Probes and Level Sensor Calibration

Instruction Manual

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eKoral Lite (eK Lite Controller)

Temperature and pH

The eKoral Lite comes with two probes: **temperature and pH**. The temperature probe **does not require** specific calibration. If you wish, you can use any basic thermometer to check the readings made by this probe, but that is not required. It is, however, an essential aspect of the pH probe calibration.

It is important to calibrate as soon as possible after setting up your system.

To calibrate your probes, you will need your

- ★ Temperature Probe
- ★ pH 7 and pH 10 calibration solutions
- ★ RO/DI water
- ★ Clean paper towels or facial tissues

pH Probe Calibration

Calibrating the pH probe is a two-step process. If you are using the enclosed PINPOINT calibration solutions, make sure to complete calibration at **both pH 7.00 & pH 10.00**.

On the eKoral app, enter your eK Lite. For pairing instructions, you can refer to the instructional video on our YouTube channel. You can go ahead and select **Device**, and then **pH**. At the bottom of the screen, you will find the **Calibration** tab. If you have calibrated before, they will show the last **date and time** in which you successfully calibrated. If you have never calibrated, the tab will be **blank**.

Select **Calibration**. Be sure to heed the safety precautions screen before moving on:

- ★ Be sure not to submerge your probe completely in water; keep the cap dry when possible
- ★ Because the sensor tip is fragile, be certain to handle it with care

**Note: you can choose to complete the two-point calibration with the PINPOINT calibration solutions enclosed with the eK Lite, but the app also gives you the option to complete a two-point calibration with pH 4 and pH 7 solutions (suitable for a freshwater tank), or a three-point calibration with pH 4, 7 and 10 solutions.*

To begin, take your pH probe out of its electrode storage bottle. When it is not in use, please keep it in this container. If it dries, it will no longer be accurate or effective.

Rinse your probes thoroughly with RO/DI water to clean them before commencing with the calibration. Dry them carefully, and avoid the sensor tip. Afterward, tap the probe to eliminate any air bubbles or water trapped inside.

Then, it is time to proceed with the two-point calibration process. The first is at pH 7.00. You can use the sachet that the calibration solution comes in to calibrate, or use an external container; remember, however, to make sure that the container is clean and well-rinsed with RO/DI water.

When you begin calibration, make sure that the tips of both probes are completely submerged in the solution. Before you begin, tap or shake the container to release trapped bubbles, which may interfere with the probe reading. Do not move the probe during calibration. Follow the instructions on the app: wait 1-2 minutes to ensure that the pH reading is stable.

After completing calibration at pH 7, go ahead and rinse both probes with RO/DI water again. Once more, when you dry the probes, be careful to not touch the sensor tips. Then, you can proceed to repeat the previous steps with pH 10.00 solution.

Final notes to remember:

- ★ Calibrate your probes when you **first** set up the eK Lite
- ★ Only use the solutions provided **once** to avoid contamination
- ★ When mounting the probe, place it as **deep** in the water as you can while **keeping the cap dry**
- ★ Avoid mounting the probe near the **pump and skimmer**
- ★ If you are not using your probe, make sure the sensor tip is **kept in the electrode storage bottle**

eKoral PRO (eK Core Controller)

Temperature, pH, ORP, and Salinity

Four laboratory-grade probes come with the eKoral PRO system: **temperature, pH, salinity, and ORP**. All eKoral probes are treated to resist the corrosion effects of being exposed to saltwater. The temperature probe **does not require** specific calibration. If you wish, you can use any thermometer to check the readings made by this probe, but that is not required.

It is important to calibrate as soon as possible after setting up your system. Before commencing, be sure to securely connect all your probes to your eKoral controller.

On the eKoral app, enter your eK Core. You can go ahead and select **More** on the bottom right of the screen. The **Calibration** page is at the top of the menu. If you have calibrated your probes before, each probe page will show the **last date and time** in which you successfully calibrated. If you have never calibrated, the pages will be **blank**.

To calibrate your probes, you will need your:

- ★ Temperature probe
- ★ pH probe
- ★ ORP probe
- ★ Salinity probe
- ★ pH 7 and pH 10 calibration solutions
- ★ ORP 400 calibration solution
- ★ RO/DI water
- ★ Clean paper towels or facial tissues

pH Probe Calibration

Calibrating the pH probe is a two-step process. If you are using the enclosed PINPOINT calibration solutions, make sure to complete calibration at **both pH 7.00 & pH 10.00**.

**Note: you can choose to complete the two-point calibration with the PINPOINT calibration solutions enclosed with the eK Lite, but the app also gives you the option to complete a two-point calibration with pH 4 and pH 7 solutions, or a*

three-point calibration with pH 4, 7 and 10 solutions. All three methods achieve the same result.

To begin, take your pH probe out of its electrode storage bottle. When it is not in use, please keep it in this container. If it dries, it will no longer be accurate or effective.

Your pH probe will be calibrated alongside your temperature probe. Rinse your probes thoroughly with RO/DI water to clean them before commencing with the calibration. Dry them carefully, and avoid the sensor tip. Afterward, tap the probe to eliminate any air bubbles or water trapped inside.

Then, it is time to proceed with the two-point calibration process. The first is at pH 7.00. You can use the sachet that the calibration solution comes in to calibrate, or use an external container; remember, however, to make sure that the container is clean and well-rinsed with RO/DI water.

When you begin calibration, make sure that both probes are completely submerged in the solution. Before you begin, tap or shake the container to release trapped bubbles, which may interfere with the probe reading. Do not move the probe during calibration. Follow the instructions on the app: wait 1-2 minutes to ensure that the pH reading is stable.

After completing calibration at pH 7, go ahead and rinse both probes with RO/DI water again. Once more, when you dry the probes, be careful to not touch the sensor tips. Then, you can proceed to repeat the previous steps with pH 10.00 solution.

ORP Probe Calibration

To begin, take your ORP probe out of its electrode storage bottle. When it is not in use, be sure to keep it in this container. If it dries, it will no longer be accurate or effective.

Rinse the probe clean with RO/DI water and wipe the probe dry with a clean tissue. You can go ahead and tap the probe to eliminate any air bubbles on the sensor tip. Once the probe is dry, immerse the ORP probe in the ORP 400 calibration solution. Tap or shake the probe again to eliminate any trapped air bubbles. Do not move the probe once you begin calibrating.

Salinity Probe Calibration

Calibrating your salinity probe is a two-step process: there is a **dry calibration** and a **wet calibration**. Wet calibration will occur alongside the temperature probe, and you will need the salinity 53.0 mS calibration solution.

Dry Calibration

For the dry calibration, rinse the salinity probe with RO/DI water. Gently shake the probe dry, and be sure to avoid the tip of the Salinity Probe, as the coating on the tip of the salinity probe is extremely delicate. We recommend waiting until you are certain that the salinity probe is **completely dry** before proceeding, as any wetness may affect the accuracy of the calibration.

Place both the salinity probe and temperature probe into a dry, clean container. Wait 1-2 minutes to ensure that the readings are stable. Do not move the probes during calibration.

Wet calibration

Immerse both the salinity probe and temperature probe into the 53.0 mS calibration solutions. Shake the probes a bit to get rid of any air bubbles that may be trapped in the tip, and click **Calibrate** to start calibrating. After the process is complete, select **Save** to record calibration results

Final notes to remember:

- ★ Calibrate your probes when you **first** set up the eKoral PRO
- ★ Only use the solutions provided **once** to avoid contamination
- ★ When mounting the probe, place it as **deep** as you can while **keeping the cap dry**
- ★ Avoid mounting the probe near the **pump and skimmer**
- ★ If you are not using your probe, make sure the sensor tip is **covered by the electrode storage bottle**

Water Level Sensor

When you are calibrating the water level sensor, you are setting the water level sensor to detect the **optimal level** that you want your tank water to be at. Changes will be logged relative to this point. For example, if you calibrate your water level sensor with your tank water at 30 cm below the sensor, then the water level will be measured as +1cm or -2 cm from 30cm.

As such, until it is calibrated, the water level sensor is not functional. To calibrate your sensor, you should already have it connected to your eK Lite and set up in your tank. It is recommended for you to set it between 15 and 40 cm from the surface of the water to optimize accuracy.

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eK Lite

On the eKoral app, you can go ahead and navigate to the **Devices** tab, where you will find the **Water Level Sensor** in the **eK Lite** section. Once you click into it, you will find yourself on the **Calibration** page.

eK Core

On the eKoral app, navigate to **More** on the bottom right of the screen. The **Calibration** page is at the top of the menu. The **Water Level Sensor** is located at the top right of the screen.

Be sure to mount the sensor **parallel** to the water surface, at a **distance between 15 and 40 cm (6-16 inches)**. Then, you can press the button to begin calibration. Once the measurement is complete, the app will display the calibrated measurement on the screen, and you will be prompted to confirm the measurement. Once you confirm, the level sensor has been successfully calibrated.

You have the option of setting a “safety range” for your level sensor, where you can dictate the maximum and minimum distances from the sensor. If the water level exceeds or drops below these points, it will **trigger an alert** on your mobile device.