Orion Star A329 Master Sampler Dissolved Oxygen Calibration

Reagents and Equipment:

No reagents are required for this calibration other than distilled water to wet the sponge contained in the sensor’s storage cap.

SAFETY:

No safety considerations are required.

Dissolved Oxygen Calibration Procedure for Orion Star A329 Portable Multimeter

1. To turn the meter on, press the measurement screen will appear (as seen to the right).
2. To calibrate for Dissolved Oxygen, you will need the measurement screen to show only RDO, as illustrated to the right. To do this, press \textbf{f3 (Channel)} to toggle through the various measurement screens until you see RDO (Dissolved Oxygen) displayed on the screen. Check that the \%sat is the measurement mode displayed. If not, then press mode to toggle between \%sat and mg/L. Make sure that RDO and \%sat are both displayed.

3. Remove sponge from the white calibration tube by removing the plastic cap from the end of the tube, rinse with distilled water, squeeze out excess water, then place back into white calibration tube and replace the plastic cap.

4. Wait at least 10 minutes to allow the probe and water-saturated air to reach equilibrium.
5. Keep the probe in the white calibration tube and press measure.

6. Wait for the DO value on the meter to stabilize and stop flashing: **Ready AR** will be displayed and will not be flashing.

7. Record the DO value in % and temperature in °C on the calibration sheet as the pre-calibration value.

8. In the measurement mode, press **f1 (cal)**.

9. Press or **f3 (select)** to select for DO and ensure that Air is highlighted. Press **f3 (select)**

10. Press **f3 (start)** to begin the DO probe calibration.

11. Wait for the DO value on the meter to stabilize and stop flashing: **Ready AR**. Once the reading is stable, the meter will display Accepting Auto % Sat. Calibration and 100.0 %

12. Press **f2 (cal done)** to accept the calibration.

13. Keep the probe in the white calibration tube and press measure. Wait for the DO value on the meter to stabilize and stop flashing: **Ready AR**.

14. Record the DO% value and temperature readings of the water saturated air on the meter calibration sheet as the post-calibration value. The value you observe should be within 90%-110% of the true value (100%).

   NOTE: If the meter readings are drifting and do not stabilize, contact the Volunteer Coordinator.

15. You have now completed the dissolved oxygen calibration.
## REVISION HISTORY

<table>
<thead>
<tr>
<th>SOP Revision #</th>
<th>Revision Date</th>
<th>Section Modified</th>
<th>Modification</th>
<th>Reason Changed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9/7/16</td>
<td>All</td>
<td>Added header/footer to include program name, SOP number, revision date/number, issue date, and page numbering. Added approval sign offs and revision history sections. Moved sponge step to be #2 and wait time to be #3.</td>
<td>Updating for better document control. Updated to reflect current practice.</td>
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<tr>
<td></td>
<td></td>
<td>All</td>
<td>Proofreading edits by Christine Ellis</td>
<td>To improve clarity and fix typos.</td>
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