

DESCO INDUSTRIES INCORPORATED

3651 Walnut Ave. Chino, CA 91710 Phone (909) 627-8178 Fax (909) 627-7449

CALIBRATION OF CE IONIZER

EQUIPMENT:

- CE IONIZER
- CPA (CHARGED PLATE ANALYZER)
- ADJUSTMENT TOOL FOR POTENTIOMETERS
- AUTO-CAL (IF AUTO-CAL IS USED)

SET-UP:

1. Make sure worksurface and technician is properly grounded
2. Ionizer needs to be at least 18" and no more than 24" from worksurface.
3. Make sure power outlet is properly wired and there is no voltage in the neutral line.
4. CPA needs to sit directly under one fan on the ionizer, any fan will do. **BE SURE CPA HAS BEEN RESET TO ZERO (REFER TO CPA MANUAL ON HOW TO ZERO CPA PLATE)**

CALIBRATING IONIZER:

1. Power up CE ionizer and set key to "SET" position.
2. Hold down "+" on the fan speed button on the side of CE ionizer to bring fan speed to the maximum speed setting, airflow LED in front of unit should be fully lit (lighting up from left to right LED)
3. Make sure CPA plate is directly under one of the ionizer's fan.
4. Hold down "+" on the balance button located on the side of the ionizer. Record the highest positive reading and record on piece of paper. Hold down "-" on the balance button and record the highest negative reading. Use the formula below to calculate where the balance needs to be set, before adjusting any of the VR. Once calculation is completed and lets say your final balance is -15V, press balancing buttons on the side of the ionizer to get -15V on CPA reading.

$$(A + B)/2 = C$$

A = highest positive reading
B = highest negative reading
C = center balance of ionizer

EXAMPLES:

**50V on positive
-80V on negative**

$$(50 + -80)/2 = C$$
$$(-30)/2 = C$$
$$-15 = C$$

**10V on positive
-100V on negative**

$$(10 + -100)/2 = C$$
$$(-90)/2 = C$$
$$-45 = C$$

5. Remove white caps located in the front of the ionizer.
6. See figure 1. For VR (variable resistor) locations. Fans from right to left side are labeled 1 to 4, VR from right to left side are labeled 6, 5, 2 and 1. So if you have the CPA under fan 1, you are going to adjust VR6. Adjust VR6 so balance on CPA reads 0Volts @ +/-15Volts. Move the CPA from fan 1 to next fan, fan 2 and adjust VR5 to 0Volts @ +/-15Volts, repeat these set for all fans. All fans should be at 0Volts @ +/- 15Volts.
7. Have CPA under fan 1 and charge CPA to +1000Volts and test the decay time. Unit should decay under 5secs @ 18" from grill of unit to plate of CPA. Charge CPA to -1000Volts and test the decay time. Unit should decay under 5secs @ 18" from grill of unit to plate of CPA. Do this for all fans. Ionizer that is over 18" will have a slightly higher decay time.

ADJUST ALARM SETTING:

1. Turn VR3 counter clockwise to where the alarm starts or when the status LED turns "RED". While turning VR3 clockwise count how many turns until unit starts alarming again. Divide that number of turns in half and subtract 3.5 turns to give you the number of turns you need to turn VR3 counter clockwise. Now turn VR4 counter clockwise to where the alarm starts or when the status LED turns "RED". Now turn VR3 3.5 turns counter clockwise and alarm is now set.

AUTO-CALIBRATION UNIT ADJUSTMENT:

1. Have CPA plate directly under one of the fan of ionizer plus auto-cal next to it. **BE SURE CPA HAS BEEN RESET TO ZERO (REFER TO CPA MANUAL ON HOW TO ZERO CPA PLATE)**
2. Observe balance reading on CPA.
3. Under the ionizer to the right side, there is a hole where the VR for the auto-calibration system is located. Turn the VR slowly clockwise or counter clockwise to zero out the balance of the auto-cal system. Be sure to give the auto cal 30sec for it to adjust itself every time VR has been adjusted.
4. Move the CPA plate and auto-cal to the next fan, balance should be at 0Volts @ +/-15Volts.
5. Note, adjusting VR for auto-cal system will affect all fans on the ionizer. Repeat step 4 until unit is balancing at 0Volts @ +/-15Volts with auto-calibration unit.

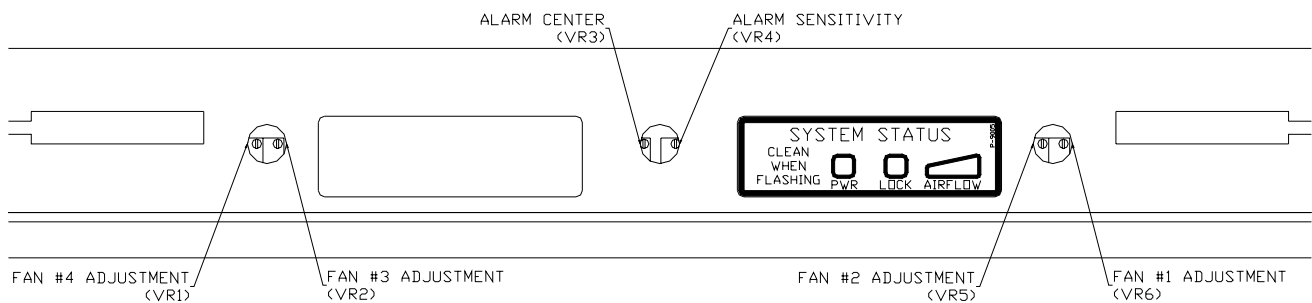


Figure 1