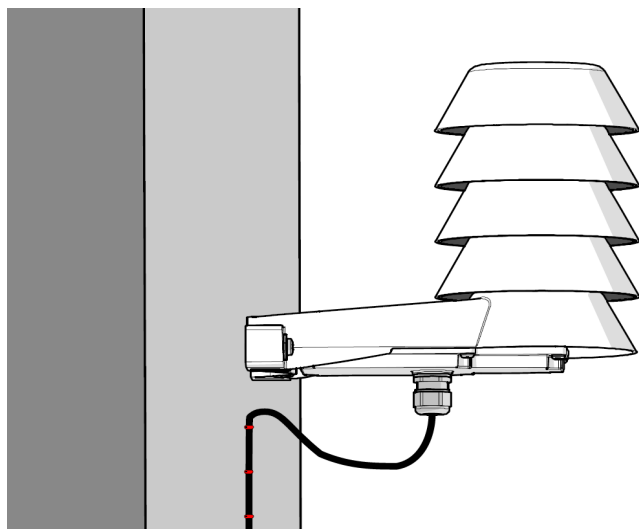## With 4-20mA Interface

Part Number: 82210-4 (HMS82)

The outdoor Relative Humidity/Temperature Sensor provides two 4-20mA outputs for Temperature and Relative Humidity readings. The humidity channel can be configured to output Relative Humidity, Wet Bulb Temperature or Dew Point Temperature. The sensors are installed in a radiation shield that includes a mounting clamp.

Specifications

Operating Temperature: -40° to +140°F
Supply Voltage: 10 to 28 VDC
Measurement Range/Scaling:
Relative Humidity: 0 – 100%
Temperature: -40° to +140°F
Wet Bulb Temperature: -40° to +140°F
Dewpoint Temperature: -40° to +140°F

Performance

RELATIVE HUMIDITY
Measurement range: 0 to 100 %RH
Accuracy Temperature range: +50 to +86°F
0 to 90 %RH ±3 %RH
90 to 100 %RH ±5 %RH
Temperature range: (-4 to +50°F, +86 to +140°F)
0 ... 90 %RH ±5 %RH
90 ... 100 %RH ±7 %RH
Temperature range: (-40 to -4°F)
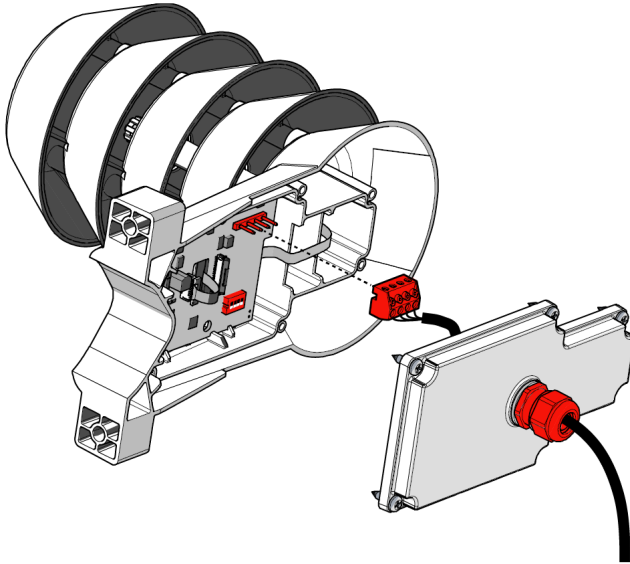0 ... 100%RH ±7 %RH

TEMPERATURE
Measurement range: (-40 to +140°F)
Accuracy
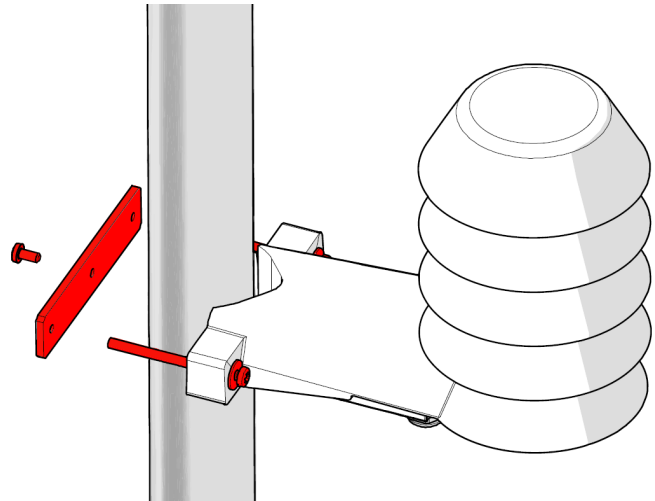At +20°C (+68°F) ±0.3°C (±0.54°F)

Prepare the transmitter configuration and wiring before installing.
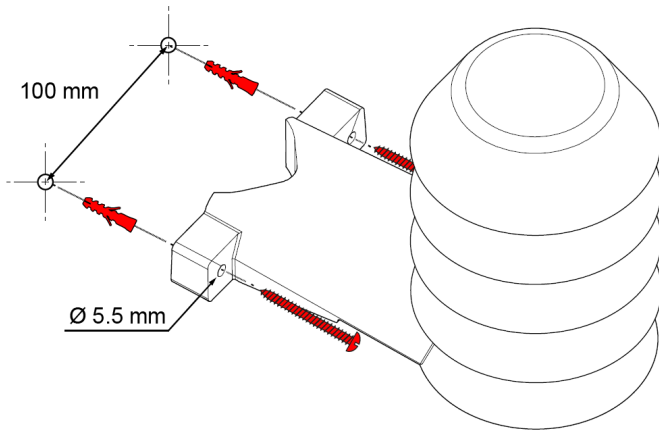
Configuration

1. Open the six screws that hold the transmitter cover.

2. Route the power and signal cable to the screw terminals and connect the wires.

3. Disconnect the screw terminal block by pulling it away from the component board.

4. Adjust the length of cable between the cable gland and the terminal block. Make the cable short enough to close the cover without leaving a cable loop in the transmitter.

5. Tighten the cable gland. Leave the cover off for now.

Wiring

1. Use the supplied clamp and screws to mount the transmitter on a pole.

2. To prevent the transmitter from turning on the pole, tighten the set screw on the center hole of the clamp.

3. Plug in the screw terminal block, close the cover, and tighten the screws.

4. Secure the cable to the pole using a zip tie. Allow some cable to hang down from the cable gland to prevent water from entering the transmitter along the cable.
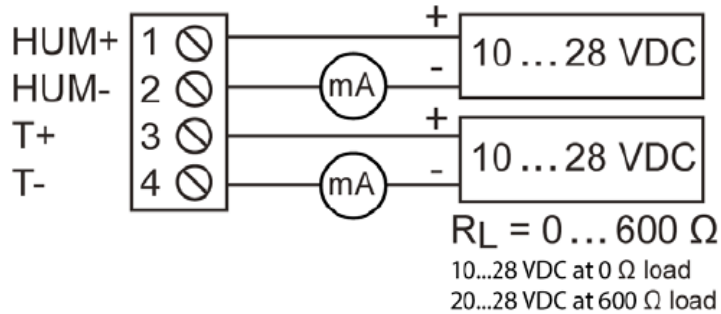
Wall Installation

100 mm

Ø 5.5 mm

1. Drill two holes for wall anchors 100 mm apart.

2. Place the wall anchors in the holes.

3. Mount the transmitter using two screws of sufficient length.

4. Plug in the screw terminal block, close the cover, and tighten the screws.

5. Secure the cable to the wall using cable ties. Allow some cable to hang down from the cable gland to prevent water from running to the transmitter along the cable.
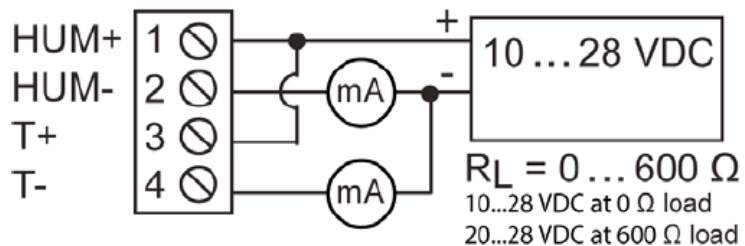
Wiring Diagram

Two 4 ... 20 mA outputs, temperature output scaling -40 ... +60 °C (-40 ... +140 °F).

You must connect the HUM channel even if you only want to measure temperature. Connecting the T channel is optional.

HUM+ 1
HUM- 2
T+ 3
T- 4

mA

10 ... 28 VDC
+ / -

mA

10 ... 28 VDC
+ / -

$R_L = 0 ... 600\ \Omega$
10...28 VDC at 0 Ω load
20...28 VDC at 600 Ω load

Alternate wiring with one power supply.

HUM+ 1
HUM- 2
T+ 3
T- 4

mA

mA

10 ... 28 VDC
+ / -

$R_L = 0 ... 600\ \Omega$
10...28 VDC at 0 Ω load
20...28 VDC at 600 Ω load

Use the HUM channel if transmitter is configured to output Wet Bulb Temperature or Dewpoint Temperature.