DDS-1702 Portable Conductivity Meter

User Manual

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1. Introduction

Thank you very much for purchasing our high quality electric conductivity meter, and it is easy to use. It is our consistent pursuit of our products.

1.1 Safety precautions

Operator protective measures



Do not work in an explosive environment! Because the instrument case is not airtight

(May cause an explosion hazard due to corrosion caused by spark formation or immersion in gas).



When using chemicals and solvents, follow the operator's operating instructions and laboratory safety procedures!

Operators operate safety precautions



It is forbidden to separate the shell of the instrument, only allow the company to appoint a professional service personnel to repair the instrument!

Please avoid the following environmental factors:

- 1. Violent shaking
- 2. Under sunshine for long time
- 3. Atmospheric humidity more than 85%
- 4. The presence of corrosive gases
- 5. Ambient temperature below 5 $^{\circ}$ C or higher than 40 $^{\circ}$ C
- 6. Strong electric field or magnetic field

1.2 Display and button



- 1. Persistent boot Icon
- 2. Measurement status icon
- 3. Calibration status icon
- 4. Parameter settings Icon
- 5. Battery status icon
- 6. Temperature compensation coefficient / measurement unit / measurement

mode / measurement value

- 7 Read steady icon / Auto terminal Icon
- 8. The reference temperature is measured during the temperature / calibration

process

9. Error index / store information

Button description:

Button	Short Press	Long Press (3 seconds)
(Reading)	ReadingConfirm setting	— Set the end point
(Calibration)	— Calibration	 Calibration data is echoed
(ESC)	— ESC— Turn on	— Turn off
(Store)	 Measuring data storage Up key to select a value 	— View storage data
(Mode)	 Mode Down key to select a value 	— Setting

2. Operation

2.1 Calibration

There are two kinds of calibration methods of electrode calibration, which are standard solution calibration method and constant calibration method. The following is standard calibration method. Constant calibration method, please refer to the 2.4.2 electrode constant setting

2.1.1 Standard solution

Reference 2.4.1.

2.1.2 Electrode calibration

The conductivity electrode is placed in the corresponding standard solution and calibrated according to the "calibration" button. The LCD will display the calibration icon. After the signal is stabilized, the meter automatically ends at the preselected end point or manually ends by the "Read" button To reach and lock the end point (end point automatic or manual end point) after the meter display calibration solution and show numerical electrode constant, according to the "Reading" button to save calibration results and put it into effect, and then return to normal sample measurement; according to "ESC" button to give up the calibration.

Note: in order to ensure accurate conductivity readings, the conductivity electrode should be calibrated regularly with standard solutions

2.1.3 View calibration information

Long press "Cal" button, the standard solution, electrode constant, and temperature used for the last successful calibration will be displayed in turn.

2.2 Sample Measurement

Place the electrode in the sample solution and press the "Read" button to start the measurement, and the decimal point on the screen flashes. The automatic measurement end point (with the A icon display) is the default setting for the meter. When the result is stable, the decimal point is no longer flashing, and there is a \sqrt{A} display on the screen.

Press and hold the "Read" button to toggle between automatic and manual measurement end mode. To manually measure an end point, press the "Read" button to display the value. When the results are stable, the screen / will be displayed.

2.3 Measurement Mode Switching

Press "Mode" button, meter will switch conductivity, resistivity, salinity and TDS.

2.4 Parameter Setting

Long press"Mode" button to enter parameter setting mode

Press "Store"/"Mode" to choose the parameter that need to set;

Press"Exit" it will exit the current setting mode and return to the previous mode;

Press "Read " enter the corresponding parameter settings page, press "Save" /

"Mode" to adjust the parameters.

2.4.1 Standard solution setting

Display the "Std", press "Read" to enter the standard solution mode Notes: meter within the three categories of a total of nine standard: Europe and the America Series: 84µS/cm, 1413µS/cm, 12.88mS/cm China series:146.5µS/cm、1408µS/cm、12.85mS/cm Japan series: 26.6µS/cm, 133µS/cm, 1330µS/cm Default: 84µS/cm

2.4.2 Electrode constant setting

Display "CC", long press " Read " to enter the mode electrode constant setting Note: Suggest to use calibration method of the standard solution Without the standard solution, modify the sensor constant on the sensor instructions.

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

Default: 1.00 / cm

2.4.3 TDS coefficient setting

Display "TDS-F", press " Read " to enter TDS coefficient setting mode Default :0.50

2.4.4 Temperature compensation mode setting

Appears"TC", Press" Read " to enter setting mode of temperature compensation Notes: Linear compensation (Ln) and non-linear compensation (nLn) are available,

FF

When the non-linear compensation is selected, the temperature compensation

factor set by 2.4.5 is disabled.

The non-linear compensation complies with the following standards: DIN 38404,

EN27888, ISO7888.

Default: Ln (linear compensation)

2.4.5 Temperature compensation coefficient setting

Appears "TCF", press "Read" into the temperature compensation coefficient setting mode Setting mode Note: The value following "TCF" is the current temperature compensation factor preview value (only one decimal) is displayed.

This setting takes effect only when 2.4.4 is set to Ln (linear compensation).

Default: 2.00% / °C

2.4.6 Temperature unit setting

2.4.7 Manual temperature compensation setting

"MTC" appears, press "Read" to enter the manual temperature compensation

setting mode MTC 250° c

Note: When the temperature sensor is not connected or the measured temperature

exceeds the meter measuring range,

The meter will automatically use the temperature values set here.

Default: 25.0 °C

2.4.8 Reference temperature setting

Appears "rFt", press "Read" to enter the reference temperature setting mode Note: The meter built-in 25 °C and 20 °C two reference temperature options. Default: 25 °C

2.4.9 Voice prompt setting

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

Default: ON (with voice prompts)

2.4.10 Clear storage data

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

And then press the "read" to confirm, there "MR nUL", said clear the success,

Automatically exit this setting; press "Esc" to exit this setting.

2.4.11 Automatic turn off setting

A continuous boot icon appears, press the "Read" to enter the automatic shutdown

setting mode **D**

OFF: Automatic shutdown, in the absence of any button case, more than 10

minutes after the automatic shutdown

ON: continuous boot

Default: OFF

2.5 Restore factory setting

Press the "Read", "Cal" and "Esc" button, long press to the meter display "rSt"

The factory settings are successfully restored."

_<u>[</u>]

+FE 250°

L!!7_



2.6 Data Storage

2.6.1 Store the reading

The meter can store 99 measurements. When the measurement is finished, press the "Store" button to store the data and store the information in the display location to indicate the current storage index.

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.

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" button to view the stored data from the memory. Press "Store" / "Mode" to scroll through the stored results. Press the "Esc" button to exit.

2.7 Error Message

When an error occurs, an error code is displayed in the display area 7 (see 1.2), for example, \mathbf{F} error code 2 (Err2).

Err2	The measured value is out of range (Refer to 4. Technical parameters)	Is the sensor connected correctly and placed in the test solution. Whether the sensor is calibrated.
Err3	The calibration temperature is out of range (T[$^{\circ}$ C] <0.0 or >35.0)	Keep the standard solution temperature is maintained within the specified range
Err4	the sensor constant is out of range (CC <0.01or >19.99)	Please confirm the use of the standard solution and within the validity period. Clean or replace the electrode.

3. Meter Maintenance

Forbidden to separate the housing of the Meter.

In addition to the occasional need to use a damp cloth to wipe, the meter 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

Meter level: 0.5 Level

	Conductivity	0.00 μS/cm199.9 mS/cm	
M	TDS	0.1 mg/L 199.9 g/L	
Measure Range	Salinity	0.0 ppt80.0 ppt	
	Resistivity	0Ω.cm 100MΩ.cm	
	Temperature (ATC/MTC)	-5105 °C	
	Conductivity / TDS /	Automatic sorting	
Resolution	salinity / resistivity		
	Temperature	0.1°C	
Electronic	Conductivity	±0.5 % FS	
unit error	Temperature	±0.3 °C	
Calibration	1 point		
Calibration	9 preset standards (Europe and America, China , Japan)		
Data storage	Calibration data		
	99 measurement data		
Power	4xAA/LR6(No5 battery)		
requirements			
Monitor	LED monitor		
Shell	ABS		