



# Table Top Meters

AB-T-TDS

## Warranty Card\*

Customer Name/ Address : \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Dealer Name/ Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Bill No. \_\_\_\_\_

Date -: \_\_\_\_\_

Product details

Dealer Stamp  
& Sign



RAKIRO BIOTECH SYSTEMS PVT LTD

Instruction Manual

AB-T-TDS  
TDS/CONDUCTIVITY METER

# AQUASOL DIGITAL Table Top Meters



An  
ISO 9001:2015  
Company



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## 1. Brief Instruction :

Thanks for buying and using the model AB-T-TDS Conductivity Meter (the following called “meter” in short. Before using this meter, please read the operation manual carefully in order to help use and maintain it correctly. On the basis of improving instrument of performance constantly, we reserve the right of changing the content of this manual and accessories in case of not notifying in advance. This meter is a perfect combination with the most advanced electronic technology, sensor technology and software design. This meter can measure the parameters of conductivity and temperature for high accuracy solution.

This meter has the following prominent features:

Built-in microprocessor chip, with the intelligent functions of automatic calibration, automatic/manual operation temperature compensation, data storage, function setting and data export. Adopts digital filter and step slipping technology to intelligently improve meters' response speed and result accuracy 😊 will appear when reading to be stable.

With the new type of conductivity electrode and temperature electrode, the conductivity measurement mode has the function of automatic temperature compensation. At the same time, it can measure RES, TDS and SAL more conveniently and accurately.

## 1.1 Product Packing

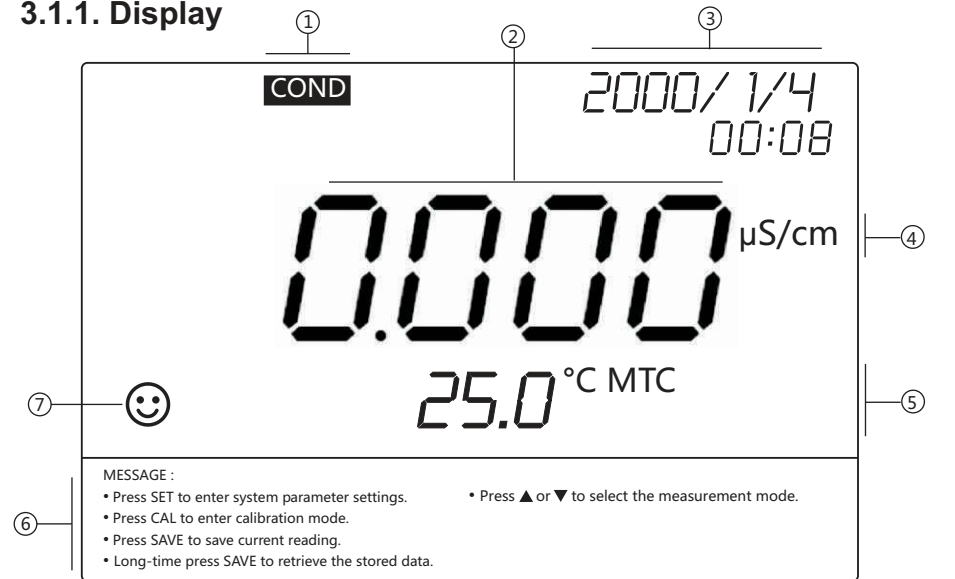
- a) AB-T-TDS – Meter – 1 Unit
- b) AME-CN-LG – Conductivity Electrode – 1 Unit
- c) AME-T-T10 – Temperature Electrode – 1 Unit
- d) Supply Adapter – 12V/1A
- e) Operating Manual

## 2. Technical Parameters :

Model No AB-T-TDS				
Parameter	Conductivity	TDS	Salinity	Temp
Range	0.0 to 200.0 mS/cm	0.0 to 100 PPT	0.0 to 100 PPT	0 to 100 Deg C
Accuracy	±1% FS	±1% FS	±1% FS	±0.2 + 1 Digit
Resolution	0.1µS/cm 0.1mS/cm	0.1 PPM 0.1 PPT	0.1 PPM 0.1 PPT	0.1 Deg C
ATC	0 to 60 Deg C	0 to 60 Deg C	0 to 60 Deg C	NA
Power	12V / 1A			
Size	240 × 170 × 80 mm			
Weght	550 Gms			

## 3. Instrument Structure

### 3.1.1. Display



- ① --- Parameter mode icon
- ② --- Measuring value
- ③ --- Time
- ④ --- Measurement unit
- ⑤ --- Temperature Value
- ⑥ --- Operation reminder
- ⑦ --- Stable symbols

### 3.2. Operation Key

The meter has 8 operation keys.

#### 3.2.1. ON/OFF – Switch On/Off meter

#### 3.2.2. CAL/LEFT – Calibration Key / Left Direction Key.

- (a) When measuring state, press this button to enter the calibration setting interface of the instrument.
- (b) When in system time & manual temperature compensation status, the key is a Left direction key.

#### 3.2.3. SAVE/RIGHT – Save Record Key / Right direction key

- (a) Under measurement status short press "SAVE" key can save measurement data in the corresponding mode (the lower right corner of screen will display serial number M+).
- (b) Under measurement status, long press "SAVE" key can recall saved data in the corresponding mode (RM and serial number will be displayed in search operation).
- (c) Under system setting and manual temperature compensation mode, it is used as the right direction key

### 3.2.4. ESC/PRN – Return Key / Print Key

- (a) Under measurement mode, it is used as printing key and can be printed directly through Bluetooth printer.
- (b) Under non - measuring mode, it is used as a return key.

### 3.2.5. SET – Enter System Setting

- (a) Under measurement mode, system setting interface can be entered through the key.

### 3.2.6. UP - Big switch mode, upwards key

- (a) In the measurement status, short press (no more than 1s) is used as a large handover mode, which enables to switch back and forth between several functions.
- (b) Under system setting and manual temperature compensation mode, it is used as the upwards key.

### 3.2.7. DOWN - Small switch mode, downward direction key

- (a) In the measurement mode, the key is used as a switching mode CONDUCTIVITY / RESISTIVITY / TDS / SAL.
- (b) Under system setting and manual temperature compensation mode, it is used as the downwards direction key.

### 3.2.8. OK – To Confirm key

## 3.3. Interface picture



- 1 - Temperature electrode interface
- 2 - No Connection
- 3 - Conductivity Electrode interface

- 4 - USB interface
- 5 - Data line interface
- 6 - Power interface

## 4. Instrument Measurement :

### 4.1 Preparation Work

- 4.1.1. Press “ON/OFF” key to turn on, press “UP” key, and press the “COND” button to select the conductivity measurement mode.
- 4.1.2. Insert the conductivity electrode and the temperature electrode into the corresponding interface of the instrument.

### 4.2. Instrument Calibration : (Standard Solution Method):

- 4.2.1. Press “CAL” key to enter the calibration mode, displays “CAL” on the screen, indicating to enter the calibration mode.
- 4.2.2. Wash the Conductivity & Temperature Electrode in pure water and dry it, then immerse them into the 1413 $\mu$ s/cm calibration solution, shake the electrodes and place them statically, when the measurement value is stable and show “☺”, then press the “OK” key, display 1413  $\mu$ s/cm, confirm the calibration is correct then press the “OK” key to complete the calibration, and save the data press “OK” key to exit the calibration mode, The icon “L M” will appear on the screen.
- 4.2.3. This instrument also has a unique single point calibration function. It should be calibrated according to the conductivity of the water sample and the calibration solution are as close as possible. The commonly used calibration solution is 1413  $\mu$ s/cm, using the K=1 electrode, it can be used in measurement range less than 100ms /cm. Other calibration points are (L) 84  $\mu$ s/cm, (M) 1413  $\mu$ s/cm, (H) 12.88ms/cm or (H) 111.9 ms/cm.

### 4.3. Instrument Measurement

- 4.3.1. Clean and dry the conductivity electrode, put it in sample solution with the temperature electrode, stir it and place stable, when the measurement value is stable and LCD appears the icon “☺” then read it out, which is the measurement value of the conductivity solution.
- 4.3.2. Short press “DOWN” key can simultaneously display resistivity values, TDS values and salinity values corresponding to conductivity values.

## 5. Instrument Settings :

### 5.1 Steps to Change Parameter Setting

Press **"SET"** to enter Setting Mode.

Press **"UP"** or **"DOWN"** to select parameter from P1 to P14.

Press **"OK"** to enter Parameter Setting.

Press **"UP"** or **"DOWN"** to select value and Press **"OK"** to confirm.

Press **"ESC"** to return to Measurement Mode

### 5.2 Setting Parameter and its Functions

Code	Parameter Setting
P1	Export Data to USB
P2	Date and Time
P3	Clear Stored Records
P4	Temperature Unit Selection
P5	Display Machine Code
P6	Android App Authorization Code
P7	Restore to Factory default
P8	Manual Temperature Compensation Value
P9	Bluetooth Mode Selection
P10	Electrode Coefficient Value
P11	Electrode Coefficient Range
P12	Standard Solution Selection
P13	Temperature Compensation Coefficient Value
P14	Datum Temperature Value

### P1 - Export Data to USB

This setting will transfer Data from Meter to USB disk in Excel Format (If no USB is detected Meter will prompt ERROR)

- In Setting Mode select **"P1"** and press **"OK"**. Data Will be copied to USB.
- Press **"ESC"** and Exit settings.

### P2 - Set DATE and TIME

This setting will set Date and Time

- In Setting Mode select "P2" and press **"OK"** to change Date an Time.
- Press **"UP"** or **"DOWN"** to change values, Press **"LEFT"** or **"RIGHT"** to shift between variables.
- Press **"OK"** to Confirm and **"ESC"** and Exit settings.

### P3 - Clear Records

This setting will delete Stored values in the Meter

- In Setting Mode select "P3" and press **"OK"** to Clean records.
- Press **"UP"** or **"DOWN"** to select record and press **"OK"** to Clear Value.
- Press **"ESC"** and Exit settings.

### P4 - Temperature Unit

This setting will select Temperature Unit Deg C or Deg F

- In Setting Mode select "P4" and press **"OK"** to select unit.
- Press **"UP"** or **"DOWN"** to select unit and press **"OK"** to confirm.
- Press **"ESC"** and Exit settings.

### P5 - Display Machine Code

This setting will display 4-digit Machine Code, used for Bluetooth paring.

- In Setting Mode select "P5" and press **"OK"**. Machine Code will be displayed.
- Press **"ESC"** and Exit settings

## **P6 - Bluetooth App Code** (Useful only when Bluetooth App is Purchased)

This setting will enter Bluetooth App Authorization Code in the machine for Android Bluetooth App and Meter Pairing.

- In Setting Mode select "P6" and press "OK" to enter code.
- Press "UP" or "DOWN" to enter values, Press "LEFT" or "RIGHT" to shift between variables.
- Press "OK" to Confirm and "ESC" and Exit settings.

## **P7 - Restore Factory Setting**

This setting will restore Meter to Factory Default Values.

- In Setting Mode select "P7" and press "OK" Machine will display "8888"
- Press "OK" to Confirm and "ESC" and Exit settings.

## **P8 - Manual Temperature Compensation**

(Default Value = 25 Deg C)

This setting will enter the manual temperature compensation value, applicable only if Temperature Electrode is not connected.

- In Setting Mode select "P8" and press "OK" to enter value.
- Press "UP" or "DOWN" to enter values, Press "LEFT" or "RIGHT" to shift between variable.
- Press "OK" to Confirm and "ESC" and Exit settings.

## **P9 - Bluetooth Operation Mode**

This setting will select Bluetooth Operation Mode

**APP Mode** - Use Android App to connect Meter

**Bluetooth Mode** - Use to print Meter reading on Bluetooth Printer

- In Setting Mode select "P9" and press "OK" to select APP or Bluetooth.
- Press "UP" or "DOWN" to select Mode and press "OK" to confirm.
- Press "ESC" and Exit settings.

## **P10 - Electrode Coefficient (K) Value setting**

This setting will enter Conductivity Electrode (K=1.0) value as mentioned on the electrode.

- In Setting Mode select "P10" and press "OK" to select value.

- Press "UP" or "DOWN" to select value and press "OK" to confirm.
- Press "ESC" and Exit settings.

## **P11 – Electrode Coefficient (K) Range setting**

This setting will select Conductivity Electrode (K=0.1/1.0/10) range as mentioned on the electrode.

- In Setting Mode select "P11" and press "OK" to select range.
- Press "UP" or "DOWN" to select range and press "OK" to confirm.
- Press "ESC" and Exit settings.

## **P12 - Standard Solution Selection** (USA/NIST/CHINA)

This setting will select Standard Solution range as mentioned on the electrode.

- In Setting Mode select "P12" and press "OK" to select range.
- Press "UP" or "DOWN" to select range and press "OK" to confirm.
- Press "ESC" and Exit settings.

## **P13 - Temperature Compensation Coefficient**

(Default = 2.00 % /Deg C)

This setting will enter Temperature Compensation Coefficient for Automatic Temperature Compensation.

- In Setting Mode select "P13" and press "OK" to enter value.
- Press "UP" or "DOWN" to enter values, Press "LEFT" or "RIGHT" to shift between variable.
- Press "OK" to Confirm and "ESC" and Exit settings.

## **P14 - Datum Temperature Setting**

This setting will select Datum Temperature (18 / 20 / 25) range as mentioned on the electrode.

- In Setting Mode select "P11" and press "OK" to select range (18 / 20 / 25).
- Press "UP" or "DOWN" to select range and press "OK" to confirm.
- Press "ESC" and Exit settings.