

# Wall-Mount Dewpoint and Temperature Probe

P/N 210-2016

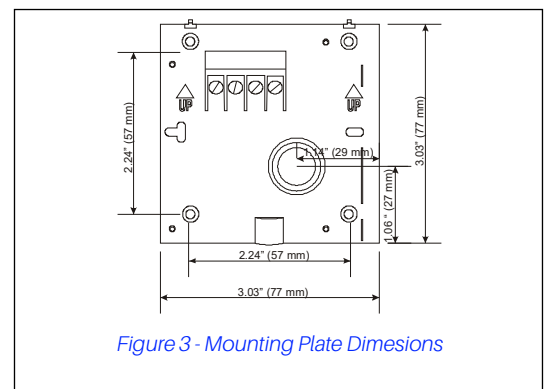
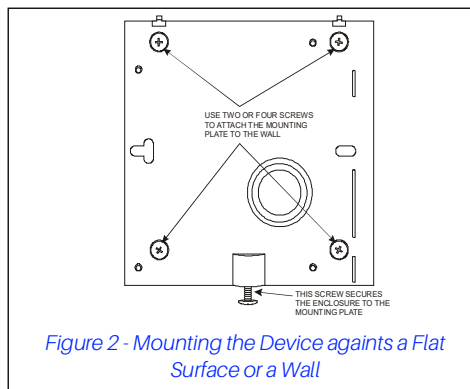
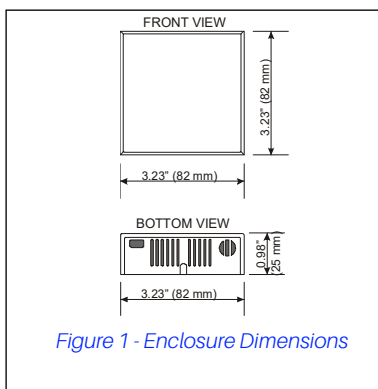
The Wall-Mount Dewpoint and Temperature Probe (P/N 210-2016) measures dewpoint, temperature, or both dewpoint and temperature for indoor applications such as anti-sweat heater control and HVAC dehumidification. The sensor's linear 0-5VDC output makes the sensor compatible with the E2 site controller and all legacy site control products that use MultiFlex and 16AI input boards.

## Specifications

Property	Description/Value
Operating Temperature	-40°C to 60°C (-40°F to 140°F)
Storage Temperature	-40°C to 60°C (-40°F to 140°F)
Supply Voltage	10 to 40VDC or 8 to 28VAC
Current consumption	100mA, maximum
Relative Humidity Range	0 to 100% RH
Accuracy	<b>Dewpoint:</b> +/- 1°C (+/- 1.8°F) <b>Temperature:</b> +/- 0.3°C (+/- 0.54°F)
Output Voltage	0 to 5VDC
External Load	R <sub>L</sub> min. 1kΩ

## Mounting

The Dewpoint and Temperature Probe consists of a mounting plate and an enclosure with circuit board that attaches to the mounting plate. Loosen the screw at the bottom of the device to detach the front section with circuit board from the mounting plate. Attach the mounting plate to a flat surface using 2 or 4 screws. Wire connections on the mounting plate as directed (See "Power and Input Wiring" on page 2). Hook at the top, swing closed, and then tighten the screw at the bottom to reattach them together.



The probe should be mounted in a place with adequate air circulation and away from direct sources of heat and moisture.

## Power and Input Wiring

The Dewpoint and Temperature Probe can be wired to a Multiflex or 16AI input point using an appropriate Belden cable. To use both probe outputs (dewpoint and temperature), use Belden #8729 four-conductor shielded 22AWG cable (or equivalent). If using only the dewpoint output, use Belden #8771 three-conductor shielded 22AWG cable (or equivalent).

Figure 4 illustrates the connection points on the probe's mounting plate and where to connect the wires to the probe as well as the input points using Belden #8729 cable. The sensor is powered by the +12VDC power supply terminal on the MultiFlex or 16AI input boards. Connect the SHIELD wire on the MultiFlex end of the cable to a solid earth ground.

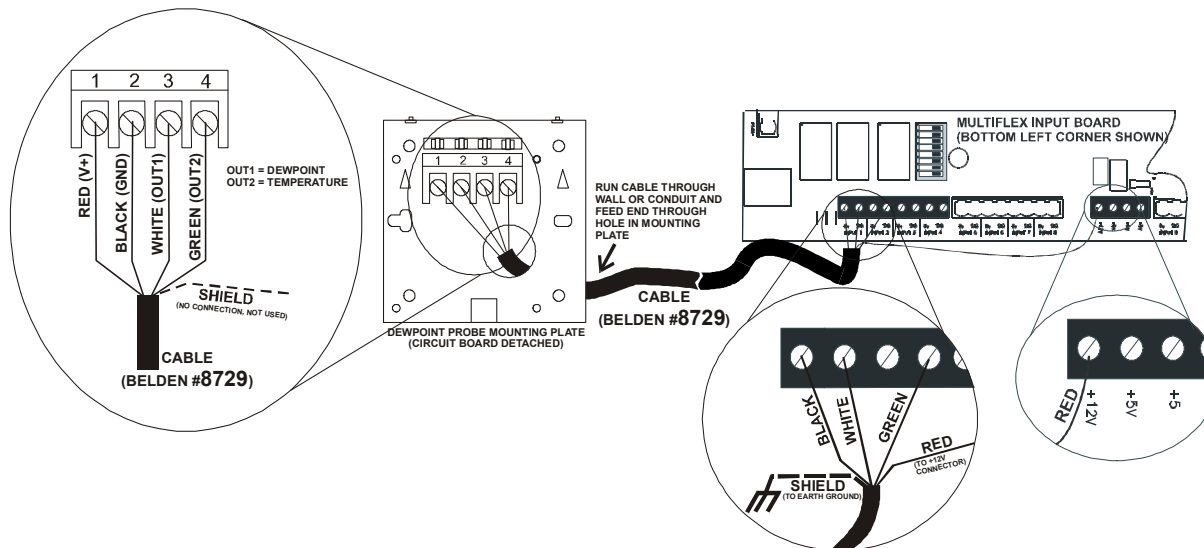


Figure 4 - Dewpoint and Temperature Probe Wiring Using Belden #8729 Cable (Not to Scale)

Figure 5 illustrates the connection points on the probe's mounting plate and where to connect the wires to the probe as well as the input points using Belden #8771 cable. The sensor is powered by the +12VDC power supply terminal on the MultiFlex or 16AI input boards. Connect the SHIELD wire on the MultiFlex end of the cable to a solid earth ground.

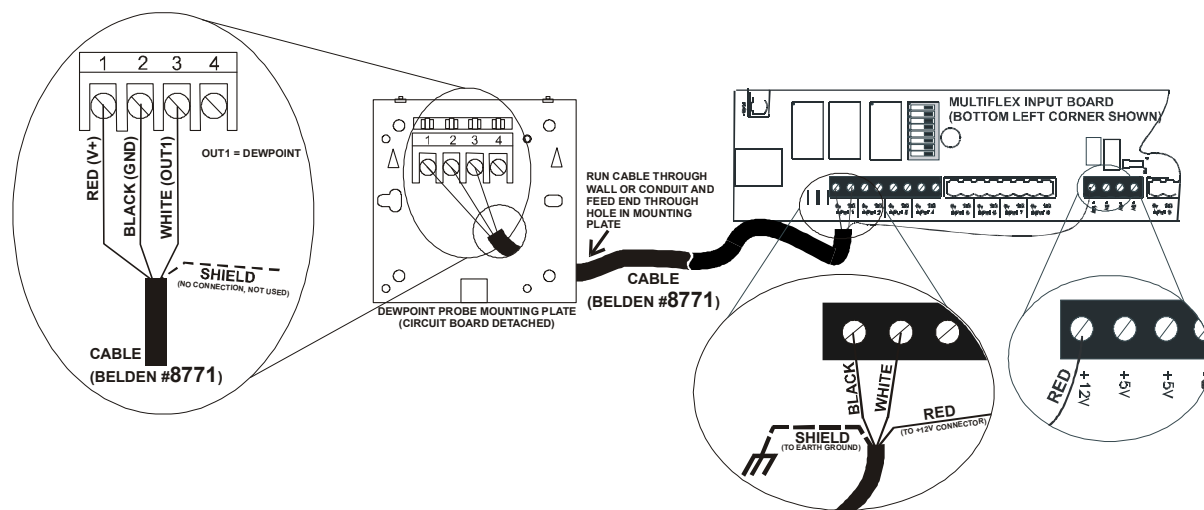









Figure 5 - Dewpoint and Temperature Probe Wiring Using Belden #8771 Cable (Not to Scale)

The input type DIP switch on the MultiFlex or 16AI input board must be set to the DOWN position for each signal from the dewpoint and temperature probe. Input type DIP switches for points #1 through #8 are located on switch bank S1, while points #9 through #16 are located on switch bank S2.

## E2 Input Setup

If using both the dewpoint and temperature outputs of the probe, this setup in E2 must be performed for each of the inputs.

**NOTE:** Do NOT set up this probe with a sensor type of “Dewpoint”; that setting only works for old-style CPC Dewpoint Probes (P/N 203-1902). This probe must be set up with a sensor type of “Linear.”

1. Log into the E2 and press     (Input Status screen).
2. Highlight the input point the Dewpoint Probe is connected to, and press  (Setup).
3. When prompted to select the data type, press  (Analog).
4. In the Analog Input setup screen, enter the following information in the fields listed below:
  - **Name:** A description of the sensor’s function and/or location (For example, INDOOR DEWPT or INDOOR TEMP).
  - **Sensor Type:** Linear
  - **Eng. Unit:** DF
  - **Low Eng Units:** 0.0
  - **High Eng Units:** 100
5. Press  to save changes and exit the Analog Input setup screen.

```
05-03-07  OAT: 84 OH: 16 16:17:32
BX-400 Unit 1
ANALOG INPUT FULL

Board/Point # : 3.9
Point Name    : INDOOR DEWPT
Sensor Type   : Linear
Select Eng. Units: DF
Default on Open : NONE
Default on Short : NONE
Default Other  : NONE

Modify Sensor Properties
Modify      ? EndPoint
Low End Point: 0.00000 U      Low Eng. Units : 0.000000
HighEnd Point: 5.00000 U      High Eng. Units: 100.00000
Low End Limit: -0.500000
HighEnd Limit: 6.500000

OCCUPANCY      :      :      :
OUTPUT         :      :      : L

Enter -100 to 99999 | Low End LimitValue
F1: SET ALARMS  F2: SET LOGGING  F5: CANCEL
```

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For Technical Support call 833-409-7505 or email [ColdChain.TechnicalServices@Copeland.com](mailto:ColdChain.TechnicalServices@Copeland.com)