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# User's Guide



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## PHH-7011 pH/mV/Temp Waterproof Tester

M-4647/0408

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## Introduction:

Thank you for selecting model PHH-7011 microprocessor-based waterproof pH/mV/Temperature tester. It is possible to measure a wide range of pH, ORP and Temperature with a replaceable electrode. We recommend that you read and follow the manual carefully.

## Features:

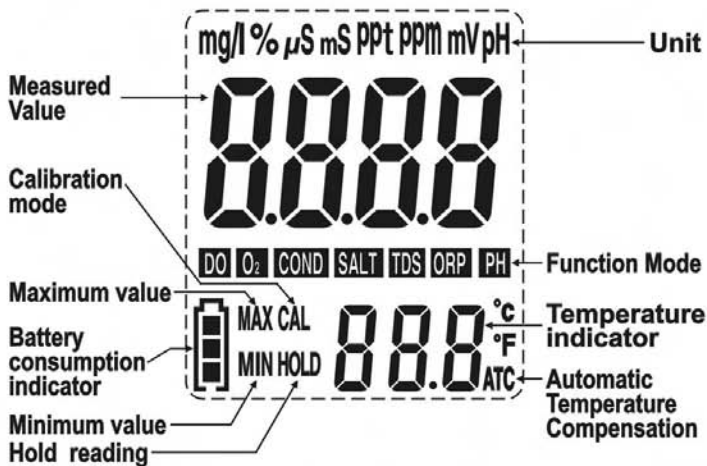
- ※ Large LCD displays pH and Temperature simultaneously.
- ※ Waterproof IP-57 standard and rugged design for field use conveniently. It floats on water.
- ※ Automatic Temperature Compensation (ATC) and degree °C/°F switchable.
- ※ Displays function mode automatically during insert sensor module.
- ※ Icon **PH** **ORP** and unit **pH, mV, °C, °F** for recognition easy during select functions mode.
- ※ Displays Maximum/Minimum value and data hold.
- ※ Battery low and consumption indicator. Auto shut off after 10 minutes of non use.
- ※ Easy to replace pH or ORP electrode module by user.

**Specifications:**

<b>PHH-7011</b>			
	<b>pH</b>	<b>ORP</b>	<b>Temp.</b>
<b>Range</b>	-2 ~ 16.00	-1000 ~ 1000	0 ~ 90.0 °C
<b>Accuracy</b>	± 0.01 + 1 digit	± 2 + 1 digit	± 0.2 °C + 1 digit
<b>Resolution</b>	0.01 pH	1 mV	0.1 °C
<b>ATC</b>	0 ~ 90 °C		
<b>Calibration</b>	pH 4.00, 7.00, 10.01		
<b>Power</b>	DC1.5V × 4 battery (UM-4/AAA)		
<b>Dimensions</b>	Meter: 195 × 40 × 36 mm, Kits: 230 × 205 × 50 mm		
<b>Weight</b>	Meter: 150g (with battery), Kits: 700g		

**P2****Device Description:****P3**

## Display Description:



## Functions of keyboard:



### Power/ Calibration

1. Press button to switch power On or Off.
2. Press and hold button to enter calibration mode.



### Function Mode

1. Press and hold button to change degree °C or °F.



### Hold/Max & Min

1. Press button to enter Hold mode.
2. Press and hold button to enter Maximum/Minimum mode.  
Press button with light to get Maximum and Minimum value.
3. Press and hold button again to exit this mode and return to measurement mode.

## Operating procedure:

### Accessories

Upon receiving the shipment, inspect the container and equipment for any signs of damage. Remove the packing list and verify that you have received all equipments :

**Meter, Buffer solution pH 4 & 7, Soaking solution, Lanyard, Battery(has been installed), Instruction manual, Carrying case.**

**Optional: ORP electrode, Buffer pH 10.01**


### Preparation

1. Remove the protection cap and unscrew soaking cap from meter to rinse the electrode with clean water and wipe it dry. Retain soaking solution from cap, and replace cap when done.
2. Press button to turn the meter power on.

### Calibration

< pH >

1. Make sure the sensor is pH electrode, or check the icon **PH** shows at LCD display.
2. Dip the electrode into the buffer solution pH 7. Stir gently and wait until the display stabilized. Press and hold button to enter calibration mode until the display appears icon **CAL**, and then flashes 7.00. When the display stops flashing and indicates "SA", then "End" the calibration is ending, and the display returns to the measurement mode.

3. Rinse the electrode with clean water and wipe it dry. Dip the electrode into the buffer solution pH 4. Stir gently and wait until the display stabilizes. Press and hold  button to enter calibration mode until the display shows icon **CAL**, and then flashes 4.00. When the display stops flashing and indicates "%" (percentage of slope), then "SA", then "End" the calibration is ending, and returning to measurement mode.
4. After slope calibration pH 4 or pH 10, the display will indicate percentage of slope (PTS) to show the status of electrode. If the PTS is below 70% or above 130%, the electrode must be replaced. A slope of 100% is ideal.


**Note:** (1) Icon "SA" will not appear if the calibration fails.  
 (2) When doing a 2 or 3 point calibration, Calibrate with buffer pH 7 first, and then follow with buffer pH 4 or pH 10.

## Measurement

### < pH >

1. After calibration, rinse the electrode with clean water and wipe it dry. Dip the electrode into sample solution to be measured. Stir gently and wait until a stable reading can be obtained.




### < ORP >

1. Insert ORP electrode, and the icon  will show at LCD display automatically.
2. Calibration is not necessary for ORP. But it could be tested with a specific ORP solution to check if electrode is good or bad.

3. Rinse the electrode with clean water and wipe it dry. Dip the electrode into sample solution to be measured. Stir gently and wait until a stable reading can be obtained.

**Note:** (1) The display will appear " \_ \_ \_ \_ " when it is over measuring range.  
 (2) After measurement, rinse the electrode with clean water. Replace the protective cap and soaking bottle. The soaking bottle should be always kept wet by adding soaking solution.

## Functions mode

1. Press  button to enter hold function mode. The icon **HOLD** will appear, and the reading value can be locked shows on display. Return to measurement mode while pressing button again.
2. Press and hold  button to enter measuring maximum and minimum function mode until the display appears flash icon **MAX** and **MIN**. The value of maximum and minimum will show at display while pressing button with light. To exit this mode, press and hold **H/M** button until icon **MAX** and **MIN** disappear, and return to measurement mode.
3. Press and hold  button to change Degree °C or °F.

**Note:** (1) The display will not auto shut off when in the MAX/MIN mode.  
 (2) Change a new battery when the battery indicator flashing.

## Maintenance:

### Battery replacement

1. Loosen the screw from battery compartment cap.
2. Replace with fresh AAA(UM-4) type batteries, and observing polarity.
3. Replace the battery compartment cap, and tighten with screw by screwdriver.

- Note:** (1) Be sure to observe correct polarity  
(2) Don't lose the O-ring which has been mounted on cap.

### Electrode replacement

1. Unscrew the electrode collar counterclockwise, and remove it completely.
2. Pull the electrode module out from the tester.
3. Plug an new electrode module into the tester socket carefully.
4. Replace and tighten the electrode collar to make a good seal.

### Applications:

Agriculture • Anti-freeze recycling • Aquarium • Boiler •  
Chemical industry • Cooling tower • Drinking water •  
Fish farming • Food industry • Garden husbandry •  
Hydroponic • Laboratory usage • Plating industry •  
Swimming pool & Spa • Water treatment

# Calibration Certificate

*This certificate guarantee that  
the product has been inspected  
and tested in accordance with  
the published specifications.*

*The instrument has been  
calibrated by using equipment  
which was already calibrated to  
standards traceable to international  
standards.*

**Model: PHH-7011**

**Serial no.:** \_\_\_\_\_

**Date** \_\_\_\_\_