

## Calibration of Humidity Alarm 4 - 20 mA Output Circuit for 6995 Mk IA Dehydrator

The humidity alarm 4 - 20 mA output signal is calibrated using the zero and span set screws on the E to I board, as follows:

- a. Open the control panel and locate the E to I board.
- b. On the E to I board, locate the adjusting screws in the potentiometers at the right side of the board. The zero screw is on the top potentiometer and is marked P2; the span screw is on the bottom potentiometer and is marked P1.
- c. Turn the purge selector valve (Tech Manual Figure 6-1, 3) from Normal to Isolate.
- d. Turn the calibration dump valve (Figure 6-1, 4) from Normal to Calibrate. You will hear a rush of air to atmosphere behind the panel.
- e. Close the metering valve at the bottom of the calibration flowmeter (Figure 6-1, 5). This allows starting with dry air from the dehydrator outlet.

### WARNING

The dew point sample connection uses a quick-disconnect air coupling. Be sure the connection is tight. A loose coupling can fly apart, causing injury.

- f. Attach a frost point/dew point monitor per MIL-M-24144D to the dew point sample port (Figure 6-1, 6). This gives an external measurement of dew point for comparison with the controller.

### NOTE

Figure 2 on page 2 shows the linear relationship between dew point temperature and your 4 - 20 mA response. If you can read degrees directly, you won't need Figure 2.

- g. Using the metering valve in the calibration flowmeter, establish and measure a low dew point ( $-50^{\circ}\text{F} \pm 10^{\circ}$ ) in the outlet air stream. Adjust the zero screw until the output circuit at the PLC reads within  $5 - 10^{\circ}$  of this value (or until your mA reading is  $4\text{ mA} \pm 0.5\text{ mA}$ ).
- h. Using the metering valve, establish a dew point approximately  $15^{\circ}\text{F}$  higher than the last one. Measure this dew point. Adjust the span screw until the output circuit reads within  $5 - 10^{\circ}\text{F}$  of this value.
- i. Repeat step h, working up to about a  $0^{\circ}\text{F}$  dew point (20 mA output), adjusting the span potentiometer each time.
- j. Repeat steps g through i as necessary.
- k. Disconnect the frost point/dew point monitor and return all valves to their original positions.

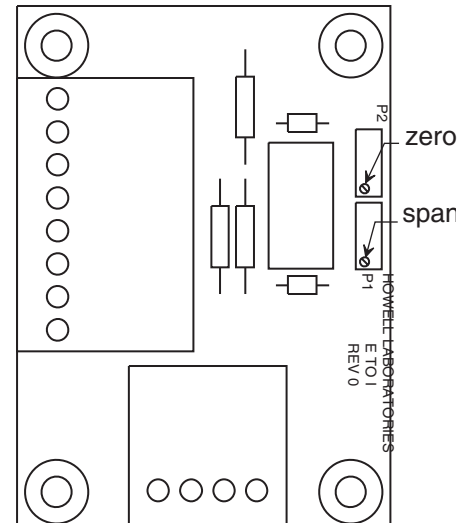
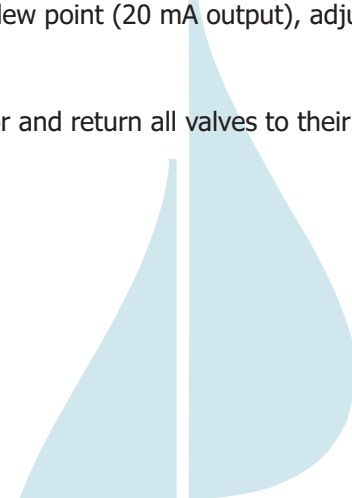


Figure 1. E to I Board



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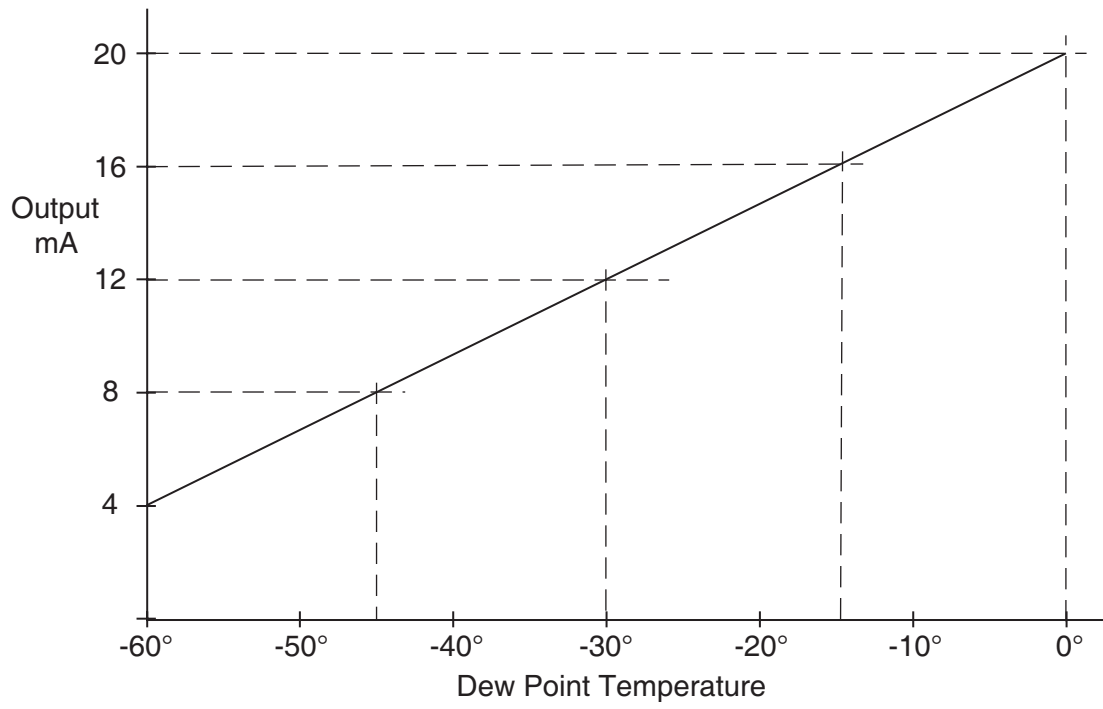
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**Figure 2. mA Output vs. Dew Point Temperature**