

## 7400 Series Temperature Probe Calibration

### Microboard 190526 (REV 0 - 3)

#### Tools & Equipment

- Basic hand tools
- NIST Traceable temperature meter (Capable of -196C)
- 2 - Small insulated LN2 containers (To be used for dipping Temperature sensors in LN2 & ice water)

#### Calibration Procedure

1. Disconnect unit from power source.
2. Remove Rear cover plate to expose the microboard.
3. Immerse the cabinet probe and NIST traceable temperature instrument probe in a small insulated container of crushed ice and water. The ice/water mixture should be more ice than water and should be periodically stirred to maintain 0C.

*NOTE: Removal of the cabinet temperature sensor may be required to facilitate immersing the probe in ice/water mixture. The probe bracket is secured by a single nut accessible from the inside rear of the cabinet.*

4. Allow the probes to stabilize in the mixture a minimum of four minutes.
5. Reapply power to the cabinet.

**CAUTION: Line voltage (120/230VAC) will be present on the lower half of the micro board.**

6. Compare the cabinet display with the independent instrument. Both readings should read 0C +/- 1C (-1 to +1). If the independent instrument does not read within the range, check the ice/water mixture for mostly ice. Do not proceed if the correct reading cannot be achieved.
7. If the cabinet display is not within +/- 1C then adjust R89 on the microboard as needed to achieve the proper reading. Allow a minimum of thirty seconds between a adjustment for display stabilization.
8. Turn the off power to the LN2 unit. Remove the probes from the ice/water mixture and dry them off.
9. Re-immers the probes in a small container of LN2. Allow the probes to stabilize in the LN2 for a minimum of four minutes.
10. After the four minute stabilization time, reapply power.

**CAUTION: Line voltage (120/230VAC) will be present on the lower half of the micro board.**

11. Compare the cabinet display with the independent instrument. Both readings should read -196C +/- 1C (-195 to -197).

*NOTE: If the independent test instrument is not in this range, do not proceed until proper reading can be achieved.*

12. If the cabinet display is not within -196 +/- 1C then adjust R81 on the microboard as needed. Allow a minimum of thirty seconds between a adjustment for display stabilization.
13. Repeat steps 3 through 12 until no adjustments are required.

*NOTE: Once calibrated, the display accuracy is considered to be +/- 3C.*

14. Remove power source. Reinstall probe and cover panels as needed.
15. Reapply power to cabinet.