



Calibrating the CI-340: CO2 Zero and CO2 Span

CO2 **zero** should be calibrated weekly if expecting no significant changes in ambient conditions. CO2 span should be calibrated once every 6 months. When taking measurements over the course of a full day where there *are* significant changes in temperature and humidity levels between morning and evening, you may need to calibrate more frequently. CO2 zero is a one point calibration, CO2 span is a two point calibration. Tools required: CI-340, Soda Lime external conditioning tube, filter, hose barbs, a CO2 standard gas ranging from 200-1000 ppm, a t-junction, and a flow regulator.

1. Power on the instrument
2. Connect the soda lime tube, filter and green loop-back tube (Fig.1&2) (for Control Modules: set the AD CO2 and H2O to zero)
3. Use the up/down arrow to navigate to “Calibrate CO2”
4. Press start/enter
5. Instrument will display “Warming Up” and then begin counting down. Wait.
6. Once counted down, the instrument will display “START to set Zero, else EXIT”
 - a. Press start/enter to set the CO2 zero
 - b. “Use 0 ppm CO2 gas, Press START/ENTER”
 - c. Press start/enter
 - d. “Setting 0 in 60 Seconds” will display and the instrument will count down from 60 seconds to 0.

At this point, the CO2 concentration of the gas passing the analyzer is taken as 0 ppm and the sensor is calibrated to read this level as 0. Therefore, if the gas is not 0 ppm or hasn't been allowed enough time to run through and completely clear the system, the calibration can skew the instrument further.

7. After the CO2 zero is set, the instrument will display “Use known CO2 gas, Press START/ENTER”
8. To only calibrate the CO2 zero, press EXIT and you are done. To continue on and calibrate the CO2 span, hit start/enter.
9. If you pressed start/enter: connect a standard CO2 gas with a known concentration (Fig.3) and press start/enter
 - a. The unit will display “Concentration: ? ppm” Enter the CO2 concentration of the standard gas you are using (acceptable ranges: 200-1000 ppm CO2)
 - b. Press start/enter
 - c. The instrument will count down from 60 seconds and set the CO2 span
 - d. Press start/enter to save
10. The display will return to the original “ENTER to select Calibrate CO2” screen

To verify a successful calibration, take a reading of a known gas. The instrument should read with an accuracy of $< \pm 2\%$.

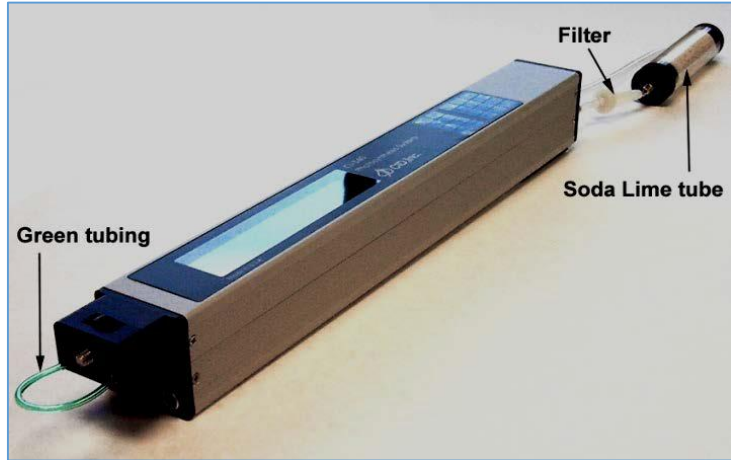


Fig.1 CO2 zero setup



Fig.2 CO2 zero setup

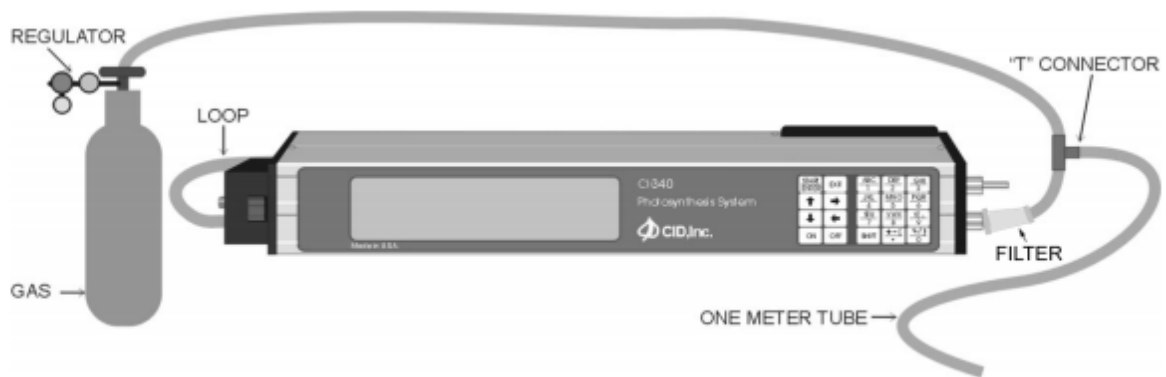


Fig.3 CO2 span setup

For more information on calibrating the CI-340 or other technical information, please refer to the user manual and our support webpage: <https://www.cid-inc.com/support>