

English

Thermo Scientific Orion 2-Star pH Benchtop Meter

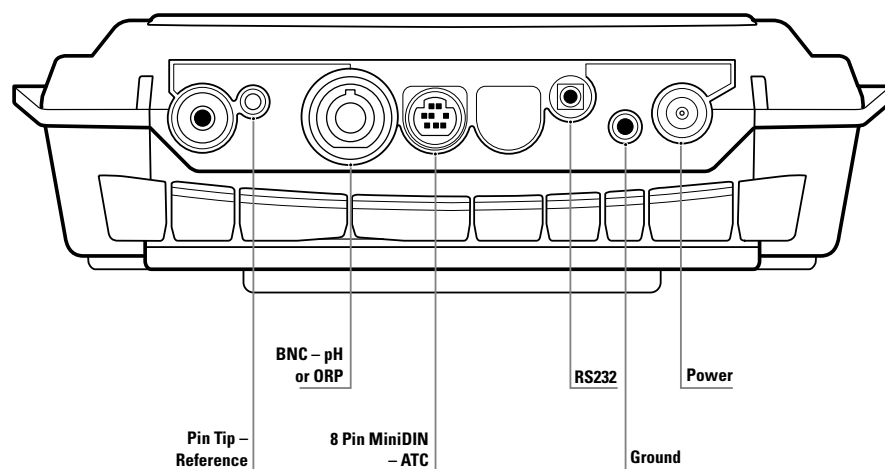
pH

Quick Start Guide

Key Description

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

Meter Connections



For the complete Orion Star™ and Star Plus meter user guide, visit www.thermo.com/water.

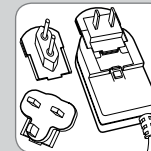
Preparation

1. Power adapter – Select the appropriate wall outlet 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 user guide. In general, these steps include:
 - Gently remove the protective cap, sleeve or storage bottle from the electrode and save it for electrode storage.
 - If the electrode is refillable, remove the fill hole cover and fill the electrode with the appropriate electrode filling 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 outlet. **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.**

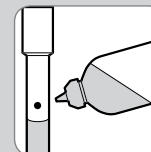
Note: All unused inputs on the meter should be covered with the black caps.

Meter Overview

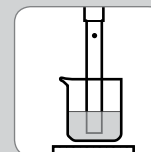
1. To power on the meter, press the **power** key.
2. In the measurement mode, press the **up arrow** or **down arrow** key to change the measurement units on the top display line to pH, mV, RmV or a blank line.
3. In the setup mode, press the **line select** key to choose the top, middle or bottom display 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 one to three pH buffers.



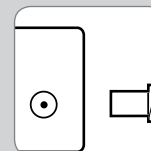
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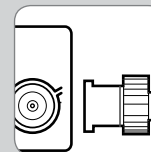
B



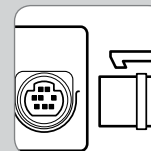
C



D



E



F

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Water Analysis Instruments

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Toll Free: 1-800-225-1480
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Dom. Fax: 1-978-232-6015
Int'l Fax: 978-232-6031

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Tel: 44-1353-666111
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Asia Pacific
Blk 55, Ayer Rajah Crescent
#04-16/24, Singapore 139949
Tel: 65-6778-6876
Fax: 65-6773-0836



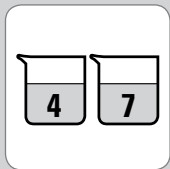
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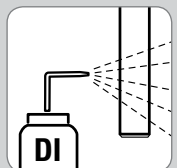
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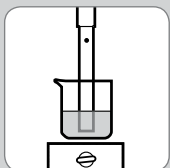
3a



3b



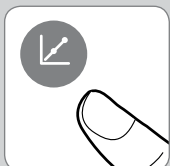
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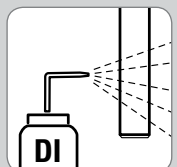
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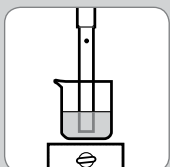
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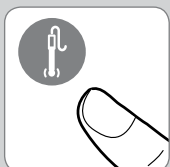
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10



11

pH Automatic Calibration 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 the **Automatic Buffer Recognition Selection** section for the buffer sets that are automatically recognized by the meter.
3. In the measurement mode, press the **up arrow** key until the **pH** icon is shown on the top line. **See 3a.** Press the **calibrate** key to begin the calibration. **See 3b.**
4. Rinse the electrode (and ATC probe, if in use) with distilled water and blot dry with a lint-free tissue. **See 4.**
5. Insert the electrode into the first buffer and gently stir. **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 custom buffer is being used, press the **digit** key until the first digit to be changed is flashing, press the **up/down arrow** keys to change the value of the flashing digit and continue to change the digits until the meter displays the temperature-corrected pH buffer value. Once the buffer value is set, press the **digit** key until the decimal point is in the correct location.

7. Press the **calibrate** key to proceed to the next calibration point. **See 7.**
8. Rinse the electrode (and ATC probe, if in use) with distilled water and blot dry with a lint-free tissue. **See 8.**
9. Insert the electrode into the second buffer and gently stir. **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 **measure** key to save and end the calibration. **See 11.** The slope will be displayed and the meter will proceed to the measurement mode.

Automatic Buffer Recognition Selection

1. In the measurement mode, 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 on the middle line.
4. Press the **line select** key to move the **▶** icon to the bottom line. Press the **up arrow** key to select **USA** for the pH 1.68, 4.01, 7.00, 10.01 and 12.46 buffer set or **EUro** for the pH 1.68, 4.01, 6.86 and 9.18 buffer set. USA is the default setting.
5. Press the **line select** key to move the **▶** icon to the top line and press the **measure** key.

pH Measurement Resolution

1. In the measurement mode, 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 **rES** is displayed on the middle line.
4. Press the **line select** key to move the **▶** icon to the bottom line. Press the **up arrow** key to select **0.01** or **0.1** for the resolution. 0.01 is the default setting.
5. Press the **line select** key to move the **▶** icon to the top line and press the **measure** key.

Measurement Mode Selection

1. In the measurement mode, 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 on the middle line.
4. Press the **line select** key to move the **▶** icon to the bottom line. Press the **up arrow** key to select **AUt0** for the AUTO-READ™ mode, **tlmE** for the timed mode or **C0nt** for the continuous mode. AUt0 is the default setting.
5. Press the **line select** key to move the **▶** icon to the top line and press the **measure** key.

pH Measurements

1. Rinse the electrode (and ATC probe, if in use) with distilled water, blot dry with a lint-free tissue and insert into the sample.
2. If the meter is in the AUTO-READ measurement mode, press the **measure** key to start a reading. Once the reading is stable, the **AR** icon will stop flashing and the display will freeze. Press the **measure** key to take a new measurement.

If the meter is in the continuous or timed measurement mode, the meter will immediately start taking readings and continuously update the display. Once the reading is stable, the **pH** icon will stop flashing.

3. Remove the electrode (and ATC probe, if in use) from the sample, rinse with distilled water, blot dry with a lint-free tissue, insert into the next sample and repeat step 2 or see the electrode user guide for recommended storage.

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. Connect the meter to a printer or computer and verify the baud rate and output settings in the meter setup menu.
2. In the measurement mode, press the **log view** key.
3. Press the **up arrow** key to select **SEnd** to print the datalog or **CAL0** to print the calibration log.
4. Press the **line select** key to send the selected data to the printer or computer.