additional details. EMC Conformance: Low Voltage Directive 2014/35/EU and EMC Directive 2014/30/EU.

Mounting

1. Mount the backplate on the wall in an appropriate location with the "Install This End Up" label positioned in the upper right corner.
2. Wire the unit as shown (see Wiring section).
3. Attach the front plate.

Wiring

1. Use Belden #8771 shielded three-conductor cable or equivalent.
2. Connect the RED, BLACK, and WHITE wires to the screw terminals the sensor's connector as shown in the image below. Clip the SHIELD wire.
3. Connect the SHIELD and BLACK wires to the 0V terminal of the input board. Connect the WHITE wire to the SIG terminal of the input board.
4. Connect the RED wire to the +12V power terminal on the input board.

5. Locate the input dip switch for the sensor point, and set to the OFF position (LEFT for MultiFlex, DOWN for 16AI). Refer to the input board's user manual for locations of the input dip switches.
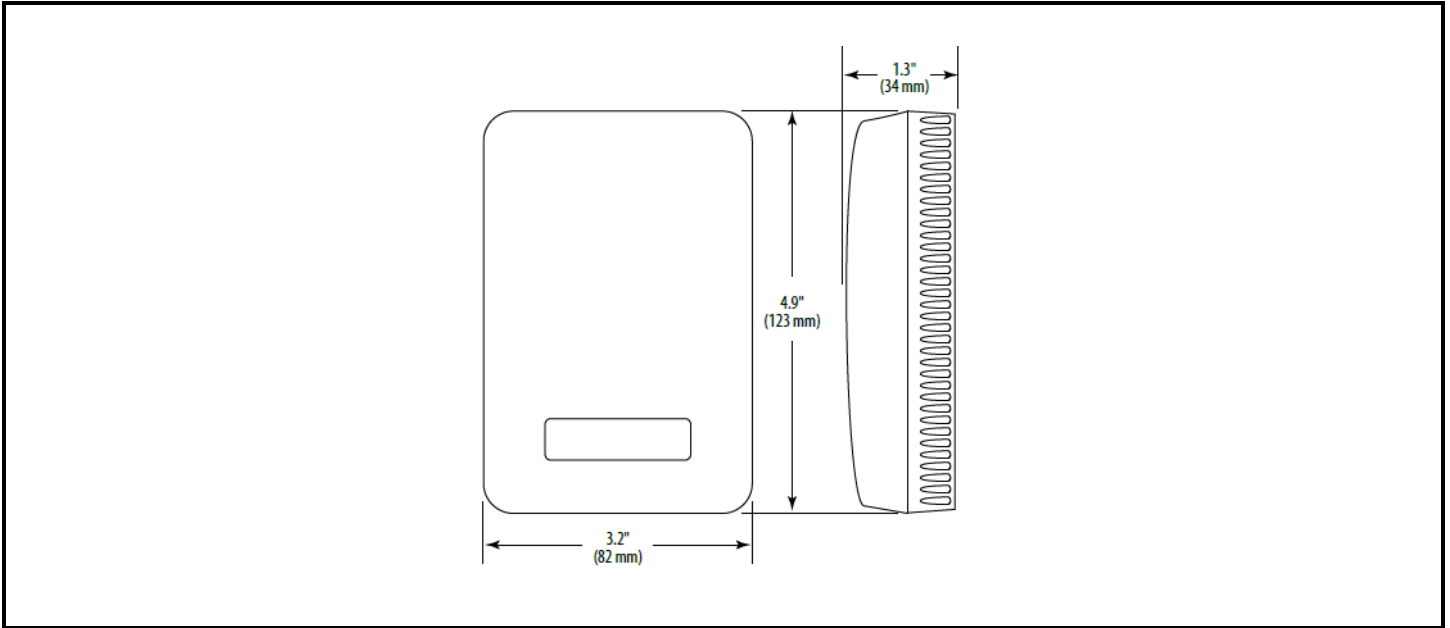

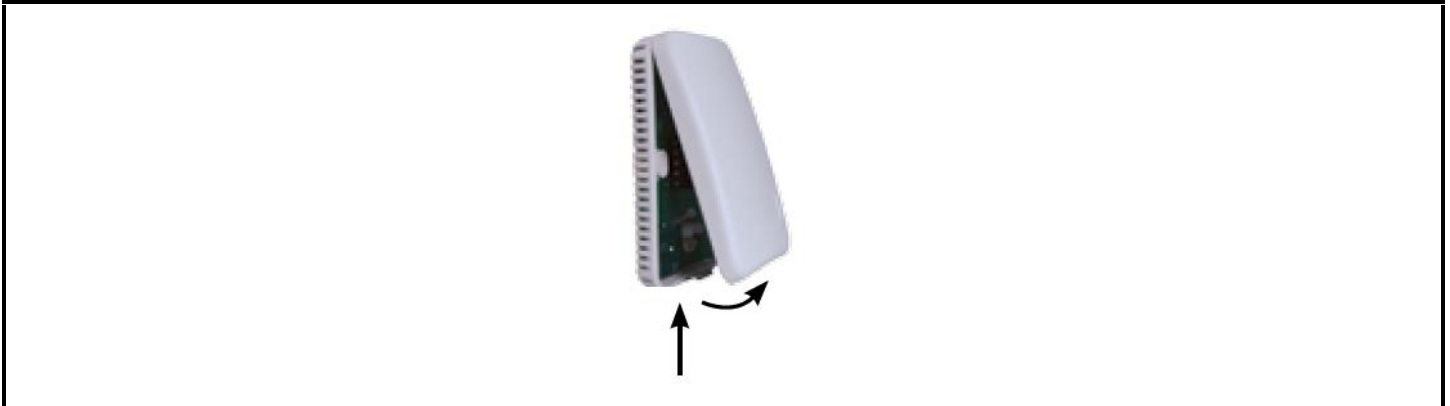| LEGEND		
RTD	⊘	RTD*
T/RTD	⊖	RTD/Temperature*
RH	⊘	Humidity
GND	⊖	GRND (DC- or AC1 and Output Common)
PWR	⊘	POWER (DC+ or AC2)

*Temperature models only

Operations

Emerson wall-mounted humidity sensors measure the levels of RH and temperature (if equipped) in the air inside a room. To maintain accurate functionality, keep all pickup vents clear and free of dust, debris, etc.
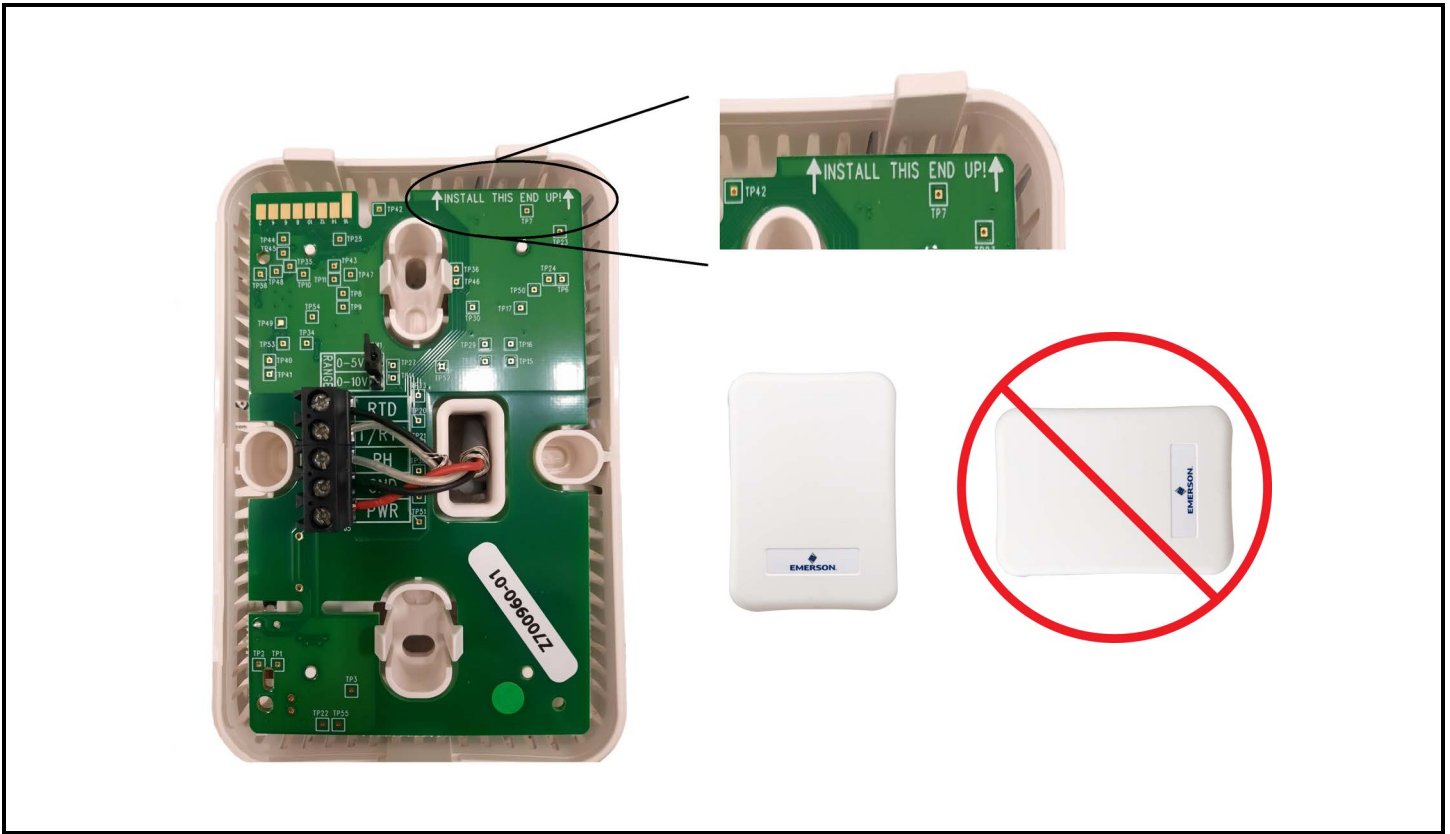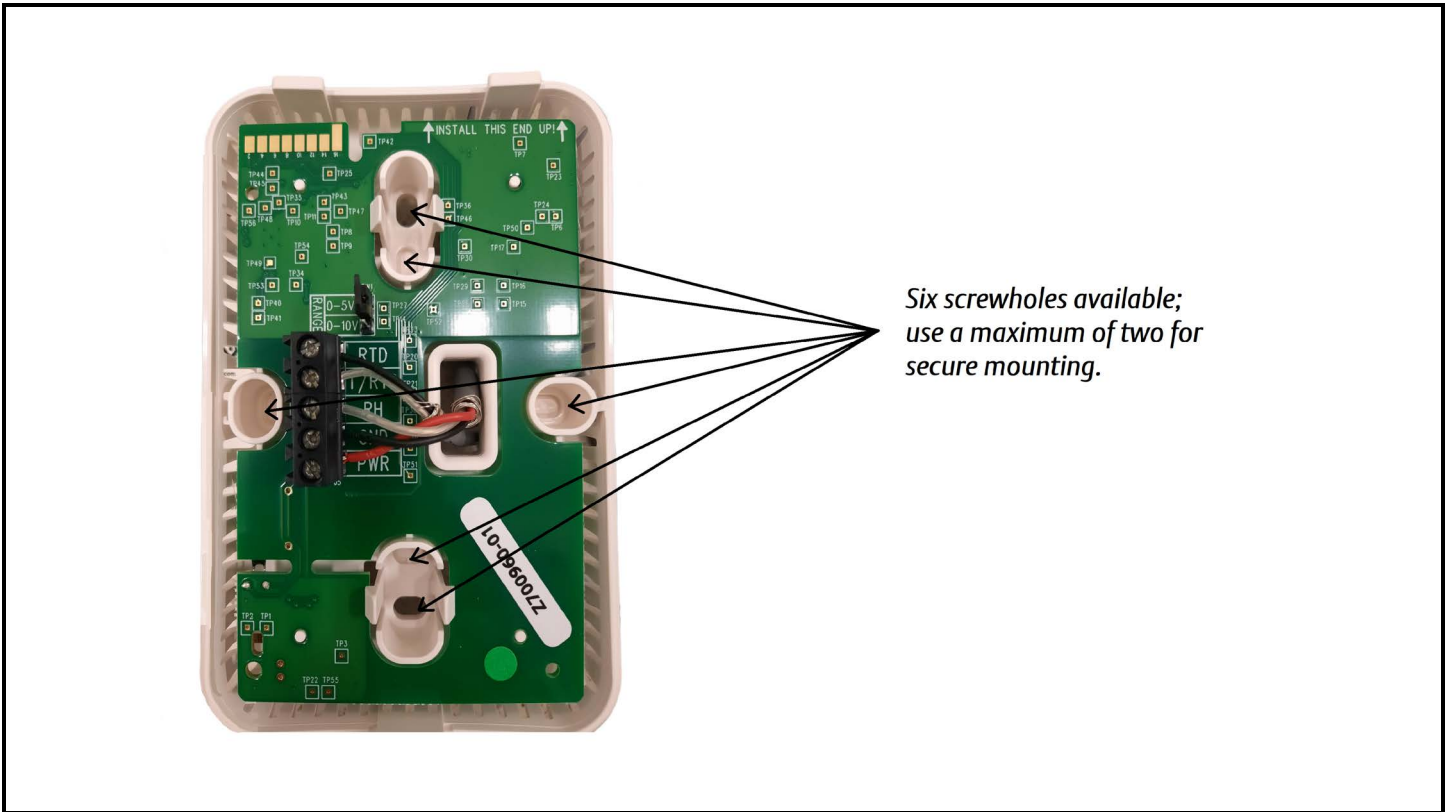
Dimensions

Installation

1. Remove the cover by pressing the tab on the bottom of the sensor while pulling outward on the bottom edge of the cover.
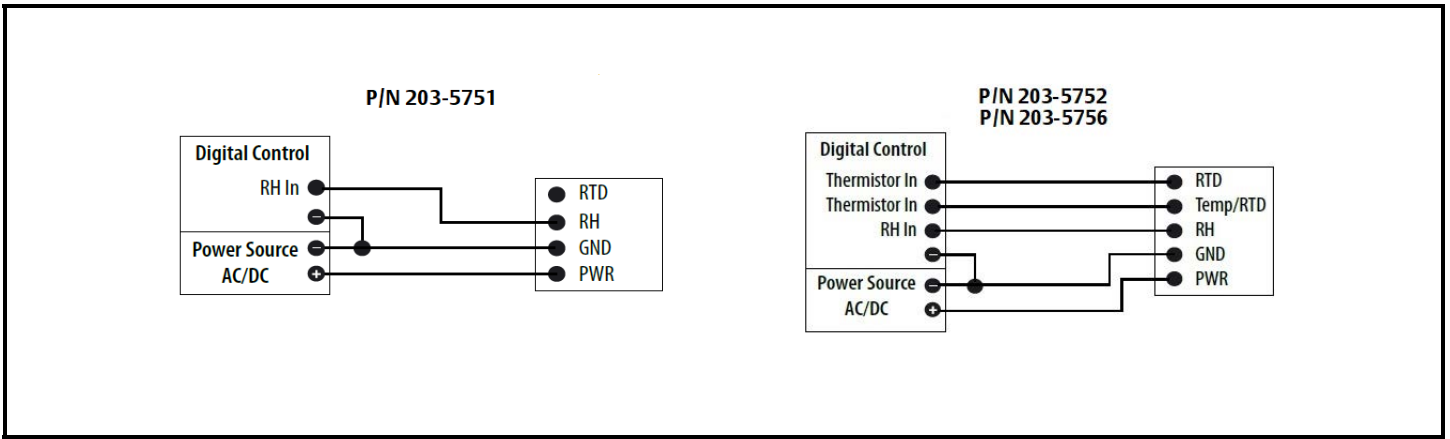
2. Position the sensor vertically on the wall, 4 . feet (1.5 m) above the floor. Place so that the "Install This End Up" statement on the board is in the upper right corner.

3. Mount the backplate onto the wall using the screws provided.

Six screwholes available; use a maximum of two for secure mounting.

4. Wire the backplate.

P/N 203-5751

Digital Control		
RH In ●		● RTD
●		● RH
Power Source ●		● GND
AC/DC ●		● PWR

P/N 203-5752
P/N 203-5756

Digital Control		
Thermistor In ●		● RTD
Thermistor In ●		● Temp/RTD
RH In ●		● RH
●		● GND
Power Source ●		● PWR
AC/DC ●		

5. Install the cover and snap into place.

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