

## GEM-2000 Easy Steps - Field Calibration

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### Field Calibrating the GEM-2000

Note: Be sure to always have the GEM-2000 instrument turned on prior to connecting the calibration gas bottles.

1. Turn Instrument On (By pressing on the Red Button).
2. After the instrument has finished its initial process, it will enter the Main Screen.
3. Press 1 Menu
4. Use your Up(2) or Down(8) keys to scroll the "Field Calibration" then press Enter in your instrument
5. Press 3 Edit target Concentrations
6. Enter manually the target concentrations for CH<sub>4</sub>
7. Press Enter to move to CO<sub>2</sub>, Enter CO<sub>2</sub> Target Concentration
8. Press Enter to move to O<sub>2</sub>, Enter O<sub>2</sub> Target Concentration
9. Press Enter to complete.
10. Connect Calibration (CAL) Gas Bottle with 0% CH<sub>4</sub> (example 4% O<sub>2</sub>, Bal N<sub>2</sub>)
11. Allow gas to flow for approximately 30 seconds to ensure a complete purge of any gas in instrument
12. Press Enter to bring up Calibration Menu
13. Choose Zero Channels, Press Enter
14. Choose Zero CH<sub>4</sub> Press Enter when done.
15. If Calibration was successful you should see the following message "User Zero Complete"
16. Connect CAL Gas Bottle With 0% O<sub>2</sub> (example 50% CH<sub>4</sub> 35%CO<sub>2</sub> Bal N<sub>2</sub>)
17. Allow gas to flow for approximately 30 seconds to ensure a complete purge of any gas in instrument
18. Press Enter to bring up Calibration Menu
19. Choose Zero Channels press Enter
20. Choose Zero O<sub>2</sub> press Enter when done
21. If Calibration was successful you should see the following message "User Zero Complete"
22. Press Enter to go to Calibration Menu
23. Choose Span Channels, Press Enter
24. Choose Span CH<sub>4</sub>
25. Verify that CH<sub>4</sub> Calibration (CAL) Gas is still connected to instrument (Wait 30 seconds for gas to flow thru instrument)
26. Press Enter to Set CH<sub>4</sub> Span
27. The following message should appear "Calibration Complete"
28. Press Enter to go to Calibration Menu
29. Choose Span Channels, Press Enter
30. Choose Span CO<sub>2</sub>
31. Verify that CH<sub>4</sub> CAL Gas is still connected to instrument (Wait 30 seconds for gas to flow thru instrument)

32. Press Enter to Set CO<sub>2</sub> Span
33. The following message should appear "Calibration Complete"
34. Connect Gas Bottle With 4% O<sub>2</sub> (example. 0% CH<sub>4</sub> 0% CO<sub>2</sub> 4%O<sub>2</sub>)
35. Allow gas to flow for approximately 30 seconds to ensure a complete purge of any gas in instrument
36. Press Enter to go to Calibration Menu
37. Choose Span Channels, Press Enter
38. Choose Span O<sub>2</sub>
39. Press Enter to Set O<sub>2</sub> Span
40. "Field Calibration is Complete"
41. We suggest taking a reading from CAL GAS Bottles to verify that calibration has been done correctly.