# 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.

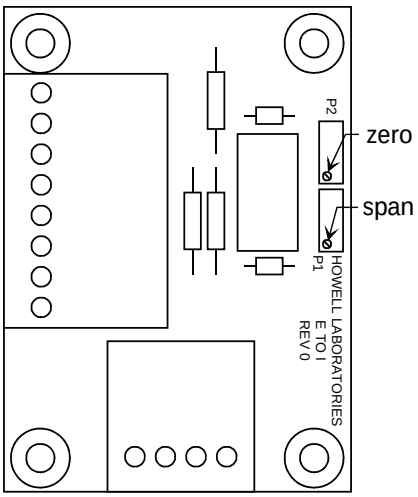


**Figure 1. E to I Board**

## 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° F ± 10°) in the outlet air stream. Adjust the zero screw until the output circuit at the PLC reads within 5 - 10° of this value (or until your mA reading is 4 mA ± 0.5 mA) .

h. Using the metering valve, establish a dew point approximately 15° F higher than the last one. Measure this dew point. Adjust the span screw until the output circuit reads within 5 - 10° F of this value.

i. Repeat step h, working up to about a 0° 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.

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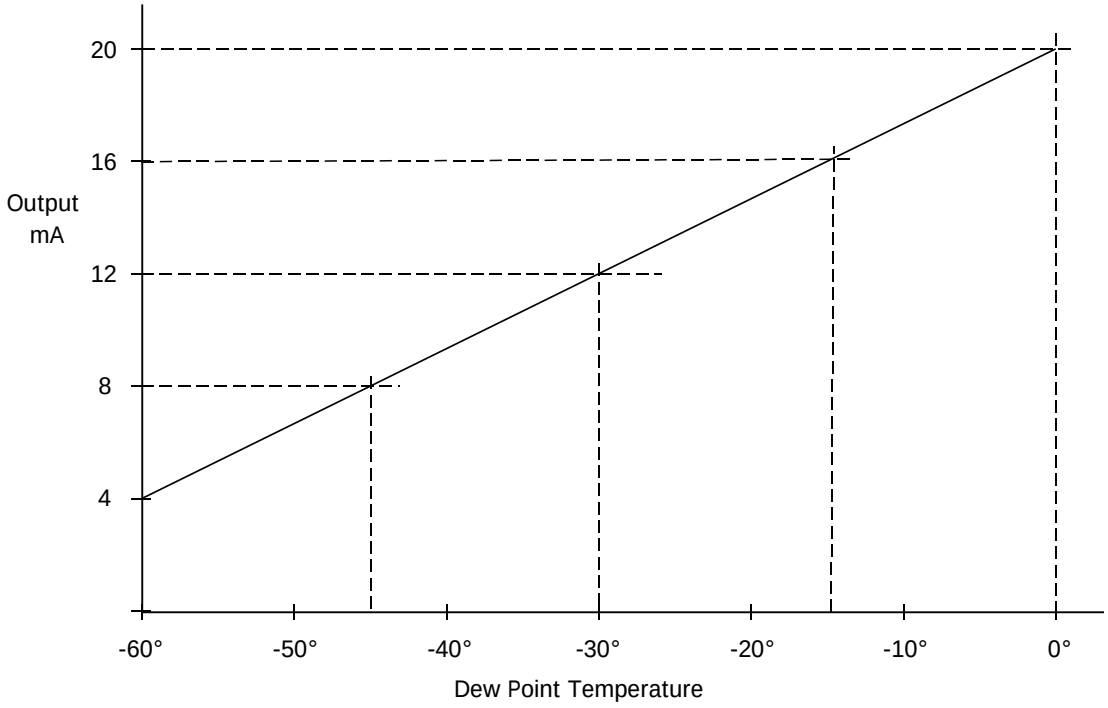


**Figure 2. mA Output vs. Dew Point Temperature**