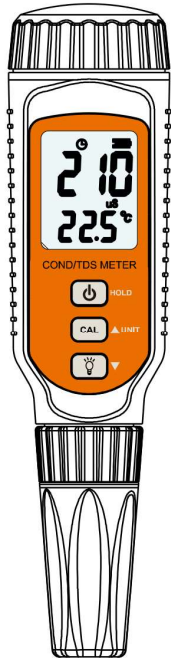




Pen Type Conductivity / TDS meter

INSTRUCTION MANUAL



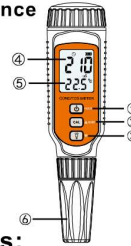
Version no: 6-AR8011-0016-01

INTRODUCTION

This device is an intellectual precise measurement apparatus. It design and made with industrial grade components and sensor, it have high sensitive and accuracy, stable to work with different temperature, small size for easy storage and hand carry. It can measure the conductivity value, TDS value and measure solvent's temperature under test. Conductivity /TDS meter widely applied in industrial, agriculture, medicine, food industrial, scientific research and environmental protection etc. It is very important that you read through this instruction before using this device to get the correct reading.

1.Explanation of the appearance

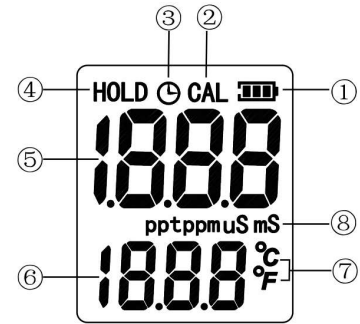
1. Power ON/OFF / Data Hold button
2. Unit selection / Calibrate / increase button
3. Back light / reduce button
4. Conductivity /TDS value reading area
5. Temperature reading area
6. Sensor Electrode



2. Technical parameters:

Technical parameters	
Conductivity measuring range	0 μS~1999 μS
	2.00mS~19.99mS
TDS measuring range	0ppm~1999ppm
	0ppt~19.99ppt
Conductivity / TDS measurement error	±3%F.S±1digit
Instrument Repeatability	±1μs/0.01mS
Solvent temperature compensation range	0°C~60°C
Temperature accuracy	±1°C
Power Supply	Lr44 button type battery X 4pcs
Display	Large LCD segment type display
Working temperature range	0°C~50°C
Working humidity range	≤85%RH
Size	180×25×45mm

3. LCD DISPLAY SCREEN



- 1) Battery power icon
- 2) Calibration mode icon
- 3) Timer icon
- 4) Data Hold icon
- 5) Conductivity /TDS value reading area
- 6) Solvent temperature reading area
- 7) Temperature unit °C / °F
- 8) Conductivity /TDS value unit

4. Key function of instrument

- 1) Normal measurement mode: The default mode after power up is normal measurement mode, in this mode you can measure the conductivity and solvent's temperature value under test or environmental temperature value. In this mode, immerse the test probe into the solvent can detect the conductivity and temperature of the solvent under test.
- 2) If you find the battery power icon [] become empty, please replace the battery immediately to sure the instrument work in good condition and no error. If the instrument don't use for a long period, please take off all the battery to prevent battery leakage damage the instrument.
- 3) []/HOLD key: depress to power on this instrument, after power on depress it to hold the measured value, depress it more than 3 second to turn off this instrument.
- 4) [UNIT/CAL/▲] key:
 - a) At normal measurement mode, depress more than 3 second go to calibration mode, CAL icon displayed in the screen.

บริษัท คอมคิวบ จำกัด

5. INSTRUMENT CALIBRATION METHOD

Open the battery door that located at the top of the instrument, insert four LR44 button type battery into this compartment with correct polarity. If you have replaced with a new sensor electrode, please do the calibration before use this instrument to measure. If measuring interval time is short, each month calibration once is enough.

Before calibrate this instrument, please immerse the sensor electrode with pure water at least 15minutes, to wetting the surface of the electrode and clean the surface of it.

This instruction use three point calibration method for calibrate this unit, please following the step one by one.

The unit and calibration solution must be calibrated at ambient environment temperature 25°C +/-2 °C. At normal measurement mode, depress [UNIT/CAL/▲] key more than 3 seconds, unit go to calibration mode (P0).

1. LCD screen shown "CAL 0uS P0", it go to zero point calibration mode, CAL keep flashing at the screen. Please rinse sensor electrode with distilled water and stirred few rounds to move out the bubble on the electrode, immerse the electrode in the pure water, keep sensor electrode about middle of the water, don't touch the bottom of the container, when the instrument detected the signal become stable (about 10 seconds), LCD display shown "PAS", it means the unit passed zero calibration and unit automatic go to next calibration point, LCD screen "CAL 1413 P1" means it successful passed the P0 calibration.
2. Clean the sensor electrode quickly with pure water, rinse the sensor electrode into 1413 uS Conductivity calibration solvent, and stirred few rounds to move out the bubble on the electrode, keep sensor electrode about middle of the water, don't touch the bottom of the container, when the instrument detected the signal become stable (about 10 seconds), LCD display shown "PAS", it means the unit passed P1 calibration. If you can't find 1413uS conductivity calibration powder, you can buy a similar one and setup the calibration point value by depress [UNIT/CAL/▲] key or [] key to match the value of your in hand conductivity calibration powder, the range of P1 calibration point is from 1000uS to 1800uS.
3. Clean the sensor electrode quickly with pure water, rinse the sensor electrode into 12.88mS Conductivity calibration solvent, and stirred few rounds to move out the bubble on the electrode, keep sensor electrode about middle of the water, don't touch the bottom of the container, when the instrument detected the signal become stable (about 10 seconds), LCD display shown "PAS", it means the unit passed P2 calibration. If you can't find 12.88mS conductivity calibration powder, you can buy a similar one and setup the calibration point value by depress [UNIT/CAL/▲] key or [] key to match the value of your in hand conductivity calibration powder, the range of P2 calibration point is from 10.00mS to 18.00mS.
4. If your Conductivity Calibration powder is not as our pre-set value, you can set it up by depress [UNIT/CAL/▲] key or [] key to match the value of your in hand conductivity calibration powder, then proceed the calibration as above method
5. If at the calibration process you find "Err" shown at the LCD screen, it means the calibration failed, maybe the calibration powder value not in our range or the sensor electrode damaged.

★ Warning tips for your health of water quality

TDS value	Water purity
0ppm ~ 50ppm	Purity very high
50ppm ~ 100ppm	Purity high
100ppm ~ 300ppm	Purity normal
300ppm ~ 600ppm	Purity low
600ppm ~ 1000ppm	Purity very low
>1000ppm	Poor purity, not suitable for drinking and cooking

TDS valve low, safety for health but no nutrition: TDS high, more nutrition contents but not safety for health.

The safety standard of U.S.A water quality of TDS value is 0ppm ~50ppm, for European standard is 0 ~ 70ppm, China national standard is not more than 500ppm. The generation description of TDS is the total dissolved solids of water, higher value means the chowder of different material is more, otherwise less.

Warranty period

1. The warranty period of the Conductivity electrode is one year of storage.
2. In this warranty period, if found malfunction of the instrument or electrode, factory have the reliability to repair or replaced with a good one.

Special Announcement

Our company reserved the right to change the design and the user manual without prior notice to the end user.



- b) In this CAL mode, you can depress "UNIT/CAL/▲" key to increase the value of P1 and P2 calibration point, long press it can increase the value in fast way.
- c) At normal measurement mode, depress it to select the unit of Conductivity/TDS.
- 5) []/ key:
 - i. Depress this key can turn on /off of the back light.
 - ii. In this CAL mode, you can depress Light bulb / V key to reduce the value of P1 and P2 calibration point, long press it can deduct the value in fast way.
 - iii. At normal measurement mode, depress []/ key more than 3 second go to Conductivity/TDS conversion factor mode, the factory pre-set value is 0.5, depress []/HOLD key 1 second go to temperature factor mode, the factory pre-set value is 2.1%, depress []/HOLD key 1 second again go back to normal measurement mode.
- 6) Auto Power Off setup: Before power up the unit, depress []/HOLD key and [UNIT/CAL/▲] key at the same time more than 3 second unit will go to Auto Power Off setup mode, LCD display shown APO ON or APO OFF wording, depress []/HOLD key can select APO ON or APO OFF in sequential, after selection, depress []/HOLD key more than 3 second will save the selection and back to normal measurement mode.
 - a) APO ON mode: LCD display shown the timer icon, if no any key in, unit will turn off after 5 minutes.
 - b) APO OFF: No auto power off function, user must turn the unit off by depress the []/HOLD key, also LCD no timer icon shown.
- 7) Temperature unit selection: Before power up the unit, depress []/HOLD key and []/ key at the same time more than 3 second unit will go to temperature selection mode, depress []/HOLD key once will select °C/°F in sequential, after selection, depress []/HOLD key more than 3 second will save the selection and back to normal measurement mode.
- 8) The factory default value of Conductivity and TDS conversion factor is 0.50, Temperature conversion factor factory default value is 2.1%, those default value can meet most of the application with precised measurement. So that we don't recommended to change the default setting, except the lab test result have much different with this instrument.