5.1.3.1 BA-200 CALIBRATION PROCEDURE

The following Calibration Procedure is to be used for all models of the BA-200 OILARM. Successful completion of this procedure validates the proper operation of the BA-200 OILARM. **If any of the following steps fail, return unit for repair**

TEST EQUIPMENT: 4 1/2 DIGIT Volt Ohm Meter(VOM) OACK-3000 CALIBRATION KIT containing Probe Sleeve , Sleeve Cover Oil Mix (sg 0.8866) 100 ml graduated cylinder 250 ml bottles (qty 2) Teflon disks and Microliter Syringe

TEST SOLUTIONS : 100 PPM Oil in Water Solution 15 PPM Oil in Water Solution or appropriate Set Point solu tion, e.g. 2 PPM, 50 PPM, etc



TEST SETUP:

- 1. Set BA-200 upright, slide Probe Sleeve onto Probe, tighten Hose Clamp.
- 2. Fill Probe Sleeve with distilled water and cover with Sleeve Cover.
- 3. Run BA-200 Oilarm for 5 minutes (this will allow all circuits to stabilize).



For Explosion and Weather Proof BA-200's skip steps 1 & 1A, go to step 2.

Attach the VOM ground clip lead on test point 10 (TP10). Attach Positive (POS) clip lead on TP16. Set your VOM to Volts DC, 2 VDC Full Scale. Replace water with fresh distilled water.

STEP 1A

Adjust PR10 until it reads between .0175 to .0185 on the VOM. These numbers indicate the amperage of the lamp located within the BA-200.

Remove the GND clip lead from TP10 & TP11.



Set your VOM to read 20 VDC Full Scale.

STOP the motor of the BA-200 in the down position by disconnecting the motors quick disconnects as illustrated in the picture below.

DO NOT stop the motor in the down position by turning off the power to the BA-200 Oilarm

Look down inside Probe Sleeve and ensure the lamp is on, **if not, STOP**, and return unit for repair.



STEP 3

The illustration below will shows a typical placement of the VOM GND clip lead. GND clip lead will remain at this location until further notification





Attach the Positive (POS) VOM clip lead on TP1



STEP 4A

Adjust PR1 to read 0.000 +/-0.002 on the VOM



Remove POS clip lead from TP1 and attach to TP14

STEP 5A

Adjust PR4 to read 0.000 +/- 0.002 on the VOM





Remove POS clip lead from TP14 and attach to TP2



STEP 6A

Adjust PR2 to read 0.000 +/-0.020 this Voltage may drift, center it around 0.000

If the unit being calibrated is an **Explosion or Weather Proof** BA-200, Restart the motor by reconnection the quick disconnects as mentioned in step 2 and allow unit to run for about 2 minutes. Stop the motor as described in step 2, go to step 8

Remove POS clip lead from TP2. Jumper together TP10 and TP11 as indicated by the illustration Care should be taken NOT to short any of the clip leads to the frame this will effect the VOM readout.





Attach the POS clip lead to TP3



STEP 8A

Adjust PR3 to read 0.000 +/-0.002 remove the jumper from TP10 and TP11.



Attach the POS clip lead to TP15



STEP 9A

Adjust PR 6 to read 0.000 +/-0.020

Restart the BA-200 Oilarm by reconnecting the motor's quick disconnects



With GND clip lead still attached to the frame attach the POS clip lead on TP13



STEP 10A

Adjust PR8 to read 0.100 VDC on the VOM.



Take the POS clip lead off of TP13 and attach it to TP3

Fill the Probe Sleeve with the 100ppm solution and cover with the Sleeve Cover. Allow the unit to sample the solution twice (two complete cycles)



STEP 11A

Adjust PR5 to read 6.666 VDC +/- 0.100 and record the voltage 100ppm = 6.666

Step 12

Refill the Probe Sleeve with a fresh solution of distilled water until the voltage drops to 0.000 VDC +/- 0.020. Remove the distilled water and refill the Probe Sleeve with the Set Point Solution (e.g. 15ppm) and cover with Sleeve Cover, wait until the BA-200 alarm sounds. Record the volage. **"If the unit is an Explosion or Weather Proof BA-200 go to step 13"**, Jump together TP10 & TP11, this will turn off the alarm, wait 15 seconds and remove jumper from TP10 & TP11 and record the time it takes for the alarm to sound again.



This step sets the **delay** for the BA-200 to go into alarm. This **delay** can be INCREASE by adjusting PR7 clockwise, or DECREASED by adjusting PR7 counter clockwise. The factory setting for the alarm is approximately 14 seconds. Repeat this step until the desired delay has been reached.

Remove jumper from TP10 and TP11





Attach the POS clip lead to TP13.

STEP 13A

Slowly adjust PR8 in the direction of the voltage recorded in step 12 until the alarm shuts off. Use care during this adjustment, at the point the alarm shuts off record the voltage. This voltage is the BA-200 Alarm Set Point (the point at which the alarm shuts off"

The Set Point will be slightly higher than the voltage recorded in step 12



If the BA-200 Oilarm came equiped with an optional LCD Meter, it must be set to so that the LCD Meter readings match the Alarm Set Point of the BA-200 Oilarm.

With the Set Point Solution still in the Probe Sleeve

1: Adjust PR9 until the LCD Meter reads the Alarm Set Point (15ppm = 15.0 +/- 0.2 ppm)

Move POS clip lead to TP3 replace Set Point Solution with fresh distilled water and observ the voltage, continue this process until voltage drops to 0.000 +/- 0.020. Remove all clip leads from the BA-200 Oilarm and replace the cover.

CALIBRATION COMPLETE