

HUMMING PROBE pH Measurement system

User Manual (V1.3)

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1. Introduction

1.1. Product Introduction

- Thank you for choosing **HUMMING PROBE** pH measurement system. Please read this manual carefully before using. It will provide you with the information you need to use this product.
- **HUMMING PROBE** calibration-free pH measurement system UX100 together with strip electrode UH1 make pH measurement simple and accurate. The unique features: calibration-free and low sample requirement allow multiple applications feasible.
- UX100 Meter design with high-resolution color touch panel and comprehensive user interface, make it easy to learn and operate. Data can be edited and stored with graphics and text, making data storage complete and meaningful.
- UH1 strip electrode, innovatively integrate the principle of electrode measurement on a single test strip electrode for pH measuring. It is easy to use, free from calibration, convenient to store and carry. Measurement is just easy and quick..
- The **HUMMING PROBE** pH measurement system is manufactured by UltraE Co., Ltd., and sold by authorized dealers. If you have any questions or comments about our products, please call our company or contact your local distributor. We will assist you as soon as possible.

1.2. Safety Instructions

- Read this manual thoroughly before using the instrument.
- When you suspect that the instrument is damaged, do not use it, notify us or distributor immediately.
- Do not place the pH Meter in water.
- If you have any questions about using the system, please contact us or your dealer.

2. Product Description

2.1. HUMMING PROBE pH Measurement System

Using calibration-free test strip electrode to measure pH value of solvent: The package contains:

- (1). UX100 : pH Measurement Meter (1 unit)
- (2). UH1 : pH test Strip electrode (10 pcs in a vial)
- (3). Strip Extended Connection cable (1 pc)
- (4). Charger(1 pc)
- (5). Micro USB cable for charging and data transfer. (1 pc)
- (6). Brief User Manual
- (7). User manual is built inside the Meter storage and can copied to computer for reading.

3. Product, Accessories and Function keys

3.1. UX100 pH Measurement Meter



3.2. UH1: pH Test Strip Electrode

Vial (10 pcs/vial) Note: The vial should be closed constantly to maintain the quality of the strips.	pH Test Strip Electrode UH1 Note :The pH Test Strip Electrode should always be capped and stored in the vial and only to be taken out when using.
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3.3. Strip Extended Connection Cable

Strip Extended Connection Cable



Plug connecting to Meter socket



Adapter for pH test strip electrode to insert



Strip electrode insert method and direction.



3.4. Charging

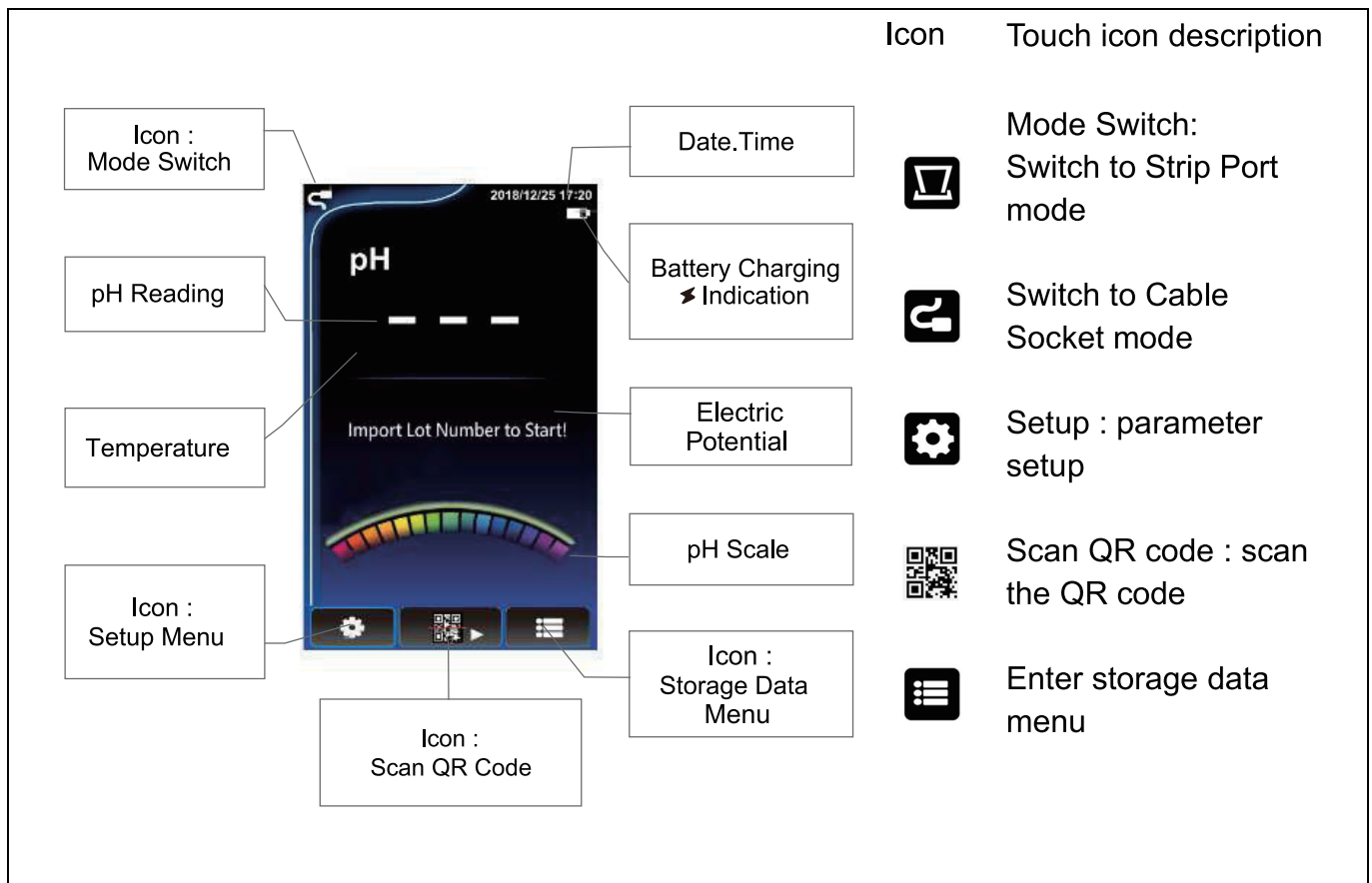
UX100 rechargeable battery can be used for a few hours after fully charged. Plug the Charger into 100/240V AC power supply and connect to the Meter with micro USB Cable.

3.5. Touch screen icon definition

 Setup	 HOME
 Scanning QR code	 Previous Menu
 Execute Inspection	 Previous Menu
 Enter	 Previous Menu
 Enter pH inspection data database	 Scan QR code
 Delete	 Camera light off
 Selects All	 Camera light on
 Input Text	 Not selected
 Activate Camera	 Selected
 1. Enter the mode selection menu 2. Select the Cable Socket mode	 1. Enter the mode selection menu 2. Select the Strip Port Mode
 Take Photo	 Stable Hold

4. Main screen & Description

Switch on and enter main screen (press and hold the power switch for 2 seconds)



Import Lot number to start.

Lot number : Also known as batch number. Every batch of strip production has its unique lot number, printed as QR code on the cap of the vial. Scan the QR Code when using the strip for the first time to load the technical parameter of the pH Strip into the Meter.

Lot number format : nnnnnnnnnn # nn n: number

The left 10 digits is the Lot number, while the number behind # is the number of the strips in the vial un-used. Every time when you insert and pull out a strip, the number will be decrease by 1, and when the number becomes zero, rescan the QR code is necessary.

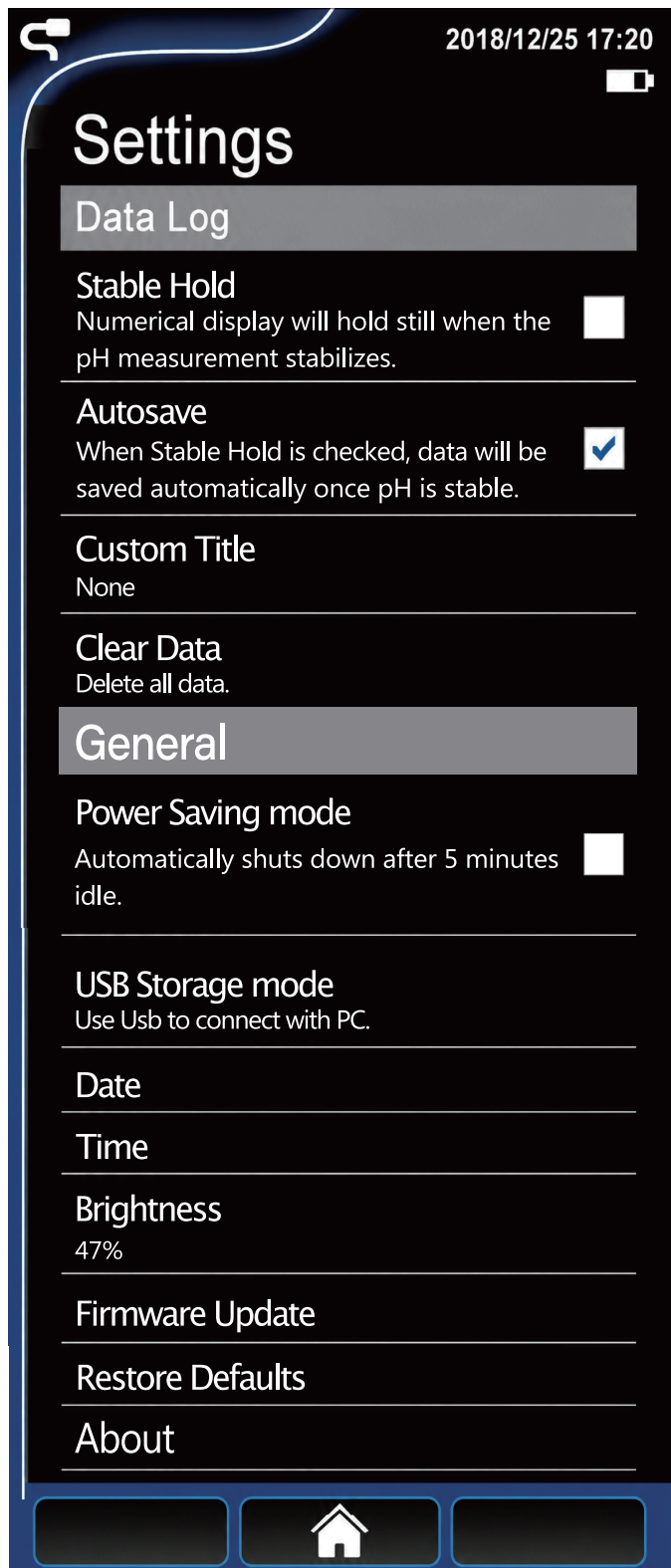
This count down design is to remind users to re-scan the QR code of a new batch of strips .

5. UX-100 Setup

5.1. Setup Menu and Function List

Click  to initiate setup menu

Tab and slide the screen to move the menu up and down.



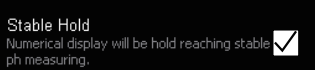
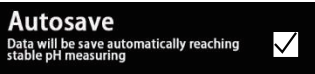
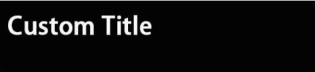
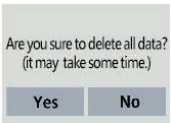
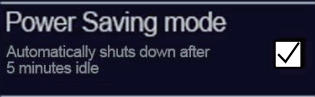
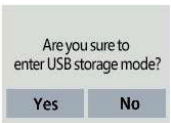
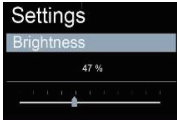
The screenshot shows the 'Settings' menu of the UX-100 device. The menu is organized into sections: 'Data Log', 'General', and a bottom section with system options. Callouts on the right side of the screen point to specific settings:

- Stable Hold (checkbox)
- When Stable Hold is ticked, Tick to automatically store pH reading
- Custom storage pH data title
- Delete all data
- Power Saving mode
- Connect to computer using micro USB cable
- Date setup
- Time setup
- Brightness setup
- Firmware update
- Restore to factory default settings
- About the meter

The settings menu includes the following options:

- Data Log**
- Stable Hold**
Numerical display will hold still when the pH measurement stabilizes. ☐
- Autosave**
When Stable Hold is checked, data will be saved automatically once pH is stable. ☒
- Custom Title**
None
- Clear Data**
Delete all data.
- General**
- Power Saving mode**
Automatically shuts down after 5 minutes idle. ☐
- USB Storage mode**
Use Usb to connect with PC.
- Date**
- Time**
- Brightness**
47%
- Firmware Update**
- Restore Defaults**
- About**

Operation Instructions

		Tick here and the stable display for the pH measurement will appear.
		Tick here and Data will be saved automatically reaching stable pH measuring.
		Click to enter the input page, you can input a title as the preset title of the pH storage record, press  to confirm , or press  to return to the previous screen.
		Click and the delete option appears, press Yes to delete all data, press No to cancel. Note that you cannot restore the change after deleting.
		Tick here to enter Power Saving Mode. If the Meter in not in the Detection Status or Measurement Screen, the Meter will shut down automatically after 5 minutes of idle to save power consumption.
		Click for the USB connection option to appear, press Yes to connect to the computer, press No to cancel.
		When Connected icon show up , the file manager of the computer will display the UX100 DISK disc. Tab Touch Here to Exit to disconnect from the computer and return to the main menu whenever needed.
		Date setting Click to enter the date setting menu, select the correct year, month, and day and press OK to set a new date or press Cancel to cancel.
		Time setting Click to enter the time setting menu, select the correct hour ,minute, and second and press OK to set a new time or press Cancel to cancel.
		Click to enter the brightness adjustment menu and slide the indicator to adjust the brightness, press  to return to previous page

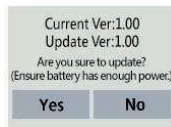
Firmware Update

For firmware updates, UltraE will contact users directly by e-mail.

Please contact UltraE to request the file for download, then connect the meter to the computer using

USB Storage Mode

and save the update file to the UX100 root directory.



After downloading the new firmware FWUD.PACK and store it in UX100 , click here to update.

When the Update Firmware Options appears. Press **Yes** to confirm update. It will be updated according to the newest firmware version file in the root directory of the UX100.

If the left screen appears, it indicates that the update file was not found, please download the new firmware to the root directory of UX100 in order to update.

Restore Defaults



Click for the restore defaults option , press **Yes** to restore to the original factory setting or press **No** to cancel.

About



Click to Display :
Company Name,
Model Name
SN
Firmware serial number
System serial number

5.2. Measuring Mode Selection:

Strip Port Mode or Cable Socket Mode can be selected for detection (factory default setting as Strip Port Mode), the operation steps are as follows:



Click  or  in the upper left corner of the main screen if you want to change it to another mode.



Option screen appears, click to choose Cable Socket mode  or Strip Port mode  according to usage.



Cable Socket



Strip Port

After choosing the new Mode, it will return to the main screen, and the chosen mode will display in the upper left corner.

6. Measuring pH

6.1. Strip Port Mode measuring procedure.

- (1) Turn on the meter (press the power switch for 2 seconds) , choose the Strip Port Mode.



- (2) Click the QR code Icon  below the main screen.

- (3) The current Lot no. will display (the number before # is the Lot no., the number after # shows the unused qty of the strips in the vial. Every strips inserted and pulled out, the qty number will minus 1 automatically) If it is correct, press **Continue** to enter the measurement screen. Press **Rescan** for need to rescan.



Measurement screen



- (4) Rescan: Align the “photo frame” with the QR code on the vial, and then press the **scan icon**  to scan.

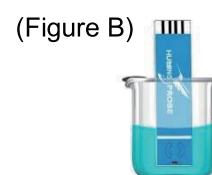
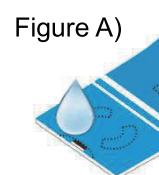


- (5) Check the Lot no. (number before #) and press **OK** if correct. If not, press **Rescan** to rescan.



- (6) Take the test strip electrode out of the vial and close the vial instantly.

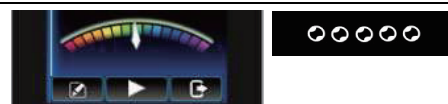
- (7) Drop the test sample into the strip sampling port (figure A) or immerse sampling port end until the white line into the testing sample for about 2 seconds .(figure B)



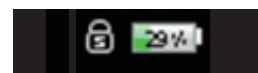
- (8) Insert the Strip Insert End into the Meter Strip Port. (step 7 and 8 can be reversed)



- (9) Press the Inspect icon  bubble icons will appear to indicate the status of measurement , 1 bubble (start) to 5 bubbles (pH measurement state) If autosave was set, the reading data will be automatically saved to UX100 storage.



- (1) The meter can determine a stable reading for the pH measurement. If you would like to use this function, tick the box Stable Hold in the setting. A lock symbol will appear next to the battery symbol. Once the pH measuring is stable, a notification (stable!) will be displayed on screen.
- (2) Another way to turn on the Stable Hold function is to press and hold the pH number reading on the screen for at least 3 seconds. A lock symbol will appear next to the battery symbol.



- (10) Press  to end

- (11) Do you want to save the data ?

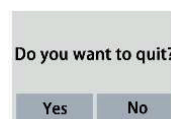
Press **Yes** to store the pH data or press **No** to cancel.



- (12) Back to main the measurement screen, the same Lot.no. strips can be used for the next measurement.



- (13) Tab  for option screen and tab **Yes** to return to main menu, tab **No** to remain in the measurement screen.



6.2. Cable Socket Mode Measurement Procedure

- (1) Turn on the meter (press the power switch for 2 seconds) , choose the Cable Socket Mode.



- (2) Connect the strip Extended Connection Cable plug to the socket of the meter



- (3) Tab the QR code icon  below the main screen.

- (4) The current Lot no. will display (the number before # is the Lot no., the number after # shows the unused qty of the strips in the vial. Every strips inserted and pulled out , the qty number will minus 1 automatically) .

Press **Continue** to enter the measurement screen if the correct lot no. is displayed. Press **Rescan** for need to rescan.



Measurement screen



-
- (5) Rescan: Align the “photo frame” with the QR code on the vial, and then press the scan icon  to scan.



- (6) Check the Lot no. (number before #) and press **OK** if correct. If not, press **Rescan** to rescan.



-
- (7) Take the test strip electrode out of the vial and close the vial instantly.
- (8) Insert the test strip electrode into the adapter of the cable.
- (9) Immerse the strip sampling port end into the test sample until the white line.



- (10) Press the Inspect icon  , bubble icons will appear to indicate the status of measurement , 1 bubble (start) to 5 bubbles (pH measurement state)
If autosave was set, the reading data will be automatically saved to UX100 storage.



- (1) The meter can determine a stable reading for the pH measurement.
If you would like to use this function, tick the box Stable Hold in the setting. A lock symbol will appear next to the battery symbol. Once the pH measuring is stable, a notification (stable!) will be displayed on screen.
- (2) Another way to turn on the Stable Hold function is to press and hold the pH number reading on the screen for at least 3 seconds. A lock symbol will appear next to the battery symbol.



-
- (11) Tab  to end.



- (12) Do you want to save the data ? Press **Yes** to store the pH data or press **No** to cancel.

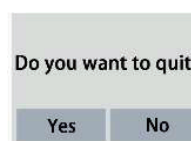


-
- (13) Back to the measurement screen, the same Lot.no. strips can be used for the next measurement.

measurement
screen



- (14) Tab  and tab **Yes** to return to main menu, tab **No** to remain in the measurement screen



7. Stored data Reading and Editing

Tab  to enter data editing Mode

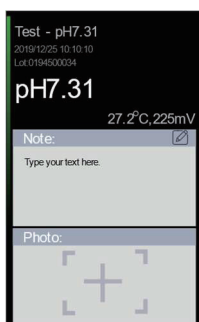
7.1. Read or Edit Data

Tab  to enter data Editing Menu



Tab and slide the screen to move the menu up and down.

Tab a record to enter data editing page, you can input text or take a photo to help memo the status.



Tab  to enter text input page to input text notes.

Tab  enter to save data, Tab  to cancel and return to previous page.

Tab  to initiate photo function.

Tab  to take photo.

Confirm screen appears.



Tab  to save, Tab  to return.

Long press a record to enter batch selection screen. You can tick single or multiple records to delete.



Tab  to select all records.

Tab  to delete all records, deleted records cannot be restored.

Confirm screen

Tab **Yes** to confirm deletion, tab **No** to cancel deletion.



7.2. USB Storage Mode to connect to PC

- (1) Connect the Meter to computer with USB cable, then choose and enter the **USB Storage Mode**, run the file manager of the computer to find "UX100 DISK".
- (2) Enter "UX100 DISK" root directory, UX100_UserManual.pdf can be found for download.
- (3) The directory "Data" in "UX100 DISK" contains all stored pH measuring data.
- (4) Enter "Data" directory, you can find "DataLog.txt" and "PHOTO" directory where photos were stored.
- (5) Copy "dataLog.txt" and "PHOTO" directory to PC.
- (6) Use EXCEL to run "DataLog.txt", select "Delimited " and choose "Tab" to separate and group the data. You can then save it as Excel file in your Computer.
- (7) Click the file name on the photo data column to open the photo file. (The Photo directory must be in the same directory of "DataLog.txt".)
- (8) To update firmware, store the newest updated directory FWUD.PACK into the UX100 DISK root directory and run the firmware update process.

8. Technical Data sheet

Specification	
Screen :	4.3" color LCD touch screen
IP Code :	IP54
Camera :	5 M pixels
Power :	5V DC · 2A(100/240V AC)
Battery :	Rechargeable battery 2500 mAh
Dimension (WxLxH) :	87 x 152 x 21 mm
weight :	250 g
Measuring range	
pH range :	0.00 ~ 14.00 pH
Electric Potential :	±1000.00 mV
Temperature :	10° ~ 40°C
Resolution	
pH Value :	0.01 pH
Electric Potential :	0.1 mV
Temperature :	0.1°C
Accuracy	
pH Value :	±0.1 pH
Electric Potential :	0.05%
Temperature :	±0.5° C

9. Warranty

- Under normal usage, UltraE provides a 12 month guarantee for material or manufacturing defects of products after purchase.
- The decision whether or not the guarantee is applicable is subject to UltraE's assessment of the defect cause.
- The guarantee explicitly excludes normal wear and tear and misuse of the meter.
- UltraE holds the right, at wholly its own discretion, to refuse guarantee claims in the event it suspects the meter has been used incorrectly. In cases of incorrect use, UltraE may, but is not obliged to, offer to repair the meter at regular repair fees.
- Please confirm the integrity of the product when purchasing the Meter.
- Any representations and guarantees made by any person, including distributors, representatives and employees of UltraE that are contradictory to the abovementioned guarantee conditions are void unless these are made in writing and signed by an authorized person.
- UltraE is not liable to users for any damages, either direct or indirect, relating to the misuse of the products and accessories