How to Zero the Pressure Sensor on NXIC CTD

The following procedure describes how to zero the pressure sensor on Teledyne RD Instruments' (TRDI) CT/CTD-NH and CT/CTD-NV Citadel model CTDs.

OVERVIEW

To zero the pressure sensor, first obtain the A3 coefficient for the pressure sensor and then acquire a reading in air. Once you have these values, subtract the reading in air from the current A3 setting. The difference is the new setting for A3 to this new value.

TRDI recommends returning units for factory calibration on an annual basis. The following procedure should only be used on TRDI Citadel CTD systems that are known to perform within the expected limits of calibration or the user's performance.

TO ZERO THE PRESSURE READING:

1. Start the CTDPro program.
1. Acquire the current ambient pressure by clicking **CTD** -> **Acquisition**.
2. Click the **Start** button.
3. Determine the average of pressure readings [pAvg].
4. Close the **Acquisition** window.
5. Open a terminal window by clicking **View** -> **Terminal**.
6. Type OPEN.
7. Type RCAL.
8. Note value of A3, we will call this [prevA3].
9. Calculate the updated A3 value [gageA3] as follows: [gageA3] = [prevA3] – [pAvg].
10. Type in A3=[gageA3], for example if [gageA3] was 2.1dBar then type A3=2.1.
11. Type ***E to save the EE data base.
12. Type ***R to set to Run operating mode.
13. Close the Terminal window.
14. Acquire the current ambient pressure by clicking **CTD** -> **Acquisition**.
15. Click the **Start** button.
16. Verify [pAvg]= zero.

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TO SET TO ABSOLUTE PRESSURE:

1. Start the CTDPro program.
2. Acquire the current ambient pressure by **CTD** -> **Acquisition**.
3. Click the **Start** button.
4. Determine the average of pressure readings [pAvg].
5. Close the Acquisition window.
6. Open a terminal window by clicking **View** -> **Terminal**.
7. Type OPEN.
8. Type RCAL.
9. Note value of A3, we will call this [prevA3].
10. Calculate the updated A3 value [absA3] as follows: [absA3] = [prevA3] – [pAvg] + [barometer reading[1]].
11. Type in A3=[absA3], for example if [absA3] was 2.1dBar then type A3=2.1.
12. Type ***E to save the EE data base.
13. Type ***R to set to Run operating mode.
14. Close the Terminal window.
15. Acquire the current ambient pressure by clicking **CTD** -> **Acquisition**.
16. Click the **Start** button.
17. Verify [pAvg] = zero.

[1]Barometric pressure in dBar

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