

CONTHERM *Scientific Limited*

TECHNICAL MEMORANDUM
0077

PRODUCT : HUMIDITY CALIBRATION
Zp10A

No :

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FROM : Contherm Scientific Ltd

DATE : 30/03/2001

TO : ALL AGENTS

SUBJECT: Calibration of Humidity In a ZP10A PC BOARD

The small green trimmer capacitor which is mounted on the ZP10a PCB directly behind the Philips capacitive sensor has been adjusted on the test bench to a factory setting. The capacitor controls the accuracy of measured humidity within the cabinet made by the sensor and therefore may require further adjustment once the sensor is reinstalled into the cabinet.

Having installed the complete sensor back into the cabinet the humidity can be calibrated as follows:

- 1) Hang a **Wet & Dry Bulb Thermometer** or calibrated Humidity meter inside the centre of the cabinet chamber.
- 2) Switch the cabinet on and allow the humidity to increase and stabilize. This usually takes about one hour. (Factory calibration is at 20°C and 80%RH).
- 3) After one hour read the temperature measured by the **Wet & Dry Bulb Thermometer** and use **Wet and Dry Bulb Tables** to work out the actual humidity inside the cabinet OR read the actual humidity directly from the calibrated humidity meter.
- 4) If the calculated actual humidity differs from that displayed on the cabinets front panel the small green trimmer capacitor will need to be adjusted by 2 or 3 degrees of rotation, whilst watching the displayed reading increase or decrease.

NOTE: When looking at the sensor housing from below, adjusting the trimmer capacitor

by 2 or 3 degrees of anticlockwise rotation should increase the displayed reading. Clockwise rotation of 2 or 3 degrees should decrease the reading.

- 5) After correcting the trimmer capacitor allow the humidity to stabilize again over about one hour. Repeat Step 3 and if the actual humidity does not correspond with that displayed on the cabinet front panel repeat Step 4. Repeat Steps 3 and 4 until the displayed humidity corresponds to the actual humidity calculated from Wet and Dry Bulb Tables.

When carrying out the above procedure it is best to work at conditions close to the ambient conditions around the cabinet as this allows you to slightly open the outer and inner doors to adjust the trimmer capacitor without greatly affecting the climate inside the cabinet.

It is also best to use diagnostic No:21 to set the Humidity Cal Factor to the centre value of 50 to allow for small additional electronic corrections to be made later if necessary.