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Physiology Teaching and Research"



Tech Note

The GA-200 Gas Analyzer Calibration Directions

Overview

The GA-200 has the ability to measure and record both oxygen and carbon dioxide concentrations over the ranges normally recorded from human and animal subjects.

Prior to use, users must perform a two-point calibration of the oxygen and carbon dioxide sensors.

The recommended gas mixture includes 12% O₂ and 5% CO₂ with the balance of the mixture being N₂. Room air can provide both the high concentration of O₂ at 20.90%, and the low concentration of CO₂, 0.04%.

Note: Warm up the GA-200 for at least 30 minutes. Input Air Filter must be connected to avoid damaging the sensors.

Enter the Four Concentrations of the Calibration Gases into the GA-200 Program

The first steps in the calibration process require setting the known concentrations of oxygen and carbon dioxide, which will be used as the calibration gases, into the programming of the GA-200. This set up procedure only needs to be performed once prior to using the GA-200, unless the gas analyzer is stored for a length of time or the calibration gas you will be using is different from the 5% carbon dioxide, 12% oxygen mixture recommended.

1. Press the **TEST** button on the front of the GA-200 gas analyzer until the display reads: "Press the **ENTER** key to restore cal".
2. Press the **ENTER** key. This will restore the GA-200 to factory settings prior to use. Press **RUN**.
3. Press the **SETUP** button three (3) times to change the mode of the GA-200 to LN or XC mode. The default setting is LN mode. If you need to change this setting, push the up or down key to change the mode. Press **ENTER** to make the change. Press **RUN**.
4. Press the **SETUP** button four (4) times to check the low calibration setting for the oxygen sensor.
 - O₂ Low Cal 12% oxygen

Note: If any values need to be adjusted, use the UP or DOWN key to change.

5. Press the **SETUP** button again to check the high calibration
 - O₂ High Cal 20.9% oxygen.
6. Press the **SETUP** button again to check the low calibration settings for the CO₂ sensor:
 - CO₂ Low Cal 0.04% CO₂.
7. Press the **SETUP** button again to check the high calibration settings for the CO₂ sensor:
 - CO₂ High Cal 5% CO₂
8. Press the **RUN** button.

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Calibrate the GA-200 Gas Analyzer

1. Warm up the GA-200 for at least 30 minutes.
2. Input Air Filter must be connected to the sample inlet.
3. Remove all tubing from the air filter, in order to measure a sample of room air.
4. Press the **CAL 2** button once. Press **ENTER**.
5. The display will read "Run CAL 1 after Calibration OK".
6. Press **RUN**.
7. Connect the A-CAL-100 kit to your gas cylinder and fill the gas bag of the A-CAL-100 kit with calibration gas.
8. Connect the gas bag of the A-CAL-100 kit to the filter on the Inlet port of the GA-200 using the provided tubing. Do Not apply pressure to the bag, the GA-200 will draw the gas from the bag.



9. Wait 10 seconds, Press CAL 1 button. Press **ENTER**.
 - The display will read "**Calibration OK**".
10. Press **RUN**.

The GA-200 Gas Analyzer is now ready to use.