Key Description

	power		up arrow		line select
	calibrate		down arrow		setup
	measure		digits		view log

Meter Connections

BNC pH

RS232   **Power**

Pin Tip Reference   **8 Pin MiniDIN ATC**   **Ground**

English	**Thermo Scientific Orion 2-Star pH Benchtop Meter**

Quick Start Guide
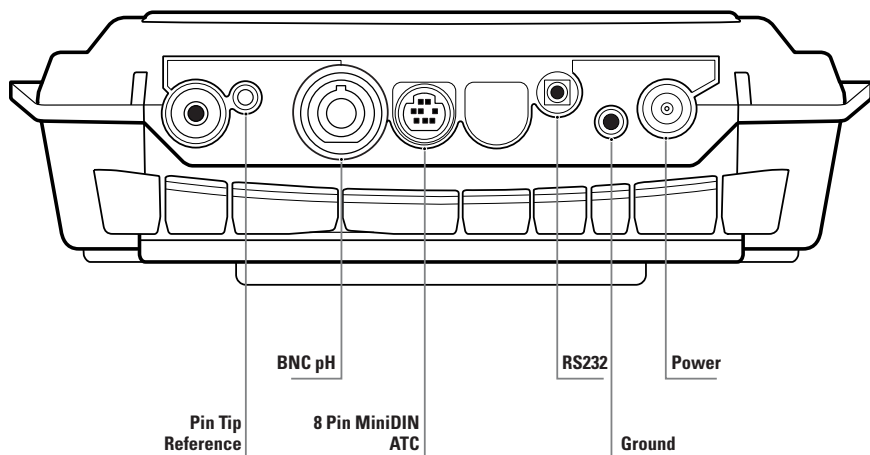
Preparation

1. Power adapter - Select the appropriate wall socket plug and slide the plug plate into the groove on the back of the adapter. **See A**.

2. Prepare the electrode according to the directions in the electrode instruction manual. In general, these steps include:

   - Gently remove the protective cap/sleeve from the sensing element and save for storage.

   - If the electrode is refillable, remove the fill hole cover and fill the electrode with the appropriate fill solution. **See B**.

   - Soak the electrode in pH electrode storage solution (Cat. No. 910001) or ROSS® pH electrode storage solution (Cat. No. 810001). **See C**.

3. Meter connections - Connect the power adapter to the meter and then to the wall socket, **see D**. Connect the pH electrode to the BNC input on the meter, **see E**. Connect the ATC probe to the 8 pin miniDIN input on the meter, **see F**.
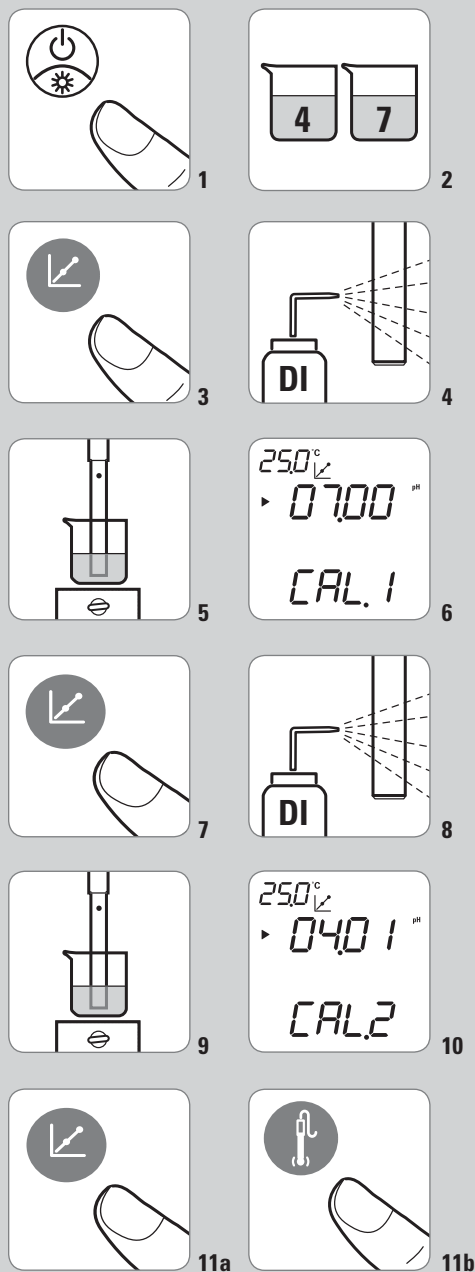
Meter Overview

1. To power on the meter press the **power** key.

2. In the measurement screen press the **up arrow** key to change the value on the top display line to pH, RmV, mV, or a blank line.

3. Press the **line select** key to choose the top, middle, or bottom display line. The ▶ icon will point to the selected line.

4. To escape out of any meter function, press and hold the **measure** key until the meter returns to the measurement mode.

5. The 2-Star pH meter can be calibrated using up to three pH buffers.

A

B

C

D

E

F
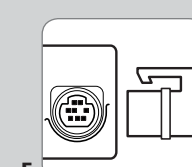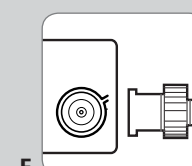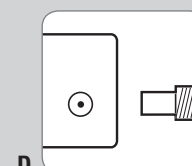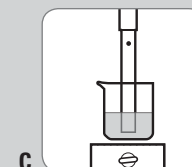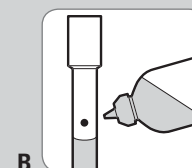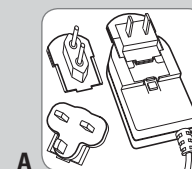
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 1

 2

 3

 4 — **DI**

 5

 6 — 25.0°C / ▸ 07.00 pH / CAL.1

 7

 8 — **DI**

 9

 10 — 25.0°C / ▸ 04.01 pH / CAL.2

11a

11b

pH Autocalibration with Two Buffers

1. Press the **power** key to turn on the meter. **See 1**.

2. Select two buffers that bracket the expected sample pH and are one to four pH units apart. **See 2**. See **Autocalibration Buffer Selection** section.

3. Press the **calibrate** key. **See 3**.

4. Rinse the electrode with deionized water and blot dry with a lint-free tissue. **See 4**.

   NOTE: Do not wipe or rub the electrode, as static buildup will occur.

5. Insert the electrode into the first buffer. **See 5**.

6. Wait for the **pH** icon to stop flashing and the ▶ icon to start flashing. The meter should display the temperature corrected pH buffer value. **See 6**.

   If the displayed buffer value is incorrect or a customer buffer is being used manually enter the value by pressing the **up/down arrow** keys to adjust each digit and the **digits** key to move to the next digit.

7. Press the **calibrate** key. **See 7**.

8. Rinse the electrode with deionized water and blot dry with a lint-free tissue. **See 8**.

   NOTE: Do not wipe or rub the electrode, as static buildup will occur.

9. Insert the electrode into the second buffer. **See 9**.

10. Wait for the **pH** icon to stop flashing and the ▶ icon to start flashing. The meter should display the temperature corrected pH buffer value. **See 10**.

11. Press the **calibrate** key and then press the **measure** key to save and end the calibration. **See 11a & 11b**. The slope will be displayed and then the meter will proceed to the measurement mode.

Autocalibration Buffer Selection

1. Press the **setup** key.

2. Press the **up arrow** key until PH is displayed on the top line.

3. Press the **line select** key to move the ▶ icon to the middle line. Press the **up arrow** key until bUF is displayed.

4. Press the **line select** key to move the ▶ icon to the bottom line. Press the **up arrow** key to select the buffer set. USA is default setting.

   USA = 1.68, 4.01, 7.00, 10.01, and 12.46
   EUr0 = 1.68, 4.01, 6.86, and 9.18

5. Press the **line select** key to move the ▶ icon to the top line. Press the **measure** key to return to the measurement mode.

Measurement Mode Selection

1. Press the **setup** key.

2. Press the **up arrow** key until rEAd is displayed on the top line.

3. Press the **line select** key to move the ▶ icon to the middle line. Press the **up arrow** key until tYPE is displayed.

4. Press the **line select** key to move the ▶ icon to the bottom line. Press the **up arrow** key to select the measurement mode. AUtO is default setting.

   C0nt = Continuous measurement mode
   AUt0 = AUTO-READ™ measurement mode
   tImE = Timed measurement mode

5. Press the **line select** key to move the ▶ icon to the top line. Press the **measure** key to return to the measurement mode.

pH Measurements

1. Rinse the electrode with deionized water, blot dry with a lint-free tissue, and insert the electrode into the sample.

2. If the meter is in AUTO-READ mode, press the **measure** key to take a measurement. Once the reading stabilizes the **AR** icon will stop flashing and the display will freeze. Press the **measure** key again to take a new measurement.

3. If the meter is in the continuous or timed measurement modes, the meter will continuously take measurements and update the display. Once the reading stabilizes the **pH** icon will stop flashing.

Printing Data

In the AUTO-READ and continuous measurement modes, every time the **measure** key is pressed the meter logs the data on the display. In the timed measurement mode, the meter logs the data at the predetermined time interval.

1. Press the **view log** key.

2. Use the **up arrow** key to scroll between CAL0 (print the calibration log) and SEnd (print the measurement log).

3. Press the **line select** key to print the data.

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