HUMMING PROBE pH Measurement system

User Manual (V1.2)

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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:

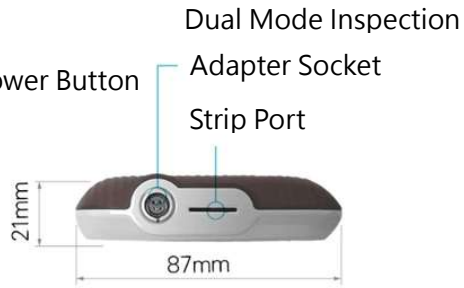
(1). UX100 : pH Measurement Meter (1 unit)
(2). UH1 : pH test Strip electrode (10 pcs in a vial)
(3). Strip Extended Connection cable (1 pc)
(4). Charger(1 pc)
(5). Micro USB cable for charging and data transfer. (1 pc)
(6). Brief User Manual
(7). User manual is built inside the Meter storage and can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

3. Product, Accessories and Function keys

3.1. UX100 pH Measurement Meter

Front

Side



Top

Back View

Built-in Adjustable Stand

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.

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

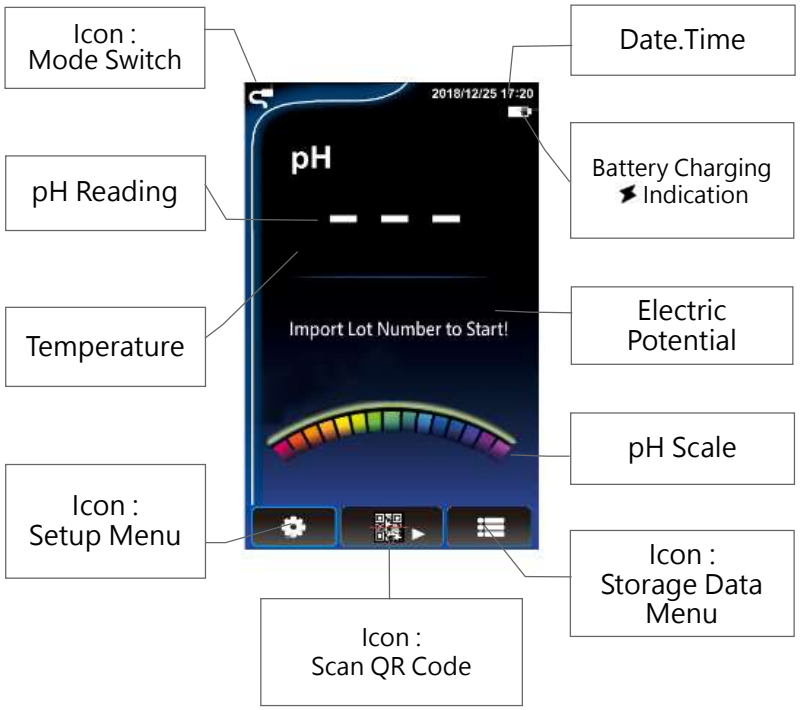
UX100 rechargeable battery can be used for a few hours after fully charged. Plug the Charger into 100/240V AC power supply and connect to the Meter with micro USB Cable.

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		

4. Main screen & Description

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



Icon	Touch icon description
	Mode Switch: Switch to Strip Port mode
	Switch to Cable Socket mode
	Setup : parameter setup
	Scan QR code : scan the QR code
	Enter storage data menu

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

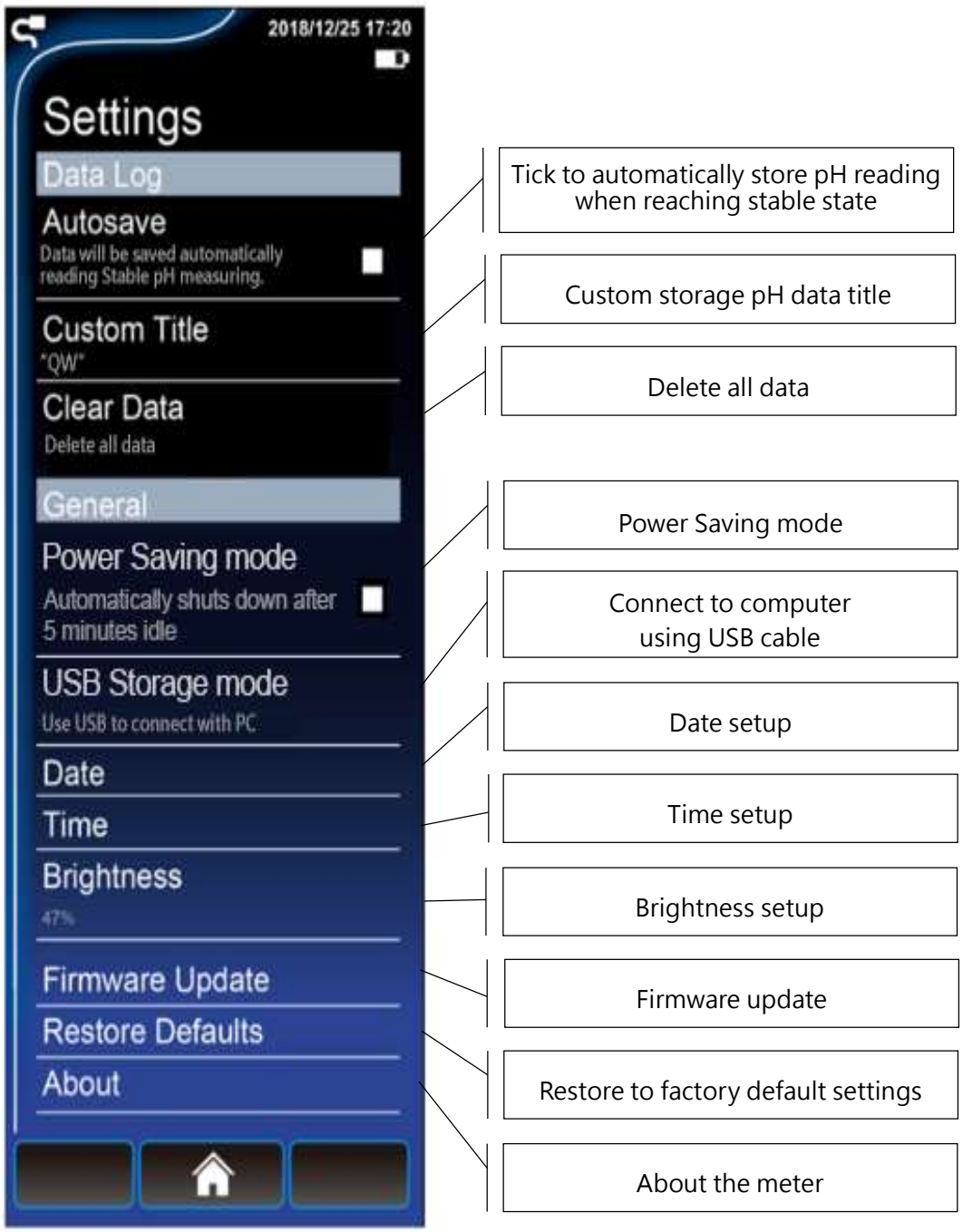
The left 10 digits is the Lot number, while the number behind # is the number of the strips in the vial un-used. Every time when you insert and pull out a strip, the number will be decrease by 1, and when the number becomes zero, rescan the QR code is necessary. This count down design is to remind users to re-scan the QR code of a new batch of strips .

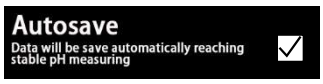
5. UX-100 Setup

5.1. Setup Menu and Function List

Click ⚙ to initiate setup menu

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

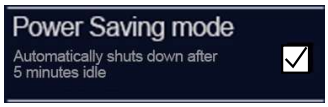




Tick here and Data will be saved automatically reaching stable pH measuring.

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.

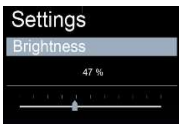
When Connected icon show up , the file manager of the computer will display the UX100 DISK disc. Tab Touch Here to Exit to disconnect from the computer and return to the main menu whenever needed.

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 Check firmware update at www.ultrae.com.tw. For new firmware found, download it to computer, then connect Meter to the computer using USB storage mode and save the update directory 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 un-used 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

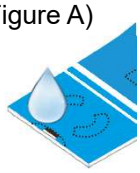
(4) Rescan: Align the “photo frame” with the QR code on the vial, and then press the scan icon to scan.

(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)

Figure A)



(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 (begin) to 5 bubbles (pH stable state)

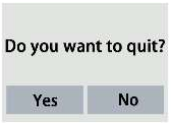
(10) When the pH stable state display, the pH measuring is done and the stable pH reading will display on screen. If autosave was set, the reading data will be automatically saved to UX100 storage.

(11) Press ■ 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 main the measurement screen, the same Lot.no. strips can be used for the next measurement.

(14) 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 un-used 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. If you have a CS200 mixer, you can attach the Extended Connection Cable to the bracket.

(10) Press the Inspect icon ,bubble icons will appear to indicate the status of measurement , 1 bubble (begin) to 5 bubbles (pH stable state)

(11) When the pH stable state display, the pH measuring is stabilized, and the stable pH reading will display on screen. If autosave was set, the reading data will be automatically saved to UX100 storage.

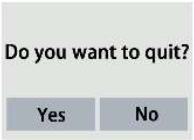
(12) Tab to end.

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

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

measurement screen

(15) 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 Save to save, Tab Back 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