INSTRUCTION MANUAL
MT115
PEN PH METER

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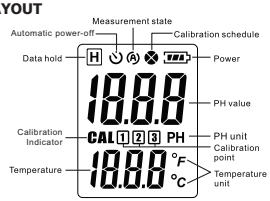
1. INTRODUCTION
The MT115 is a high-precision meter that simultaneously measures pH and temperature in various solutions, making it ideal for pool maintenance, industrial, agricultural, medical, food quality, research, and environmental applications. It features an LCD colour backlit display with data hold, retains memory even after power-off, and allows toggling between °C and °F. The meter automatically compensates for temperature variations to ensure accurate pH readings, identifies calibration solutions, and includes a battery indicator for remaining battery life. It also has an automatic power-off function after 10 minutes of inactivity, a red backlight alarm for pH levels below 3.5 or above 11.5, and indicates stable and reliable measurements.

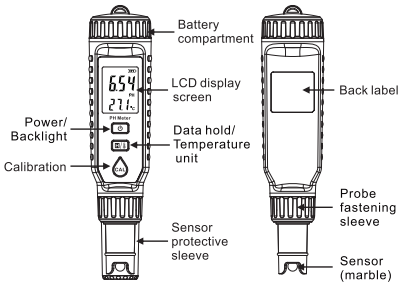
2. LCD LAYOUT



3. DISPLAY DECLARATION

Function	Range
Display [H]	The value will remain unchanged
Display [CAL]	Calibration Mode
Display [Lo]	pH value is below 0
Display [Hi]	pH value is above 14
Display [NUL]	No sensor / Sensor error
Display [ ] for <5 seconds	Indicates the measurement is stable and can be used as a standard value.
Power Display [ ]	Battery level with auto low power shutdown

4. INSTRUMENT LAYOUT



5.OPERATING INSTRUCTIONS
5.1. Power On/Off
Press the button to turn the meter ON. Press the Button again to toggle the automatic power-off function. Hold down the button to turn the meter OFF.
5.2. Data Hold
Press the button to enable or disable the data hold function. The pH value will be saved when the meter is turned off and displayed when it is turned back on. To continue measuring, manually clear the held value.
5.3. Temperature Unit Switch
Hold down the button to switch between °C and °F
5.4. Backlight
Press any button to activate the backlight for 10 seconds.
5.5. Automatic Power-Off
The meter will automatically turn off after 10 min of inactivity.
5.6. Calibration
Hold down the button to enter and/or exit calibration mode. It is recommended for you to follow the automatic calibration process. Press to skip automatic identification of the

calibration solution and directly carry out calibration.
5.7. Calibration sequence
SA1:PH=4.0 / 4.00 - SA2:PH=6.8/ 6.86 - SA3:PH=9.1/ 9.18
Automatic calibration: Automatically identify the calibration solution according to the sequence (4.00-6.86-9.18), when the [ ] symbol completes a full revolution, it indicates that the calibration step is completed; If the calibration of the first calibration point is completed, the sensor must be rinsed with water for 1 minute. Then the next calibration point should be calibrated according to the above sequence, and the automatic calibration should be saved. When the power is on, hold down , and the LCD will display [CAL] and [4.00]. After the product sensor is put into the solution with PH=4.00 (the marble in the middle of the sensor needs to be completely immersed), press to display the ADC value. Wait until the ADC value is stable, press again to record the value (or wait for automatic calibration of this point). Remove the sensor from the solution, rinse the sensor with water for 1 minute, and then gently wipe it off with a paper towel; When the LCD displays 6.86, place the sensor in the PH=6.86...Repeat the above steps.
After completing the calibration of SA1~SA3, the meter will display [End]. Wait for 1 minute, and the calibration mode will end automatically. During the calibration process, if [Err] is displayed, it means that either the marble contacts have identified that the solutions are in the wrong order or the sensor is wrong. Recalibration or single point calibration may be required.

6. WARNINGS
The MT115 will require re-calibration if the following occurs:
1. Sensor electrodes have been left in the probe buffer solution for too long;
2. If the probe has been replaced by a new one;
3. After measuring solutions containing fluoride and/or whose pH is＜7 or strong organic solutions.

6.1. Things to know
Initial Setup: Before the first use or calibration, pour a sufficient amount of buffer solution into the protective cap to

fully soak the sensor. Ensure the absorbent rod is completely wet; if dry, soak it for at least 2 hours.
Storage: After each use, rinse the sensor with clean water and store it in a buffer solution to keep it ready for immediate use next time.
Prohibited Immersions: Avoid immersing the probe in distilled water, protein solutions, or acid anhydride solutions for extended periods. Also, prevent contact with organic silicone grease.
Handling Strong Acids and Bases: When measuring concentrated acids (pH<2) or alkalis (pH>12), limit immersion time to no more than 10 seconds. Afterwards, rinse the probe with distilled water for at least 1 minute, then soak it in a buffer solution for at least 2 hours to prevent damage.
Disposal of old batteries: This must comply with local laws and regulations. Major Tech assumes no liability for any consequential outcomes arising from the use of its products. The company reserves the right to update and modify product design specifications and instructions without prior notice.

7. SPECIFICATIONS

Function	Range
PH Measurement Range	0.00 to 14.00
PH Resolution	0.01
PH Measurement Error	±0.05
Temperature Range	0°C to 60°C (32°F to 140°F)
Temperature Resolution	0.1°C
Temperature Error	±1.0°C
Power Supply	2 x 1.5V AAA Batteries
Display	Backlit LCD Display
Working Temperature	0°C to 60°C
Backlight	Dual color backlight (white, red)
Red Backlight Alarm	PH <3.5 or PH> 11.5
Dimensions	Ø43 x 190mm
Weight	129.5g

8. WARRANTY
Warranty Coverage
Major Tech warrants its test instruments to be free from defects in materials or workmanship under normal use and service for a period of two (2) years from the date of shipment. This warranty is extended exclusively to the original purchaser, provided the online Product Registration has been completed on either www.major-tech.com or www.majortech.com.au, depending on which country the product was purchased. This warranty is non-transferable.

Exclusions
This warranty does not cover:
- Disposable batteries and fuses
- Damage caused by leaking batteries (damaging the meter and components)
- Normal wear and tear of mechanical components
- Failures caused by use outside the product's specifications
- Any product which, in the opinion of Major Tech, has been misused, contaminated, or damaged due to neglect

Check Procedure
Prior to contacting Major Tech or a distributor regarding a warranty claim, please check the following:
- Batteries are installed correctly
- Battery condition – either replace disposable batteries or ensure rechargeable batteries are charged where applicable
- Test leads are inserted in the correct terminals and are fully inserted, no damage to test leads

Contact Information
For any warranty claims or inquiries, please contact either Major Tech or the distributor from whom the product was purchased.