

# **Laboratory Conductivity Meter**

## **User Manual**

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# 1.Introduction

Thank you very much for your purchase of our company's high-quality conductivity meter, good ease of use, is our product's consistent pursuit.

## 1.1 Safety precautions

Operator protective measures



Do not work in an explosive environment! Because the instrument case is not airtight (May be due to spark formation or immersion in gas corrosion caused by the risk of explosion).



When using chemicals and solvents, follow the operating instructions and experiments provided by the supplier room safety procedures to operate!

### Operators operate safety precautions



Do not separate the housing of the instrument, allowing only professional service personnel to repair the instrument!

Please avoid the following environmental factors:

Violent shaking

Long in the sunshine

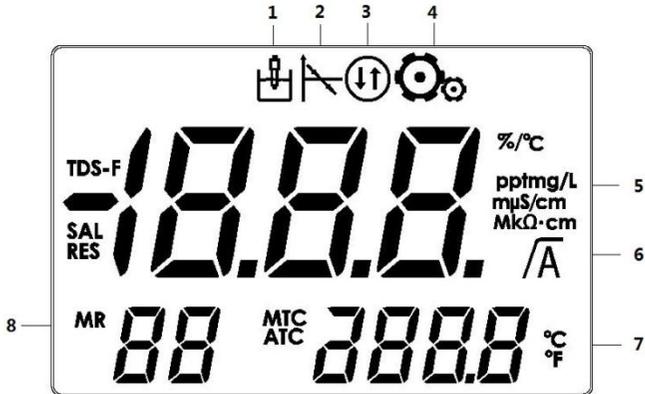
Atmospheric humidity more than 85%

The presence of corrosive gases

Ambient temperature below 5 ° C or more than 40 ° C

Strong electric field or magnetic field

## 1.2 Display and button



1. Measurement icon
2. Electrode calibration icon
3. Print (data send out) icon
4. Parameter setting icon
5. Temperature compensation coefficient units, measurement units, measurement mode and measurement values
6. Read the stability icon/automatic end point icon
7. Measurement process temperature  
/reference temperature value of calibration process
8. Error Index/Storage Data Index

**Button description:**

Button	Short press	Long press ( 3 seconds)
 (OK)	Read Confirm setting	Set the end point
 (Calibration)	Calibration	Calibration data recall
 (ON/OFF)	Turn on/ Exit	Turn off
 (Store/Exit)	Measurement data storage /Exit	View storage data
 (Mode)	Mode switch Decrease value	-----
 (Setup)	Parameter setting Increase value	-----

## **2. Operation**

### **2.1 Calibration**

Instrument built-in conductivity electrode calibration has standard solution calibration and constant calibration two methods. As described below for the standard solution calibration method, constant calibration method, please refer to

#### 2.4.2 Electrode constant setting

##### **2.1.1 Select standard solution**

Refer to 2.4.1.

##### **2.1.2 Electrode calibration**

Place the conductivity electrode in the appropriate standard solution and press the "Cal" button to start the calibration. The LCD will display the calibration icon.

After the signal is stabilized, the instrument will automatically end according to the preselected end point or press the "OK" button.

When the end point (automatic end point or manual end point) is reached and the instrument is displayed, the instrument displays the calibration liquid value and the electrode constant is displayed. Press the "OK" button to save the calibration result and take effect. Then return to the sample measurement mode. Press "Exit" to discard this calibration.

Note: To ensure accurate conductivity readings, the conductivity electrodes should be calibrated regularly with standard solutions.

##### **2.1.3 Check the calibration information**

Press and hold the "Cal" key for 3 seconds to display the standard solution, electrode constant, and temperature used for the last successful calibration.

## **2.2 Sample measurement**

Place the electrode in the sample solution and press the "OK" key to start the measurement, and the decimal point on the screen flashes. The automatic measurement end point (A icon displayed) is the default setting for the instrument.

When the result is stable, the decimal point is no longer flashing, and there is  $\sqrt{A}$  display on the screen.

Press and hold the "OK" key to toggle between automatic and manual measurement end mode. To manually measure an end point, press the "OK" key, display value is fixed.

When the results are stable, the screen will be displayed  $\sqrt{\quad}$ .

## **2.3 Measurement mode switching**

Press the "Mode" button, the instrument will be in the conductivity, resistivity, salinity, TDS switch between.

## **2.4 Parameter setting**

Press the "Mode" key for 3 seconds to enter the parameter setting mode, press "Setup"/"Mode" to select the desired setting parameters,

Press "Exit" to exit the parameter setting mode, return to the measurement mode;

Press "OK" to enter the corresponding parameter settings page, press the "Setup"/"Mode" to adjust the parameters;

Press “Exit” to exit the corresponding parameter setting page, return to the parameter setting mode;

#### 2.4.1 Set standard solution

Appears "Std", press “OK” to enter the standard solution mode. 

Instrument within the three categories of a total of nine standard:

Europe and the United States series: 84 $\mu$ S/cm, 1413 $\mu$ S/cm, 12.88mS/cm

Chinese Series: 146.6 $\mu$ S/cm, 1408 $\mu$ S/cm, 12.85mS/cm

Japan Series: 26.6 $\mu$ S/cm, 133 $\mu$ S/cm, 1330 $\mu$ S/cm

Default: 84 $\mu$ S/cm

#### 2.4.2 Electrode constant setting

"CC" appears and press “OK” to enter the electrode constant setting mode. 

Note: It is recommended to use the standard solution calibration method.

In the absence of a standard solution, modify the electrode constant on the conductivity electrode instructions.

The value following "CC" is the current electrode constant preview value (only one decimal) is displayed.

Default: 1.00/cm

2.4.3 TDS coefficient setting 

"TDS-F" appears and press “OK” to enter TDS coefficient setting mode.

Default: 0.50

2.4.4 Temperature compensation coefficient setting

Appears "TCF", press "OK" to enter the temperature compensation coefficient setting mode.

Default: 2.00%/°C

#### 2.4.5 Temperature unit setting

Appears "TU" , press "OK" to enter temperature unit setting mode. 

Default: 2.00%/°C

#### 2.4.6 Manual temperature compensation setting

"MTC" appears, press "OK" to enter the manual temperature compensation setting mode. 

Note: When the temperature probe is not connected or the measured temperature exceeds the instrument measuring range, the instrument will automatically use the temperature values set here.

Default: 25.0 °C

#### 2.4.7 Reference temperature setting

"rTF" appears, press "OK" to enter the reference temperature setting mode.

Note: The instrument built-in 25 °C and 20 °C two reference temperatures for option.

Default: 25 °C.

#### 2.4.8 Voice prompt setting

"BUZ" appears, press "OK" to enter the voice prompt setting mode. 

Default: ON (with voice prompts)

#### 2.4.9 Printout setting

"Prt" appears, press "OK" to enter the printout setting mode 

**Note:** the automatic end, manual end or calibration is completed,  
the data is printed from the set;

The following conditions are not affected by this setting

1. Boot, automatic test print output
2. Print storage data

Default: ON (automatic printout)

#### 2.4.10 Clear storage data

Appears "MR CLr", press "OK" to enter the clear storage data mode, 

Press "OK" appears "MR nUL", said the removal was successful,



Automatically exit this setting.

Press "Exit" to exit this setting.

#### 2.4.11 LCD backlight setting

Appears "LEd", press "OK" to enter the LCD backlight setting mode 

Default: ON

### 2.5 Restore factory setting

Press the "OK", "Cal" and "Exit" keys at the same time, long press until the instrument displays "rST", the factory settings are successfully restored. 

## 2.6 Data storage

### 2.6.1 Store the reading

The instrument can store 99 groups measurement result. When the measurement is

finished, short press the "Store" button to store the data, and indicates the current index is stored in the display information storage location.

If "M99" is displayed, press "Store" again, "FUL" will be displayed on the display, indicating that the memory is full and you need to clear the memory. Please refer to 2.4.10 for operation.

Note: Each measurement data can only be stored once, and if stored again, the index does not increase.

### **2.6.2 View storage data**

In the measurement mode, long press the "Store" key to view the stored data from the memory. Press "Setup"/"Mode" to scroll through the stored results. Press the "Exit" key to exit.

## **2.7 Data printing**

The instrument can connect the printer to print the measurement results, calibration results and the stored data.

It is recommended to use a specified printer to avoid compatibility issues.

## 2.8 Error message

When an error occurs, an error code is displayed in the display area 8 (see 1.2)



Error code 2 (Err2).

Err2	The measured value is out of range (Refer to 4. Technical Indexes)	Is the electrode connected correctly and placed in the solution to be tested. Whether the electrode is calibrated.
Err3	Measure the temperature out of range (T [°C] <-5.0 or >105.0)	Keep the standard solution temperature is maintained within the specified range
Err4	Electrode constant is out of range (CC 0.01 or 19.99)	Make sure you use the buffer correctly and within the validity period. Clean or replace the electrode.

## 3. Meter maintenance

It is forbidden to separate the housing of the instrument.

In addition to the occasional need to use a damp cloth to wipe, the instrument does not need to do other maintenance. The shell is made of plastic and is subject to erosion by some organic solvents such as toluene, xylene and butanone. If this is the case, immediately wipe the spill onto the shell of such solvents.

## 4. Technical indexes

Instrument level: 0.5 level

Measuring range	Conductivity	0.00 $\mu\text{S}/\text{cm}$ ...199.9 $\text{mS}/\text{cm}$
	TDS	0.1 $\text{mg}/\text{L}$ ... 199.9 $\text{g}/\text{L}$
	Salinity	0.0 ppt...80.0 ppt
	Resistivity	0 $\Omega.\text{cm}$ ... 100 $\text{M}\Omega.\text{cm}$
	Temperature(ATC/MTC)	-5...105 $^{\circ}\text{C}$
Resolution	Conductivity	Automatic
	TDS	Automatic
	Salinity	0.1ppt
	Resistivity	Automatic
	Temperature	0.1 $^{\circ}\text{C}$
Electronic unit error	EC/TDS/Sal/Res	$\pm 0.5$ % FS
	Temperature	$\pm 0.3^{\circ}\text{C}$
Calibration	One point	
	9 preset standard solution (Europe, USA,China, Japan)	
Power supply	DC5V-1W	
Size/weight	220 $\times$ 210 $\times$ 70mm/0.5kg	
Monitor	LCD display	
Electrode input interface	Mini Din	
Data storage	Calibration data	
	99 measurements data	
Print function	Measurement results	
	Calibration results	
	Data storage	
Use environmental conditions	Temperature	5...40 $^{\circ}\text{C}$
	Relative humidity	5%...80%(Not condensate)
	Installation category	II
	Pollution level	2
	Altitude	$\leq 2000$ meters

