

## **ECOM J2KN Pro Calibration Procedure w/ Demand Reg**

For best results, the calibration gas concentration should be as close to the expected levels of emissions as possible. Because each sensor is linear through a nominal range, one calibration gas concentration can be used for a reasonably wide range of emission levels.

### **Fully charge analyzer:**

Place unit on charge the night before you plan to use analyzer to ensure full charge of battery.

### **Turn on analyzer and let warm up:**

Switch on analyzer. Select **Gas Analysis** on main menu. Select Fuel Type and press **OK**. Instrument will complete auto-zero sequence. Let the analyzer run for 15 minutes to acclimate to ambient temperature. This is very important, as the accuracy of electrochemical sensors is dependent on a proper temperature setting. Switch off the analyzer and switch back on. Go to **Gas Analysis** mode. The instrument will complete auto-zero based on the proper temperature.

### **Check for air leak:**

Connect the sample line and probe. From the main menu, go to **Adjustments** -> **Air leak test** and press **OK**. Cover the end of the probe with the yellow cap supplied with the analyzer and press **OK**. The pump will activate and the analyzer will let you know if an air leak is detected. If there is an air leak, troubleshoot the source of air leak by checking tubing, connections, and o-rings. Do not proceed to calibration until air leak is corrected.

### **Calibrate your analyzer:**

1. Select **Control** on the main menu. Swipe calibration magnet over the **Cal Magnet** sticker, located at the bottom left on the keypad. The analyzer is now in calibration mode. You will see real-time readings on the screen.
2. Connect demand regulator to gas bottle. Open gas bottle valve completely. The regulator will hold back the flow of gas until connected to the analyzer.
3. Connect calibration hose from the barbed fitting on the regulator to the gas inlet (O<sub>2</sub>/CO) on the analyzer. The pump is now pulling in calibration gas through the demand regulator.
4. Flow calibration gas for 5 minutes. After the reading has stabilized, press up/down to place the arrow beside the target sensor and press **OK** to go to input mode. Input the concentration of the calibration gas using numbers on keypad and press **OK**. You have just calibrated the sensor. Do not disconnect calibration gas yet.
5. Allow the gas to flow for another 45-60 seconds. If it does not drift more than 2% of the span gas, the calibration is steady and you may disconnect the gas. (If it does drift more than 2%, allow the reading to stabilize and reset calibration. If this still doesn't work, call ECOM.)
6. Repeat steps 2-5 for each sensor.
7. After all sensors have been calibrated, disconnect gas and allow the analyzer to flush with fresh air for 5 minutes or until readings are below 10 ppm.