PPM 200 Process Monitor
Calibration Instructions
PACE Part Number 8007-0464-P1
Manual Part Number 5050-0563 RevA

<u>**Prepare:**</u>

The following tools and equipment will be necessary to complete this procedure.

Temperature Calibrator, Signal generator and DC regulated power supply, standard resistors (0.5), and a small screwdriver for pot adjustment.

1) Power on PM200 and verify the display is functioning.
2) If unit has been in use, allow the PPM to cool down for 30 minutes before attempting calibration.
3) Make note of room temperature (T_{room}). The accurate measurement of room temperature will be necessary for completing this calibration.

<u>**Adjust the temperature:**</u>

1. Power on unit, and switch "C-F" to "C" position. Set dial to "temperature" position. Input a voltage at the two terminals of the temperature input:
2. Adjust potentiometer "VR6" so that the voltage value of the seventh pin on component U9 is 0mv.
3. When the input voltage equals 0mv, "001+T_{room}" should be shown on the LCD screen. If the data is not "001+T_{room}", please adjust the potentiometer "VR8" until the display shows "001+T_{room}"
4. When the input voltage equals 24.905mv, the LCD screen should display "600+T_{room}". Adjust the potentiometer "VR4" until the display shows "600+ T_{room}".
5. Input the voltage(s) 4.096mv, 8.138mv, 12.209mv, 16.398mv, and 20.664mv, should display "100+T_{room}, 200+T_{room}, 300+T_{room}, 400+T_{room}, 500+T_{room}". If any of the temperatures do not match the input voltages, please re-adjust the potentiometers"VR4" and "VR8" until the LCD display shows the correct data.
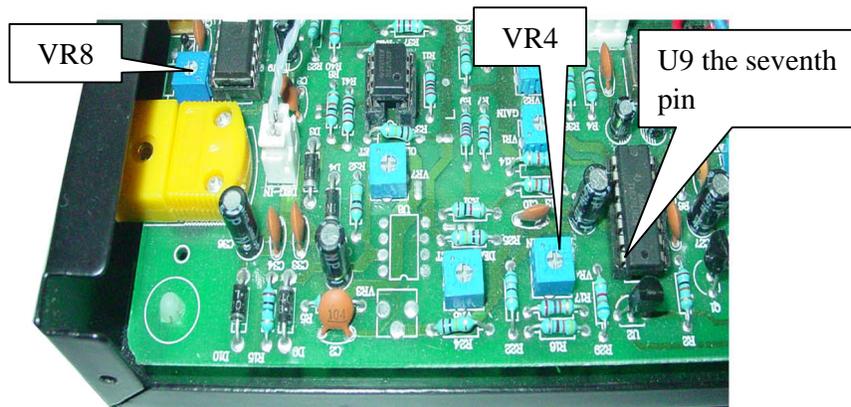
6. Switch PPM-200 "C-F" to "F" position. Repeat the steps from " 1" to "3". Room temperature (F)   32(F)" should be displayed on the LCD screen.
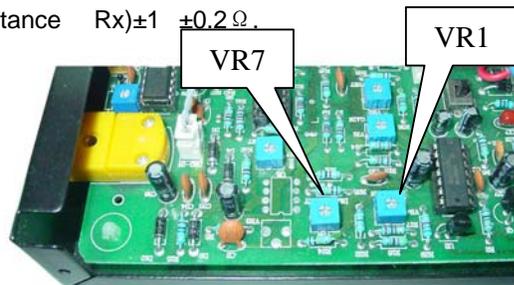
Adjust the voltage:

1. Set dial to "mv" position. Adjust switch "S1" on the PCB board to the "TEST" position (move switch to the down position).
2. Switch "TEST" on the faceplate to the "ground" position and hold, adjust the potentiometer "VR2" until LCD display is showing lower possible mv but not "0mv".
3. Adjust the potentiometer "VR9" until the showing lower possible mv but not "0mv"..
4. Adjust the potentiometer "VR2" until the display shows "0".
5. Let go hold of the switch "TEST" on the faceplate.
6. Input voltage (d.c.) 0mv, record value on the PM200 display as "Vx".
7. Input voltage (d.c.) 90mv, adjust the potentiometer "VR5" until the display shows "90.0mv Vx".(Vx is the voltage value of the testing line from instrument for power to test terminals.)
8. Dial the switch "S1" on the PCB board to the "AC" position (dial up the switch). Input voltage (d.c.) 90 mV 70 mV 50 mV 20 mV 10 mV, the tolerance is (Input voltage Vx)±3 ±0.2mv . If it is not in the tolerance range, please re-adjust "VR2" and "VR5".
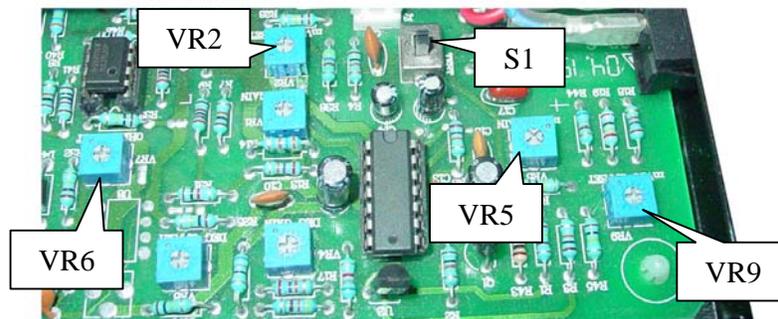
9. Dial S1 up, and input a signal (f 55hz, voltage value 10mV, 20mV, 30mV, 40mV, 50mV, 60mV, 70mV, 80mV, 90mV) ,the display will show the corresponding data. If it is not correct, please repeat step 1, 2, and 3 to check the calibration process.

Adjust the resistance:

1. Dial the switch to "OHM" position. Hold the "TEST" switch on the faceplate to the "ground" position and adjust the potentiometer "VR7" until the display shows "0".
2. Release "TEST" switch on the faceplate. Insert the jack of the testing line in the ground jack and the other end to the testing post of the PM200's OHM.mV plate, record value on the display as "Rx".
3. Input the standard resistance "90 Ω"; adjust the potentiometer "VR1" until the display shows "90 Ω Rx". (Rx is the resistance value of testing line) Input the standard resistance "10, 20, 30, 40, 50, 60, 70, 80, 90"Ω, re-adjust the potentiometers "VR7 and VR1", until the value is equal with standard . The tolerance is (Input resistance Rx)±1 ±0.2 Ω .