

Economical Rugged Series

M1300K

T-HENG

ECONOMICAL RUGGED SERIES

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INTRODUCTION

The Economical Rugged pH/ORP Meter (Model M1300K) is cost-effective and meets requirements of most users. It is accord with Advanced Rugged Meters like fully waterproof, shockproof, reliable accuracy and a striking exterior.

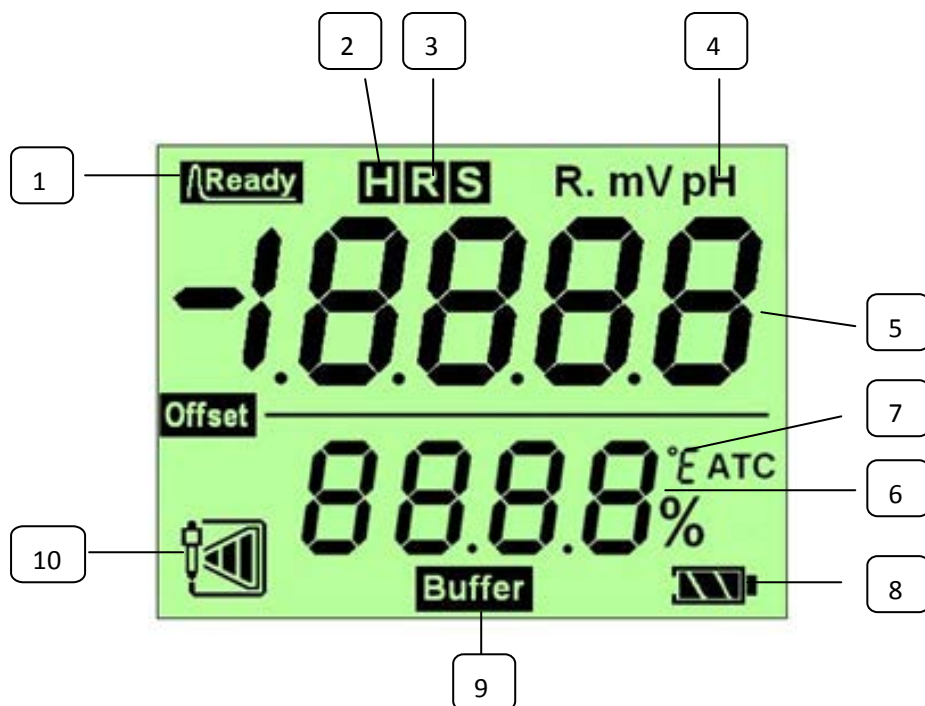
FEATURES

IP67 Waterproof
Shockproof
2*AAA Battery
User friendly
pH Measurement
ORP Measurement
High Accuracy
5 data points for Calibration
Automatic Temperature Compensation
Rapid Response
Restore Factory Default
HOLD
Auto Power-Off

MATERIALS SUPPLY





Meter
2*AAA Battery
Instruction

LCD DISPLAY



	Name	Description
1	Ready	Displayed when measuring results are stable
2	H	HOLD
3	R	Restore factory settings
4	pH	Liquid unit
5		Main Display
6		Second Display
7	Temperature Scale	Current temperature scale
8	Battery Icon	Current battery power level
9	Buffer	Calibrating
10	pH Probe Life Icon	Need to replace new probe when it show blank <i>Note: Only for pH Functions</i>

pH Probe Life Icon :

90%~100% , shows full	
Between 85%~90% , shows 2 cells	
Between 75%~85% , shows 1cells	
Less than 75% , shows 0 cells and blinking	

KEYPAD

	Name	Function	Remark
1	POWER	Power on/off	
2	MODE	Switch mode	
3	HOLD/SET	HOLD/SET	

SETUP MODE

Power On

1. Press **POWER** once to turn the meter on.
2. Press **POWER** again to turn the meter off.

NOTE: All operations are operational when the meters power on.

Temperature Units

Temperature unit °C , Range [0.0 – 60.0]

Temperature unit °F , Range [32.0 – 140.0]

Working Mode

MODE , enter into different mode :

1. Enter into measurement mode as soon as power on.
2. Press **MODE** once , "pH" flash on the Second Display, pH mode
3. Press **MODE** twice , "mV" flash on the Second Display, ORP mode
4. Press **MODE** three times "°C" flash on the Second Display, Degrees Celsius temperature unit mode.
5. Press **MODE** four times , "°F" flash on the Second Display, Degrees Fahrenheit temperature unit mode.
6. Press **MODE** five times , "Buffer" flash on the Second Display , Calibration mode.
7. Press **MODE** six times , "R" flash on the Main Display , Restore factory default mode.

HOLD/SET

HOLD/SET , when in the Measurement Mode, it acts as HOLD function.

When in the Setting Mode, it acts as Confirmation or Selection function.

Set Temperature Units

1. Press **MODE** three times , “°C” flash on the Second Display , press **HOLD/SET** to confirm temperature unit.

When the meter connect to probe, current temperature value will show on the Second Display; on the other hand, show the default 25°C without probe.

2. Press **MODE** four times, “°F” flash on the Second Display, press **HOLD/SET** to confirm temperature unit.

When the meter connect to probe, current temperature value will show on the Second Display; on the other hand, show the default 77°F without probe.

pH Calibration

In the pH Measurement Mode

1. Immerse the pH probe in standard buffer solution until **READY** shows.(Get high accuracy ,please immerse the probe for 3min or longer .)
2. Press **MODE** five times, **Buffer** flash on the Second Display, press **HOLD/SET** to enter Calibration Mode. (BUFFER stop flashing)
3. The meter will automatically recognize the standard buffer solution and automatic calibration. During this process, calibration value will be shown on the Second Display.
4. After Calibration, meter automatically returns to Measurement Mode.

Up to 5 points calibration: 1.68 4.00 7.00 10.00 12.45

Temperature°C	pH1.68	pH4.00	pH7.00	pH10.00	pH12.45
0	1.67	4.01	7.12	10.65	13.42
5	1.67	4.00	7.09	10.52	13.21
10	1.67	4.00	7.06	10.39	13.00
15	1.67	4.00	7.04	10.26	12.81
20	1.68	4.00	7.02	10.23	12.63
25	1.68	4.00	7.00	10.00	12.45
30	1.69	4.01	7.00	9.87	12.30
35	1.69	4.02	6.99	9.74	12.14
40	1.69	4.03	6.98	9.61	11.98
45	1.70	4.04	6.97	9.48	
50	1.71	4.06	6.97	9.35	
55	1.72	4.07	6.97	9.23	
60	1.72	4.09	6.96	9.10	

Note : For high accuracy, we recommend that users should regularly calibrate.

In the following situation, users must recalibrate meters.

- Replace probe
- After measuring aggressive chemicals
- Need high accuracy
- After measuring strongly acidic/alkaline substances (pH<2 或 pH>12)
- At least once a month

ORP Calibration

In the ORP Measurement Mode

1. Immerse the ORP probe in standard solution until **READY** shows.(Get high accuracy ,please immerse the probe for 3min or longer .)
2. Press **MODE** five times, **offset** flash on the Second Display, press **HOLD/SET** to enter Calibration Mode. (OFFSET stop flashing)

3. Press **SET** adjusts to target value, plus 1 for every pushing; minus 1 for continuing press. Range $\pm 150.0\text{mV}$
4. After adjust to target value, press **MODE**, returns to Measurement Mode. If the target value is not equal to the measured value, unit show R.mV

ORP Calibration solution

No.1	mV	Chemical Formula	
1	256 mV	pH 4.00 buffer solution	Quinhydrone [1]
2	86 mV	pH 7.00 buffer solution	Quinhydrone [1]

[1]: Dissolved to saturation

Restore Factory Default

Press **MODE** six times , **R** flash on the Main Display , press **HOLD/SET** to restore factory default and meter will return to Measurement Mode after LCD full-shown for 1S.

AUTO POWER-OFF

The meter will automatically power off without any operation for 8 min.

SPECIFICATION

pH/ORP Meter			
Mode	pH	Voltage (mV)	Temperature
Range	0 to 14pH	-899.9~899.9	0.0-60.0°C (32-140°F)
Resolution	0.01pH	0.1mV	0.1°F (0.1°C)
Accuracy	±0.02pH	±0.6mV	±0.9°F(±0.5°C)
Responding Time	20S	20S	30S
Calibration	Up to 5 points		
Temperature Compensation	Auto (ATC) from 32-140°F or 0-60°C		
Operating Temperature	32-122°F (0~50°C)		
Battery	2*AAA		
Probe	Plastic electrode		