
**FEATURES**

1. **PUSH BUTTON**—Press to turn ON and select mode settings.
2. **BATTERY CAP**—Unscrew to access battery for replacement.
3. **DISPLAY**—Displays measurements, menu options, battery indicator, etc.
4. **LED INDICATOR LIGHT**—Tells the user when to dip & swirl the PT5 during measurements and calibrations.
5. **DO SENSOR**—Measures dissolved oxygen (DO) in a solution.
6. **MEMBRANE CAP**—Replaceable cap that contains the DO membrane.
7. **THERMISTOR**—Measures temperature of water sample.
8. **DO MEMBRANE**—Membrane is built into the membrane cap.
9. **CAP STOP**—Shows how far to push the cap when putting it on the PT5.
10. **HYDRATION CAP**—Protects sensor and contains water vapor when performing AIR calibrations. To remove, wiggle the cap back and forth while pulling off. To replace, fill the cap with enough clean water (preferably DI, RO, or distilled water) to soak the sponge inside. Wiggle the cap back and forth while pushing on. Be careful, excess water may squirt out.

**PT5 DEFAULT SETTINGS**

**Temperature Units:** °C (Temp. alternates on Display with DO value)
**DO Units:** Display Alternates between “Conc ppm” and “Sat %”
**Pen Mode:** Hold, DO Altitude: 0 feet (Sea Level), DO Salinity: 0ppt

**SETUP AND MEASUREMENT INSTRUCTIONS**

**NOTES:** Selecting “ESC” from any menu immediately turns the PT5 OFF without saving changes. Minimize bubbles in the sensor electrolyte to improve accuracy.

**I. SENSOR SETUP**

1. Remove the membrane cap from the sensor body by turning it in a counter-clockwise direction. Use caution not to touch the membrane or silver cathode with your fingers, as oil will compromise measurements.
2. Install the syringe tip on the syringe and fill the syringe with DO electrolyte solution.
3. Holding the PT5 vertically with the DO sensor at the top, insert the syringe tip into one of the four openings of the sensor body as far as it can go inside the electrolyte well and fill the sensor to the top with electrolyte.
   - **Top off with more electrolyte after removing the syringe from the sensor body.**
4. Pour some electrolyte inside the membrane cap to minimize air bubbles that may occur when installing the cap.

**II. MEASUREMENT SETUP:** Prior to performing a measurement:

1. Adjust the PT5 Altitude to match that of the measurement location.
2. Adjust the PT5 Salinity to match that of the measurement solution.
3. Perform a ZERO calibration followed by an AIR calibration.

**III. ALTITUDE AND SALINITY ADJUSTMENT:**

1. Press and release the push button to turn the PT5 ON.
2. Press and hold the push button to enter menu mode.

   **Altitude Adjustment:** Altitude is set in 100-foot increments.
   - a. Release the push button while “ALt SEL” is displayed.
   - b. Press and release the push button repeatedly to slowly increase the altitude, or press and hold the push button to quickly scroll. The altitude selection will increase from -2000 to 15,000 feet, and then repeat.

   **Salinity Adjustment:** Salinity is set in 1 ppt increments.
   - a. Release the push button while “SAL SEL” is displayed.
   - b. Press and release the push button repeatedly to slowly increase the salinity, or press and hold the push button to quickly scroll. The salinity will increase from 0 to 50 ppt, and then repeat.

3. Release the push button and wait for the display to show “SAVEd”.

   *The new setting will be saved and the PT5 will turn OFF.*

**IV. ZERO CALIBRATION**

1. Prepare the PT5 for calibration by dipping the sensor in clean water (preferably DI, RO, or purified water).
2. Carefully blot the sensor membrane with a soft, clean, lint-free cloth or tissue to remove any water drops.
3. Pour the DO zero calibration solution, part # DOSOL, into a beaker or cup.
4. Completely submerge the sensor in zero calibration solution for 5 minutes.

   *Keeping the sensor submerged in the zero calibration solution, press and release the push button to turn the PT5 ON.*

5. Press and hold the push button. Release the push button while “CAL” is displayed.
6. Press and hold the push button. The display will alternate between the following:
   - **0 CAL**: “Air CAL”,”H2O CAL”,”ESC”.
7. Release the push button while “0 CAL” is displayed.
8. The PT5 will perform the calibration, then display “SAVEd”, and turn OFF.

9. Verify the calibration by taking a measurement of the zero calibration solution.
   - **The result should be 0 ppm.**

**V. AIR CALIBRATION:**

1. Dip the DO sensor in clean water (preferably DI, RO, or distilled water).
2. Carefully blot the DO sensor membrane with a soft, clean, lint-free cloth or tissue to remove any water drops.
3. Saturate the sponge of the hydration cap with clean water (preferably DI, RO, or distilled water).
4. Holding the PT5 vertically with the sensor side down, insert the sensor into the hydration cap just enough to create a good seal (about ½ way up the sensor body). **DO NOT** obstruct the vent hole in the hydration cap.
5. Push and release the push button to turn the PT5 ON.

*Air Calibration continued on Back*
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Dissolved Oxygen (DO) and Temperature Pen

V. AIR CALIBRATION (continued)

6. Push and hold the push button to enter menu mode.
7. Release the push button while “CAL” is displayed. The display will alternate between “CAL” and “PUSHnHLD”.
8. Push and hold the button then release while “Air CAL” is displayed.
9. The PT5 will perform the calibration. When calibration is complete, the display will indicate “SAVEd” then turn OFF.
10. To verify calibration follow steps 1 thru 5 above (taking a measurement) at 25 ºC, the readings should be 104% ±2%.

NOTE: The PT5 MUST be recalibrated any time: the DO sensor is replaced; the DO membrane or the electrolyte is replaced; or; the Zinc electrode is cleaned

VI. DO Measurement

CAUTION: For best results when measuring solution at the extremes of the specified temperature or DO range ALWAYS perform a TEMPERATURE CONTROLLED, FULL CALIBRATION as described in the full PT5 Operation Manual. Allow the PT5 to equilibrate by submerging the sensor in the sample solution for 1 minute prior to taking a measurement.

• ALWAYS make sure that the DO Sensor is completely submerged in the solution being tested.
• If the expected measurement is < 3 ppm it is particularly important to perform the ZERO calibration described in the full PT5 Operation Manual.

I. Routine Maintenance

1. After each use ALWAYS rinse the DO sensor with clean water (preferably DI, RO, or distilled water), then carefully blot the sensor membrane with a soft, clean, lint-free cloth to remove any water drops.
2. ALWAYS replace the hydration cap on the DO sensor after each use.
3. To replace the membrane cap and/or refill electrolyte solution follow the SENSOR SETUP instructions.
4. Do not drop, throw or otherwise strike the PT5. This voids the warranty.
5. Do not store the PT5 in a location where the ambient temperatures exceed its specified Operating/Storage Temperature limits.

NOTE: For instructions on cleaning the DO sensor, performing a sensor check, troubleshooting, or storing the PT5, download the full PT5 Operation Manual from www.myronl.com.

II. Battery Replacement

1. In a CLEAN DRY place unscrew the battery cap in a counter-clockwise direction.
2. Slide the cap and battery housing out of the PT5.
3. Remove the depleted battery from its housing.
4. Insert a new battery into the battery housing oriented with the negative end touching the spring.
5. Align the groove along the battery housing with the guide bump inside the PT5 case and slide the battery housing back in.
6. Screw the battery cap back on in a clockwise direction. Do not over tighten.

MAINTENANCE

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Measurement Ranges</th>
<th>DO Concentration: 0-20 ppm, DO Saturation 0-200% Temperature: 0-71 ºC / 32-160 ºF</th>
<th>Accuracy*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time to Reading Stabilization</td>
<td>10 - 180 seconds</td>
<td>Concentration: ±0.2 ppm or ±2% of the reading, whichever is greater. Saturation: 0.0% to ≤ 100.0%: ± 20 counts; &gt;100%: ± 2% of the reading. Temperature: ± 0.1 ºC</td>
</tr>
<tr>
<td>Operating / Storage Temp</td>
<td>0-55 ºC / 32-131 ºF</td>
<td>Resolution</td>
</tr>
<tr>
<td>Altitude Adjustment</td>
<td>-2,000 ft. to 15,000 ft. in increments of 100 ft.</td>
<td>DO Concentration: 0.01 ppm, DO Saturation 0.1% Temperature: 0.1 ºC/F</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>Active Mode: 33 - 140 mA, Sleep Mode: 2 µA</td>
<td>Salinity Adjustment: 0 - 50 ppt in increments of 1 ppt</td>
</tr>
<tr>
<td>Temp Compensation</td>
<td>Automatic Temperature Compensation for Membrane permeability</td>
<td>Battery Type: N type, Alkaline, 1.5 V</td>
</tr>
<tr>
<td>Physical Dimensions / Weight</td>
<td>17.15 cm L x 1.59 cm D or 6.75 in. L x .625 in. D; Weight: 54g or 1.94 oz</td>
<td>Calibration Methods: 1 or 2 Point; 0 ppm DO Calibration Solution; Air or Water</td>
</tr>
<tr>
<td>Water Resistance</td>
<td>IP67 and NEMA 6</td>
<td>Case Material: Anodized Aircraft Aluminum with Protective Coating</td>
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*Accuracy after Temperature Controlled, Full Calibration. For this procedure and for more detailed accuracy specs download the full PT5 Operation Manual from www.myronl.com.

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