

## Prepare electrode storage solution

To prepare this solution, half fill a 1L volumetric flask with distilled water and add 223.65grams of reagent-grade potassium chloride, KCL.

Swirl the flask to dissolve the solid. Fill the flask to the mark with distilled water, cap, and upend the flask several times to mix the contents.

## Specifications

Model: PHSCAN10

pH Range: 0.0~14.0pH

pH Accuracy:  $\pm 0.2$ pH

Power: 1.5V G13-A CNB button cell batteries  $\times 3$

Dimension: 180mm  $\times$  Dia.35mm

Weight: 200g

Model: PHSCAN20

pH Range: 0.0~14.0pH

pH Accuracy:  $\pm 0.1$ pH

Power: 1.5V G13-A CNB button cell batteries  $\times 3$

Dimension: 180mm  $\times$  Dia.35mm

Weight: 200g

Model: PHSCAN30

pH Range: 0.0~14.0pH

pH Accuracy:  $\pm 0.05$ pH

Temperature Range: 0~60°C

Temperature Accuracy:  $\pm 1$ °C

Temperature Compensation: 0~60°C

Power: 1.5V G13-A CNB button cell batteries  $\times 3$

Dimension: 180mm  $\times$  Dia.35mm

Weight: 200g

## PHSCAN10/20/30 POCKET pH METER

### Preface

Thank you for selecting PHSCAN series Pocket pH Tester.

Before using the meter, please look at this manual carefully. It is a step by step guide that will help the user operate the meter.

This operation manual is written to cover many applications of the meter. If you have questions in the use of the meter, please contact the nearest authorized distributor.

### Introduction

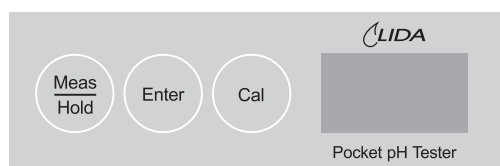
PHSCAN series Pocket pH Testers are capable of pH measurement. You have one of three models:

- PHSCAN 10 Pocket pH Tester
- PHSCAN 20 Pocket pH Tester
- PHSCAN 30 Pocket pH/°C Tester

This manual provides a step by step guide to operate the meters.

### Keypad (PHSCAN10 and 20)

PHSCAN meters have three buttons. Each of them has its own function.



MEAS/HOLD.....Measure/Hold

Function:

- 1.Power on/off the meter.
- 2.In measurement mode, press MEAS/HOLD button to freeze current reading.
- 3.In calibration mode, press MEAS/HOLD button to exit calibration.

ENTER

Function:

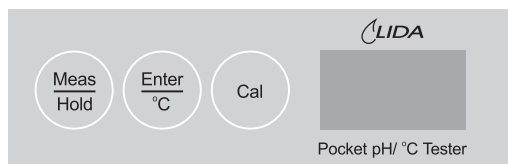
In calibration mode, press ENTER button to confirm the calibration points.

CAL.....Calibration

Function:

1. In measurement mode, press CAL button to enter calibration mode.
2. In calibration mode, press CAL button to select calibration points. (pH7/4 or pH7/10).

## Keypad (PHSCAN30)



MEAS/HOLD.....Measure/Hold

Function:

1. Power on/off the meter.
2. In measurement mode, press MEAS/HOLD button to freeze current reading.
3. In calibration mode, press MEAS/HOLD button to exit calibration.

ENTER/°C

Function:

1. In calibration mode, press ENTER button to confirm the calibration points.
2. In measurement mode, press ENTER/°C button to view temperature.

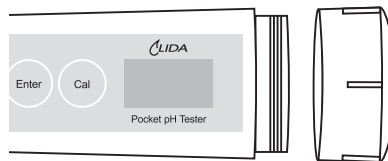
CAL.....Calibration

Function:

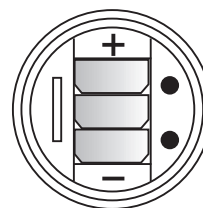
1. In measurement mode, press CAL button to enter calibration mode.
2. In calibration mode, press CAL button to select calibration points. (pH7/4 or pH7/10).

## Changing Batteries

1. Open battery compartment lid.



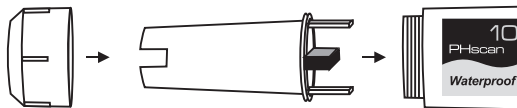
2. Remove old batteries; replace with fresh ones. Note polarity.



## Replace the electrode

You can replace the electrode module. When the meter fails to calibrate or gives fluctuating readings in calibration standards, you need to change the electrode.

1. With dry hands, grip the ribbed meter collar with electrode facing you. Twist the collar counter clockwise.
2. Pull the old electrode module away from the meter.
3. Align the two tabs on the new module so that they match the two slots on the meter.



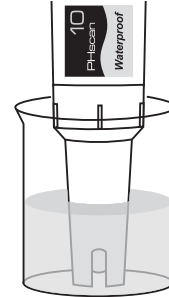
4. Gently push the module onto the slots to sit it in position. Push the collar over the module and thread it into place by firmly twisting clockwise.

### Note:

*It is necessary that you recalibrate your meter prior to measurement after an electrode replacement.*

## Before you begin

Condition your PHSCAN 10, 20, 30 electrodes by immersing it in electrode storage solution or tap water for at least 30 minutes before use.

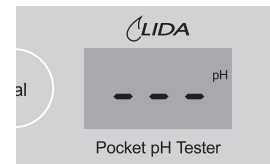


Then rinse the probe with distilled water or de-ionized water.

DO not use de-ionized water or distilled water to immerse the probe.

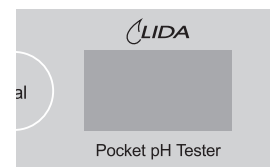
## Power ON

Press MEAS button to turn on the meter. The LCD displays measured value or ---.



## Manual Power OFF

In calibration mode, keep pressing MEAS button to turn off the meter.

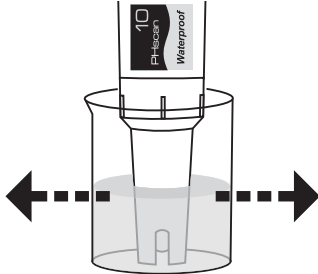


## Auto Power OFF

The meter will automatically be powered off 8 minutes after the last key selection.

### Calibration of PHSCAN 10 or 20:

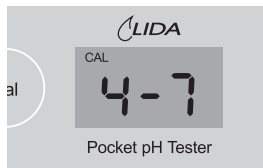
1. Press MEAS button to switch unit on.
2. Rinse the probe thoroughly with distilled water. Dry the probe with filter paper.



#### Rinse Method:

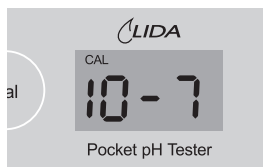
*Immerse the probe in distilled water and stir for several times. Or rinse the glass cell with standard solution and dry it.*

3. Keep pressing CAL button till 'CAL 4-7' is displayed. Your meter suggests you choose calibration points.



#### Note:

- *If the sample solution is acid, please use pH7 and pH4 to calibrate.*
- *If the sample solution is alkaline, please use pH7 and pH10 to calibrate. (press CAL button again to change calibration points).*



4. Press ENTER button and 'CAL 7' is displayed. Your meter suggests you use pH7.00 buffer solution to calibrate.

## Temperature Measurement (Only PHSCAN 30)

In Measurement Mode, press ENTER/°C button to view current temperature. Press HOLD/°C button again and return pH measurement mode.

#### Note:

*The temperature range of this meter is 0 to 60°C.*

#### Notice:

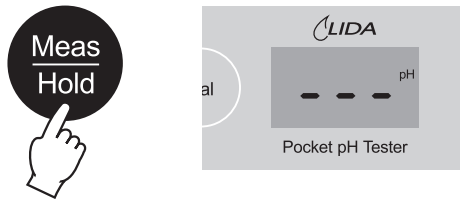
PHSCAN series Pocket pH Testers are only capable of measuring liquid or semi liquid.

Do not dip the electrode directly in strong acid, strong alkaline or other causticity solution.

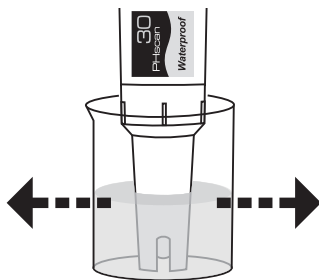
Also do not measure the sample solution whose temperature is above 80 degrees centigrade.

# pH Measurement

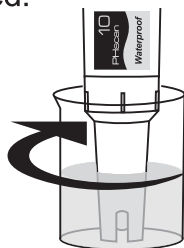
1. Press MEAS button to switch unit on.



2. Rinse the probe thoroughly with distilled water. Dry the probe with filter paper.



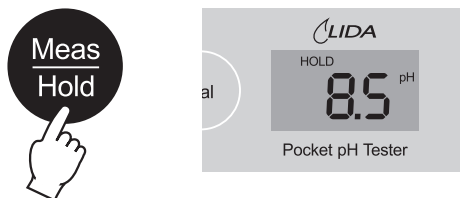
3. Dip the probe into the solution, stir slowly. Wait 3 to 5 seconds to let the reading stabilize. The measurement is finished.



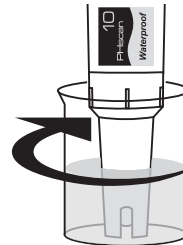
# Hold Function

This feature lets you freeze the display for a delayed observation.

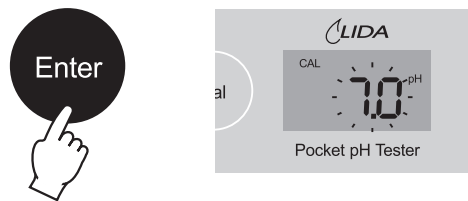
1. Press HOLD button to freeze the measurement (or reading). A 'HOLD' indicator will be displayed and the measurement will be frozen.
2. Press HOLD again to release the measurement. The 'HOLD' indicator will not be displayed anymore indicating the held measurement is released.



5. Dip electrode about 2 to 3cm into the pH6.86 buffer solution and stir slowly.

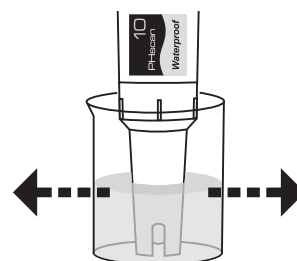


6. Press ENTER button again. The meter begins calibrating. The reading will flicker 3 times after it is stable.

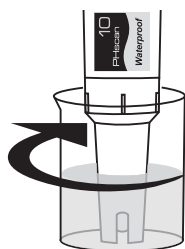


The calibration of pH 7 point is done. Then either 'CAL 4 ' or 'CAL 10' will be displayed according to your choice (step 3).

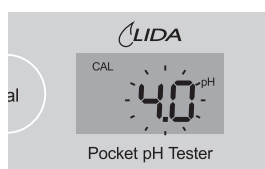
7. Rinse the probe thoroughly with distilled water. Dry the probe with filter paper.



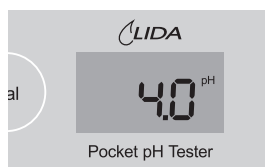
8. Dip electrode about 2 to 3cm into the pH4.01 (or pH10.00) buffer solutions and stir slowly.



9. Press ENTER button. Your meter begins calibrating. The reading will flicker 3 times after it is stable.

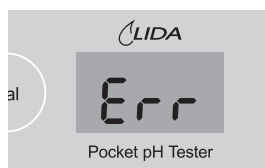


The calibration of pH4 (or pH10) point is done. The meter will automatically return to measurement mode.



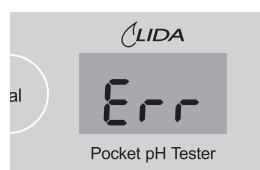
Note:

- Ensure both buffer solutions and the electrodes are in good condition.
- Rinse and dry the probe before dip it into another solution.
- Stirring the electrode slowly can improve accuracy.
- At any point, an error message 'Err' will be displayed momentarily if the confirmed pH value is not within the pH calibration window.



Note:

- Ensure both buffer solutions and the electrodes are in good condition.
- Rinse and dry the probe before dip it into another solution.
- Stirring the electrode slowly can improve accuracy.
- At any point, an error message 'Err' will be displayed momentarily if the confirmed pH value is not within the pH calibration window.



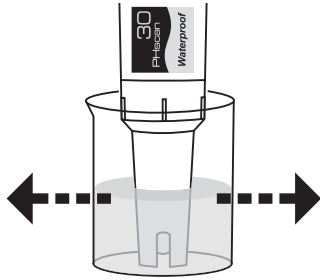
For example:

You dip the electrode into pH6.86 or pH 9.18 buffer solution while 'CAL PH4' is showing on the LCD. The meter will not calibrate but wait to exit calibration mode.

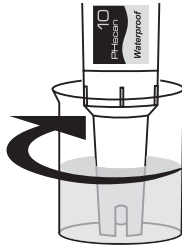
**Exit Calibration Mode:**

In calibration mode, press MEAS button to exit.

7. Rinse the probe thoroughly with distilled water. Dry the probe with filter paper.

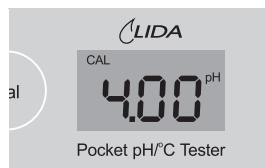


8. Dip electrode about 2 to 3cm into the pH4.00 (or pH10.00) buffer solutions and stir slowly.

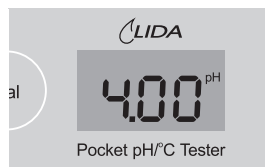


9. Press ENTER button again. The meter begins calibrating. The reading will flicker 3 times after it is stable. This reading value is the pH value at current temperature.

*i.e. the pH value of pH10 buffer solution is 10.18pH at 10°C and 10.11pH at 15°C.*



The calibration of pH4 (or pH10) point is done. The meter will automatically return to measurement mode.



*For example:*

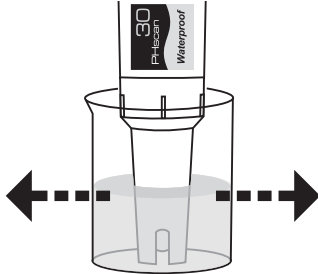
*You dip the electrode into pH7.00 or pH 10.00 buffer solution while 'CAL 4' is showing on the LCD. The meter will not calibrate but wait to exit calibration mode.*

#### **Exit Calibration Mode:**

In calibration mode, press MEAS button to exit.

### Calibration of PHSCAN 30:

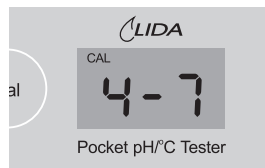
1. Press MEAS button to switch unit on.
2. Rinse the probe thoroughly with distilled water. Dry the probe with filter paper.



#### Rinse Method:

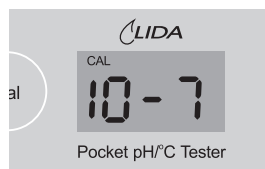
Immerse the probe in distilled water and stir for several times. Or rinse the glass cell with standard solution and dry it.

3. Keep pressing CAL button till 'CAL 4 -7' is displayed. Your meter suggests you choose calibration points.

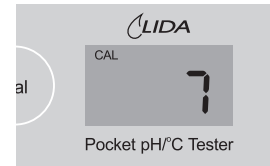


#### Note:

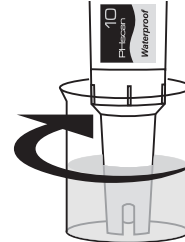
- If the sample solution is acid, please use pH7 and pH4 to calibrate.
- If the sample solution is alkaline, please use pH7 and pH10 to calibrate. (press CAL button again to change calibration points).



4. Press ENTER button and 'CAL 7' is displayed. Your meter suggests you use pH7.00 buffer solution to calibrate.

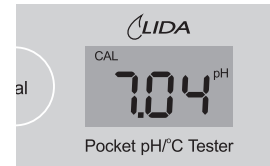


5. Dip electrode about 2 to 3cm into the pH7.00 buffer solution and stir slowly.

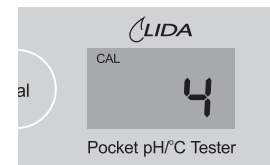


6. Press ENTER button again. The meter begins calibrating. The reading will flicker 3 times after it is stable. This reading value is the pH value at current temperature.

*i.e. the pH value of pH7 buffer solution is 7.06pH at 10°C and 7.04pH at 15°C.*



The calibration of pH 7 point is done. Then either 'CAL 4' or 'CAL 10' will be displayed according to your choice (step 3).



*PHSCAN30 has automatic temperature compensation function, range from 0 to 60°C. Your meter will compensate the measured value automatically.*