How to Zero the Pressure Sensor on CTD-E

The following procedure describes how to zero the pressure sensor on Teledyne RD Instruments' (TRDI) CTD-ES and CTD-ER 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 CTDAcq program.
2. Acquire the current ambient pressure by clicking **Run Instrument** > **Continuous Data Mode**.
3. Click the **No** button in the Log Data dialog box.
4. Determine the average of pressure readings [pAvg].
5. Close the Acquisition Window, Click **No** in the Running dialog box.
6. Open a terminal window by clicking **Communications** > **Communications Window**.
7. Type ***O.
8. Type RCAL.
9. Note the value of A3; we will call this [prevA3].
10. Calculate the update A3 value [gageA3] as follows: [gageA3] = [prevA3] – [pAvg].
11. Type A3=[gageA3]. For example, if [gageA3] 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 Communications Window.
15. Acquire the current ambient pressure by clicking **Run Instrument** > **Continuous Data Mode**.
16. Click the **No** button in the Log Data dialog box.
17. Verify [pAvg]= zero.
18. Close the Acquisition Window, Click **No** in Running dialog box.

Teledyne RD Instruments
14020 Stowe Drive
Poway, CA 92064 USA
Tel: (858) 842-2600
Fax: (858) 842-2822
http://www.teledynemarine.com/rdi/

Information included herein is controlled by the Export Administration Regulations (EAR) and may require an export license, license exception or other approval from the appropriate U.S. Government agency before being exported from the United States or provided to any foreign person. Diversion contrary to U.S. law is prohibited.

TO SET TO ABSOLUTE PRESSURE:

1. Start the CTDAcq program.
2. Acquire the current ambient pressure by clicking **Run Instrument** > **Continuous Data Mode**.
3. Click the **No** button in the Log Data dialog box.
4. Determine the average of pressure readings [pAvg].
5. Close the Acquisition Window, Click **No** in Running dialog box.
6. Open a terminal window by clicking **Communications** > **Communications Window**.
7. Type ***O.
8. Type RCAL.
9. Note the value of A3; we will call this [prevA3].
10. Calculate the update 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 Communications Window.
15. Acquire the current ambient pressure by clicking **Run Instrument** > **Continuous Data Mode**.
16. Click **No** button in Log Data dialog box.
17. Verify [pAvg] = zero.
18. Close the Acquisition Window, Click **No** in Running dialog box.

[1]Barometric pressure in dBar

Teledyne RD Instruments
14020 Stowe Drive
Poway, CA 92064 USA
Tel: (858) 842-2600
Fax: (858) 842-2822
http://www.teledynemarine.com/rdi/

EAR-Controlled Technology Subject to Restrictions Contained on the Cover Page.