

# User's Guide

MP-103 pH/ORP/Temperature Meter



CE

## **Introduction:**

We thank you for having purchased MP-103 portable pH/mV/Temp meter.

Before using the instrument, please note that the operation instructions should be read carefully, which will help you to operate and maintain the instrument, as well as to avoid trouble caused by unsuitable operation and maintenance.

MP-103 portable meter employs leading edge technology with integrated microprocessor, which is suitable for measurement in water solutions for institutes, industrial labs and production fields.

The information presented in this manual is subject to change without notice as improvements are made.

## **Features:**

1. Microprocessor based designed.
2. Large LCD displays pH and Temperature simultaneously.
3. Splash proof housing and rubber protective holster.
4. Automatic Temperature Compensation(ATC) or Manual Temperature Compensation(MTC)
5. Simple to calibrate by one keyboard for 5 points buffer.
6. Indicate percentage of slope (PTS) after calibration
7. Auto shut off after 10 minutes of non use.

## Specifications:

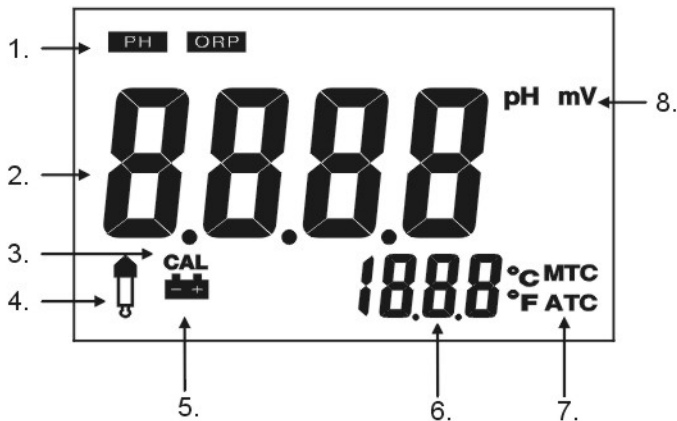
	pH	ORP	Temp.
Range	-2.00~16.00 pH	-1999 ~ -200 mV -199.9 ~ 499.9 mV 500 ~ 2000 mV	0~110 °C
Accuracy	±0.01+1 digit	±2+1 digit	±0.2+1 digit
Resolution	0.01 pH	0.1/1 mV	0.1 °C
Compensation	ATC: 0~100 °C	N/A	

## Accessories:

Upon receiving the shipment, please inspect the container and equipment for any signs of damage. Please verify that you have received the corresponding accessories as below:

**pH electrode, Temperature probe, Buffer 7.00 x 50ml, Buffer 4.01 x 50ml, 9V battery, User's Guide**  
**Optional: ORP electrode.**

## Display Description:







1. Function Mode
2. Measuring Value
3. Calibration Mode
4. Calibration error indicator
5. Battery power low Indicator
6. Temperature Indicator
7. Auto/Manual Temperature Compensation
8. Unit

## Device Description:



## Functions of Keyboard:


	Turn on or off power. Press 3 sec. to enter calibration mode
	Adjust the temperature reading in MTC mode.
	
	Choose different function mode. Press 3 sec. to switch °C/°F, or switch pH-mV or ORP-mV (in ORP mode)

## Preparation:

1. Open the battery compartment and connect the 9V battery.
2. Connect the electrode and T/probe to meter,
3. Remove the protection cap from the electrode. Press button to turn the meter power on.
4. Rinse the electrode and T/probe with clean water and wipe it dry.

## Calibration:

### <pH>

1. Make sure the sensor is pH electrode.
2. Dip the electrode and the temperature probe into the buffer solution pH 7.00. Stir gently and wait until the reading is stable. Press and hold “” for 3 sec. to enter calibration mode. The display will appear **CAL** and flashing 7.00. When the display stops flashing and indicates “**SA**”, then “**End**” while calibration ends, and will return to measurement mode.
3. Rinse the electrode and the probe with clean water and wipe it dry. Dip the electrode and the probe into the buffer solution pH 4.01 as previous steps.
4. After slope calibration, pH 4.01 or pH 10.01, the display will indicate the percentage of slope (PTS) to show the status of the electrode. If the PTS is below 70% or above 130%, the electrode must be replaced. A slope of 100% is ideal.

### Note:


1. Calibration error indicator icon will appear, and “**Err**” instead of “**SA**”, if 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.

### <ORP>


Calibration is not necessary for ORP. However, it could be tested with specific ORP standard solution to check whether the electrode is good.

## Measurement:

### <pH>

1. Press “” to choose pH mode.
2. After calibration, rinse the pH electrode and the temperature probe with clean water and wipe it dry. Dip the electrode and the temperature probe into the sample solution which is going to be measured. Stir gently and wait until a stable reading can be obtained.

### <ORP>

1. Insert ORP electrode, and press “” to choose ORP mode.
2. Rinse the ORP electrode with clean water and wipe it dry. Dip the electrode into the sample solution which is going 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 soaking bottle. The soaking bottle should be always filled with soaking solution (4M KCL).