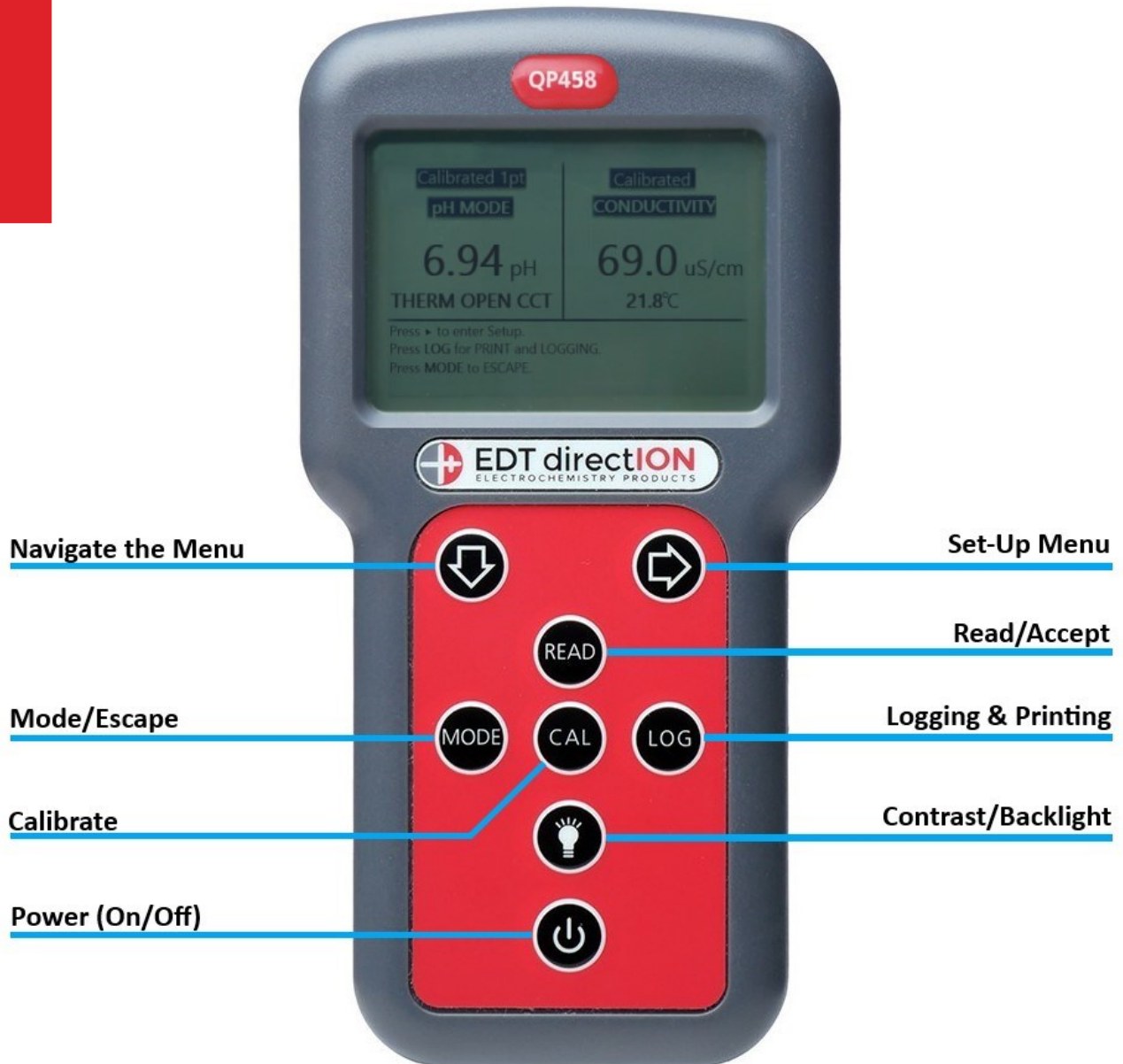


Series 4 Portable Combined pH & Conductivity Meter Manual



QP458

SETTING UP

BATTERY INSTALLATION:

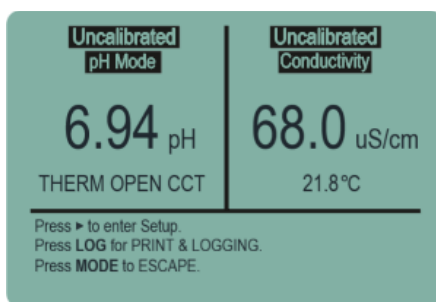
Remove the battery cover by loosening the retaining cross head screw. Please note this screw has a retainer and will therefore remain with the cover to prevent loss.

Once open unpack the 4 AA Batteries supplied and insert ensuring the polarity is correct for each battery. Replace the cover.

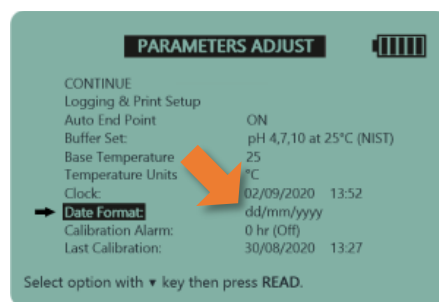
SETTING THE DATE & TIME:



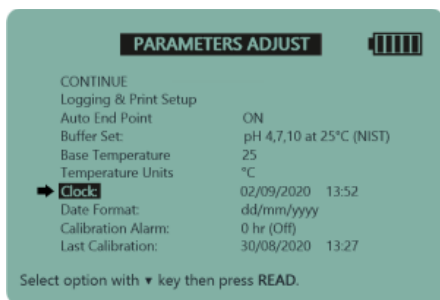
Switch the unit on using the **power** button.



Press the **right arrow** key to enter the Parameters Adjust screen.



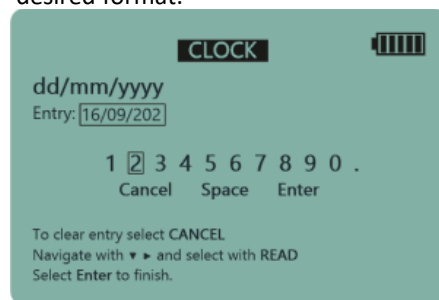
Scroll down to the Date Format option and press **READ** until you reach the desired format.



Scroll down to the Clock option using the **down arrow key** and press **READ**.



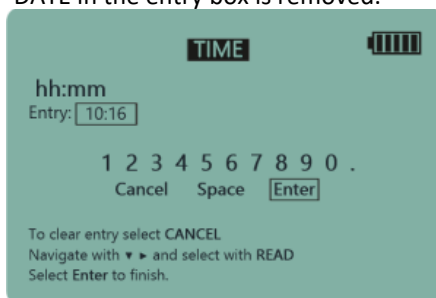
Select **CANCEL** using the **down arrow** key and press **READ** until the current DATE in the entry box is removed.



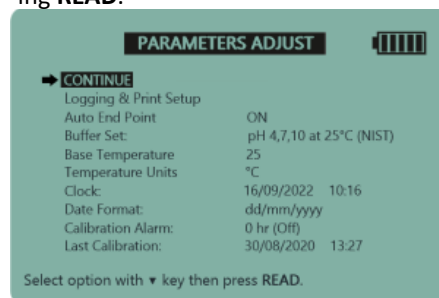
Select the current date digit by selecting the correct number and pressing **READ**.



When the entry box contains the correct date, select **ENTER** and press **READ**.



Repeat the steps above to enter the correct time and then press **READ**.



Press **READ** to return to the combined pH and conductivity mode.

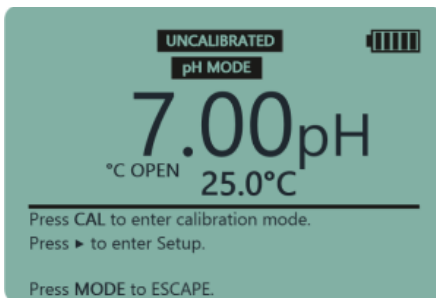
CALIBRATION AND MEASUREMENT

pH CALIBRATION:

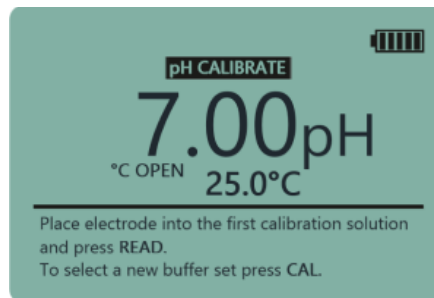
Accurate pH measurement requires that you do not cross contaminate buffers and samples. Before using the pH probe ensure it is rinsed with deionised water and blotted dry. Repeat this procedure when transferring between all standards and samples.

Connect the pH Electrode to the BNC connector on the top rear of the instrument.

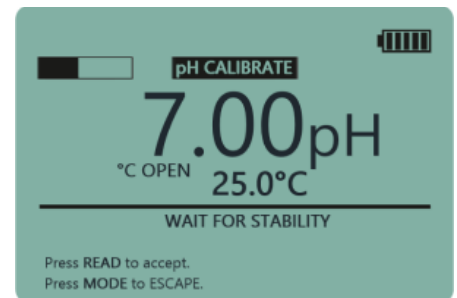
Connect the ATC probe Jack into the 3.5 mm Jack socket next to the BNC socket.



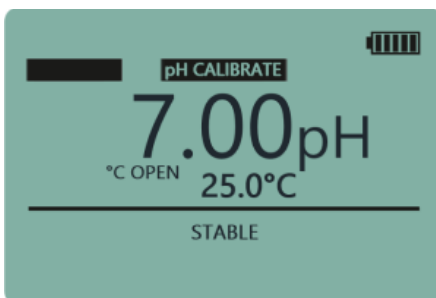
Switch on the meter and press **MODE** until you are in pH Mode.



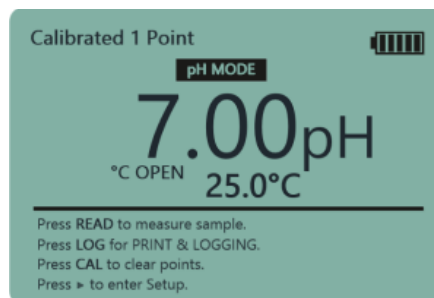
Press **CAL** to start a calibration.



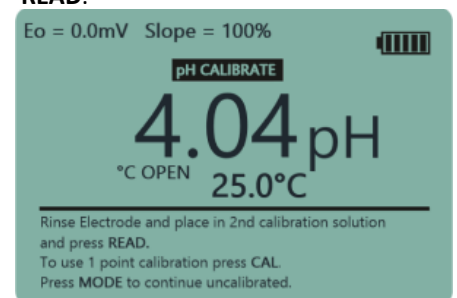
Insert the pH Probe and ATC Electrode into the pH7 Buffer Solution and press **READ**.



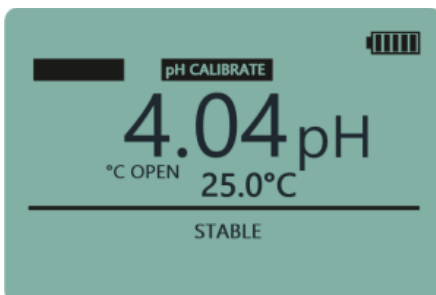
When stable the meter will set itself to pH7 (or the corrected value).



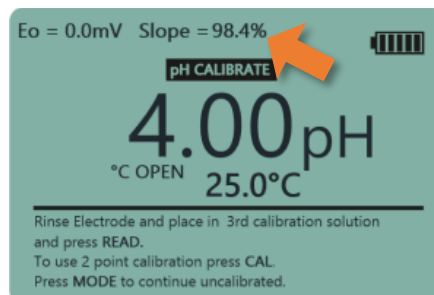
For a 1-point calibration press **CAL**. (We recommend a 2-point calibration)



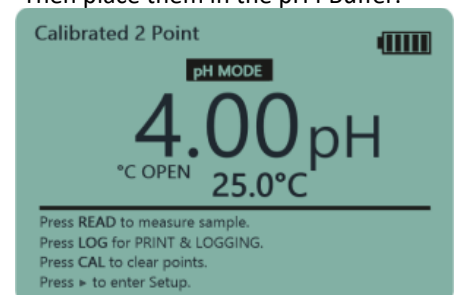
For a 2-point calibration, rinse the electrodes with DI water and blot dry. Then place them in the pH4 Buffer.



Press **READ** and when stable the meter will set itself to pH4.



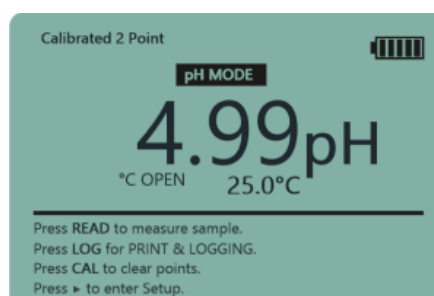
To accept the calibration, check the slope is over 80% and press **CAL**.



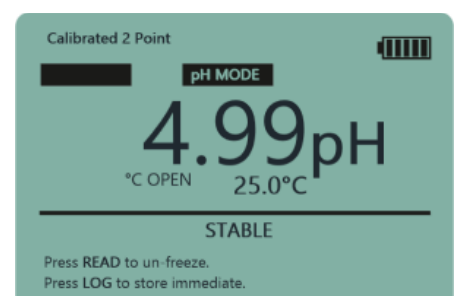
You are now in calibrated pH Mode and ready to take sample readings.

For a 3 point calibration instead of pressing CAL to accept the calibration, you may repeat the steps above using the pH10 Buffer solution.

To take a sample measurement rinse the pH Probe and ATC Electrode with deionised water and then blot dry.



Place the electrode into the sample solution and then press **READ**.



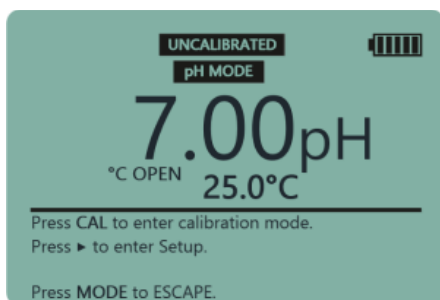
The auto-endpoint will freeze the display when the reading is stable.

USING DIFFERENT OR CUSTOM BUFFER SOLUTIONS:

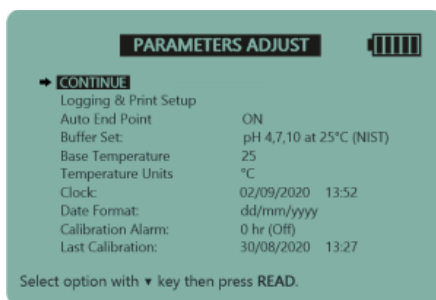
The QP458 comes complete with pH 7 and pH 4 Buffer solutions.

These Buffers are automatically set up in the menu as is pH 10 Buffer.

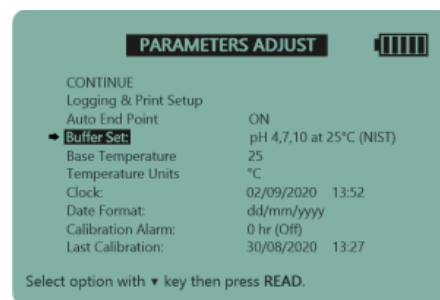
The reference temperature for these buffers is 25 Degrees C. For 20 degree C Buffers or custom values you will need to enter the Set Up menu:



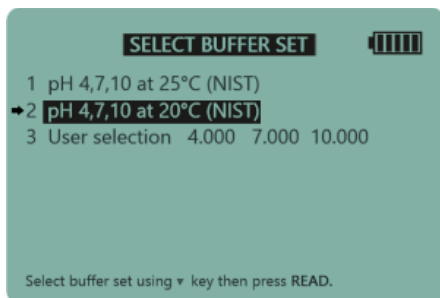
Switch on the meter and press **MODE** until you are in pH Mode.



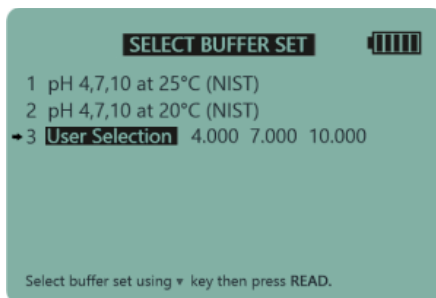
Press the **right arrow** key to enter the Parameters adjust screen.



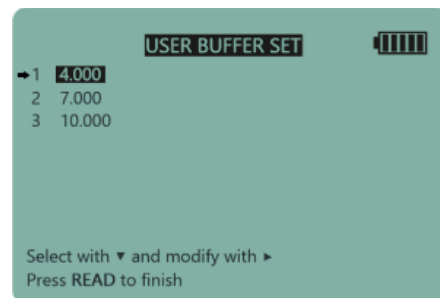
Scroll down to Buffer Set and press **READ**.



Select option 2 for pH 4,7 & 10 Buffers at 20° C.



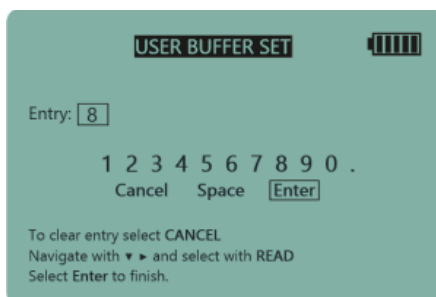
Or to input custom buffer solutions, select option 3 and press **READ**.



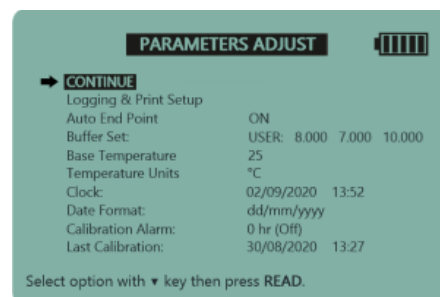
Select the buffer you wish to change and press the **right arrow** to modify.



Remove the current entry by selecting **CANCEL** and pressing **READ**.



Input the value you wish to use and select **ENTER** and press **READ**.



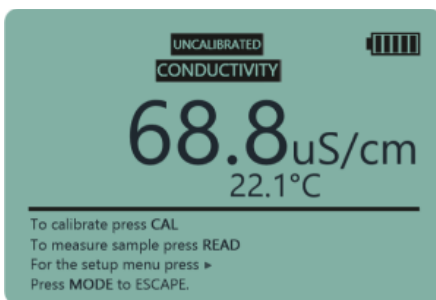
Press **READ** to return to the Parameters Adjust screen and then **READ** again to return to pH Mode.

Now that you are in pH Mode you may calibrate using the selected Buffer Solutions following the instructions above.

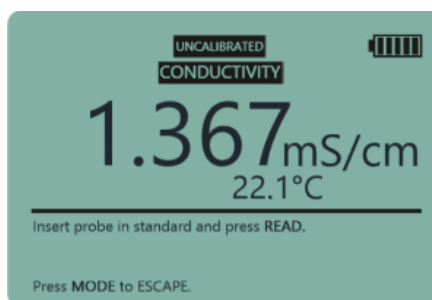
CALIBRATION AND MEASUREMENT

CONDUCTIVITY CALIBRATION:

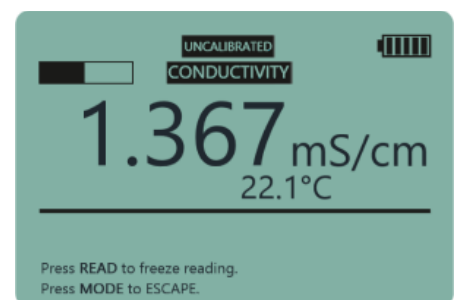
Accurate conductivity measurement requires that you do not cross contaminate standards and samples. Before using the Conductivity probe ensure it is rinsed with deionised water and blotted dry. Repeat this procedure when transferring between all standards and samples.



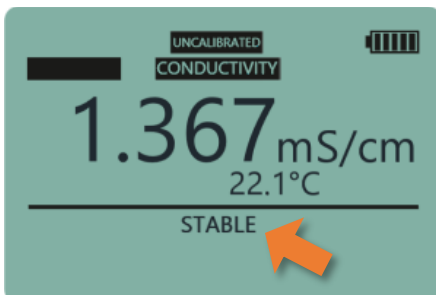
Switch on the meter and press **MODE** until you are in Conductivity Mode.



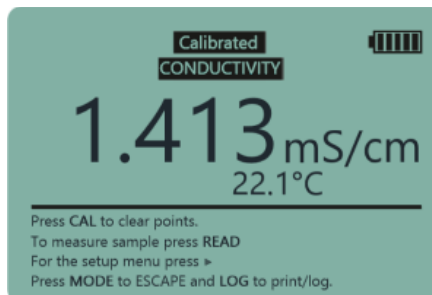
Press **CAL** to start a calibration.



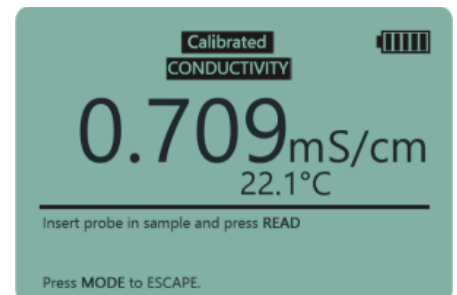
Insert the probe into the solution (swirl if required) and press **READ**.



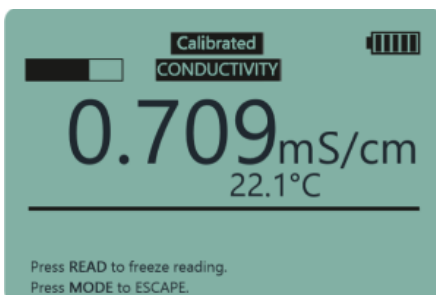
When stable the meter will set itself to the calibration value.



Remove the cell from the solution. Rinse with de-ionised water and blot dry.



To measure a sample, press **READ** and then insert the probe into the sample.



Once the probe is in the sample press **READ**.



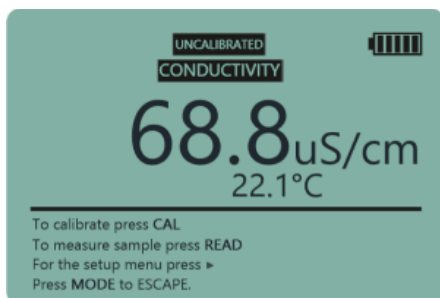
The auto end-point will freeze the display when it is stable.

USING DIFFERENT CALIBRATION STANDARDS:

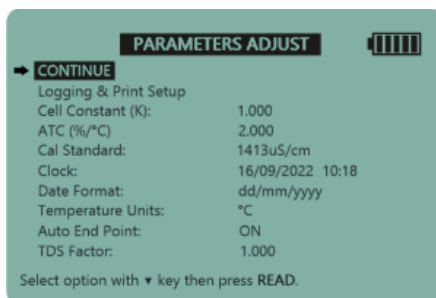
The QP458 comes complete with a 1413uS/cm standard solution.

This standard is automatically set up in the menu.

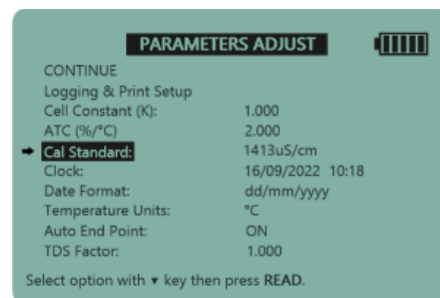
To use a 12.88mS/cm standard do the following:



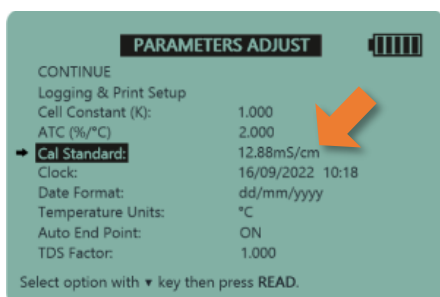
Switch on the meter and press **MODE** until you are in Conductivity Mode.



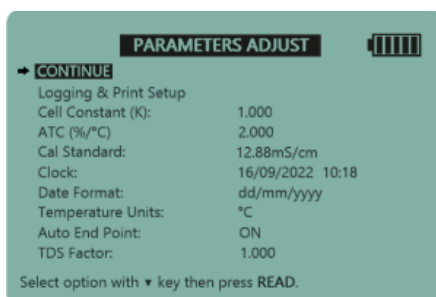
Press the **right arrow** key to enter the Parameters adjust screen.



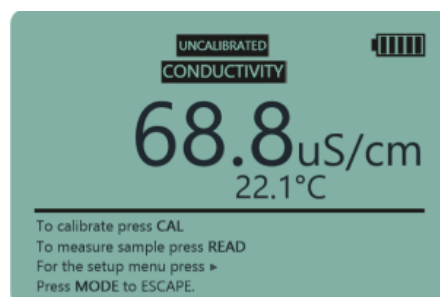
Scroll down to Cal Standard and press **READ**.



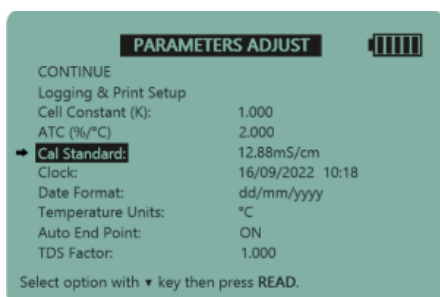
The instrument now selects the 12.88mS/cm Standard.



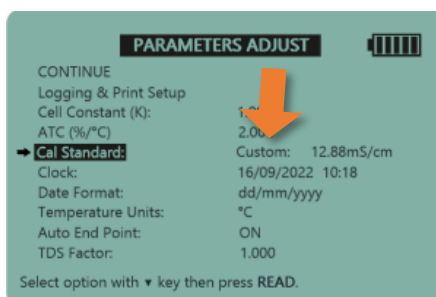
Scroll back up to CONTINUE and press **READ**.



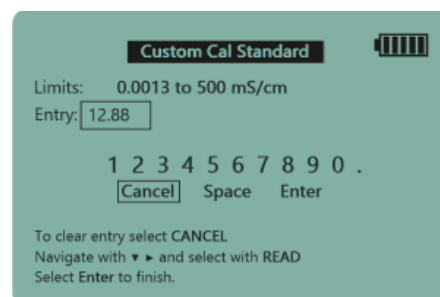
Calibrate as above but using the 12.88mS/cm Standard Solution.



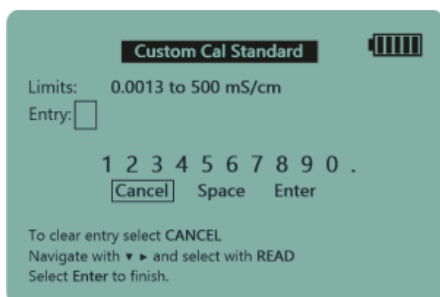
To select a different standard, scroll down to Cal Standard in setup.



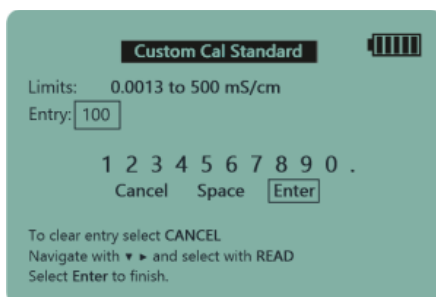
Press **READ** until the 'Custom Standard' option appears.



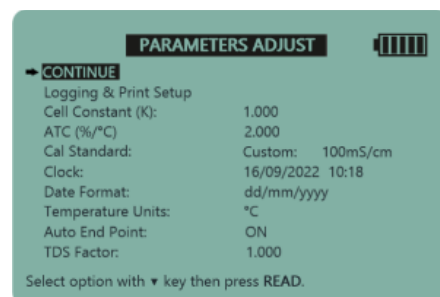
Then press the **right arrow** key to enter the Custom Cal Standard screen.



Remove the current entry by selecting **CANCEL** and pressing **READ**.



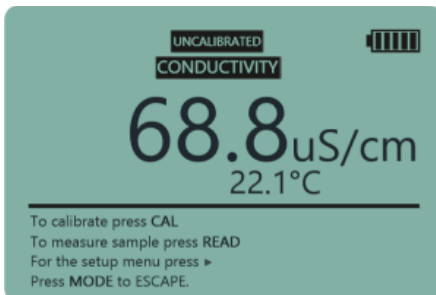
Input the custom value then select **ENTER** and press **READ**.



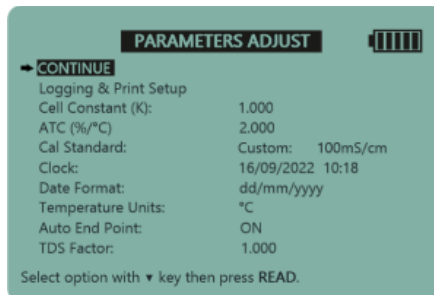
Scroll to CONTINUE and press **READ**. You may now calibrate.

USING CONDUCTIVITY CELLS WITH DIFFERENT CELL CONSTANTS (K-Values):

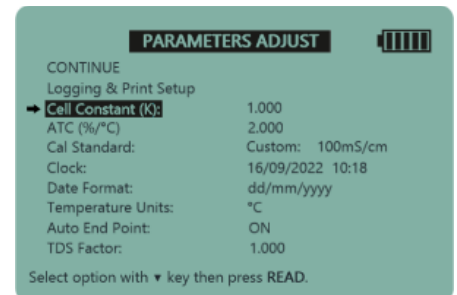
The instrument default is set at K=1. The actual cell constant is calculated during calibration however some applications require the input of a cell constant as the calibration. The most common cell constants for specialist applications are K=0.1 and K=10. To set a cell constant:



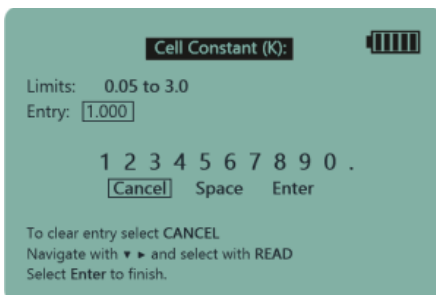
Press **MODE** until you are in Conductivity Mode.



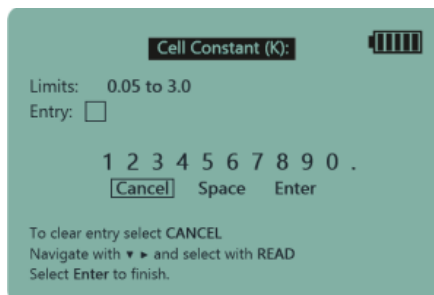
Press the **right arrow** key to enter the Parameters adjust screen.



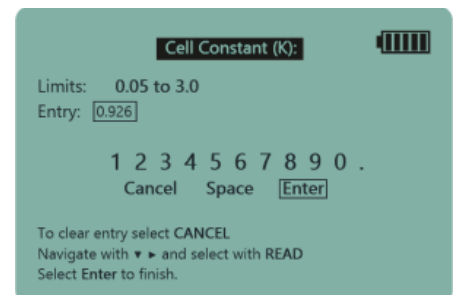
Scroll down to Cell Constant and press **READ**.



You are now in the Cell Constant Screen.



Select **CANCEL** and press **READ** to clear the current entry.



Input the custom Cell Constant. Select **ENTER** and press **READ**.

You have now entered the custom Cell Constant. Select **CONTINUE** and press **READ** to return to Conductivity Mode. You may now carry out a calibration or take on sample readings.

For instructions on how to use the Data Kit, please read the DK400 manual which can be found in the document files for Data Kit for Series 4 Portable Meters (DK400).

Specification

Accuracy - pH	Resolves to +/-0.01 pH units
Automatic pH Calibration	Automatic calibration in all modes
Battery Life	200 hours continuous use - auto switch off and power saving options
Conductivity Accuracy	+/- 0.2% of reading
Conductivity Range	Auto-ranging from 0-999mS/cm in appropriate units
Connection	Multi pin DIN for Conductivity/Temperature combined probe - BNC for pH with 3.5mm Jack for ATC
Data Output	Mini USB - outputs CSV - 38,400 Baud
Data Storage	Storage of up to 64 files - Logging max 10,000 data points
Dimensions	175x88x48mm
Display	Backlit LCD Graphic Display
Power Requirement	4 x AA Batteries
mV Range	+/- 1999.9 mV
pH Range	-2 to 16.00 pH units
Reference Temperature	Set at 25 degrees C
Temperature Compensation	Fully automatic
Warranty	2 year warranty - Excludes electrodes, accessories, consumables and misuse

Related Products



Glass pH Combination Electrode



K=1 Glass Conductivity Cell (Mini DIN)



Data Kit for Series 4 Meters

www.edt.co.uk/product/series-4-portable-combined-ph-and-conductivity-meter

