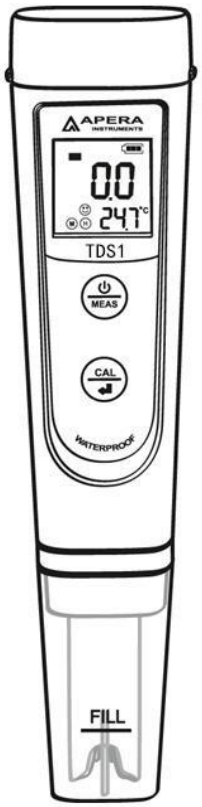
TDS1 Pocket TDS Tester

Instruction Manual



RoHS compliant

CE

ISO 9001: 2015

IP67 WATERPROOF

APERA INSTRUMENTS (Europe) GmbH

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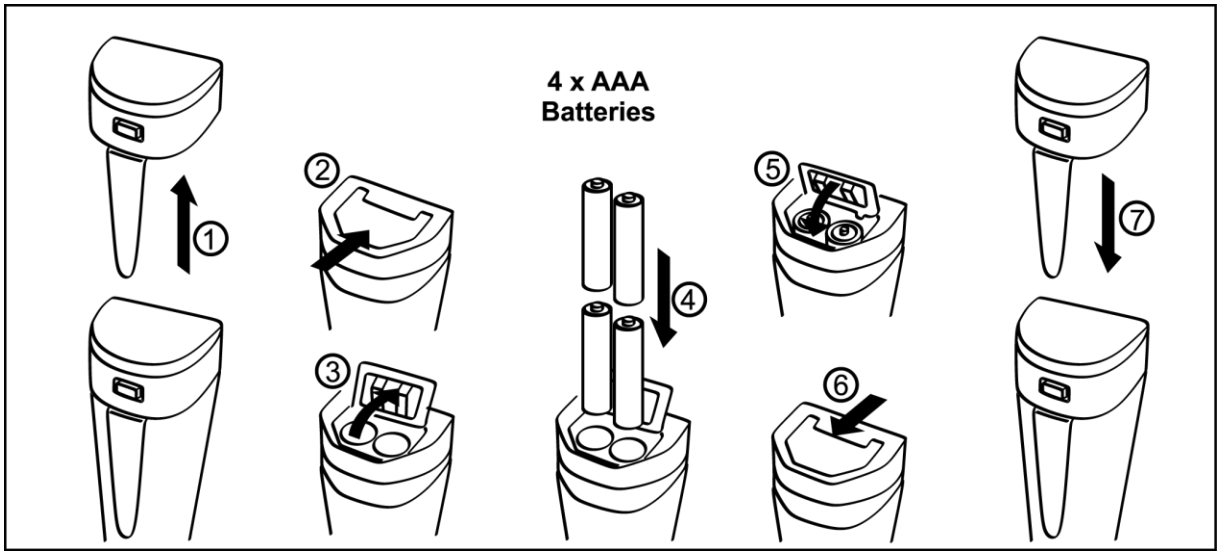
1. Battery Installation

Please install batteries according to the following steps. Please note polarity:

"**+**" (anode) is upward; "**-**" (cathode) is downward



2. Keypad Functions

■**Short press-------** < 2 seconds

■**Long press--------** > 2 seconds

MEAS	1. Short press to turn on, long press to turn off; 2. When turned off, long press to enter setup; 3. In mode setting, short press to change parameter;
CAL	1. When turned on, long press to enter calibration mode. 2. In calibration mode, short press to confirm calibration; 3. In mode setting, short press to confirm parameter selection.

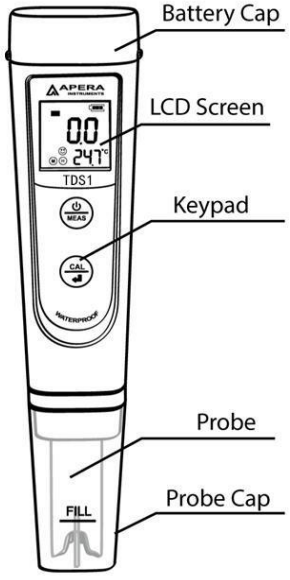


Diagram - 1

3. Complete Kit

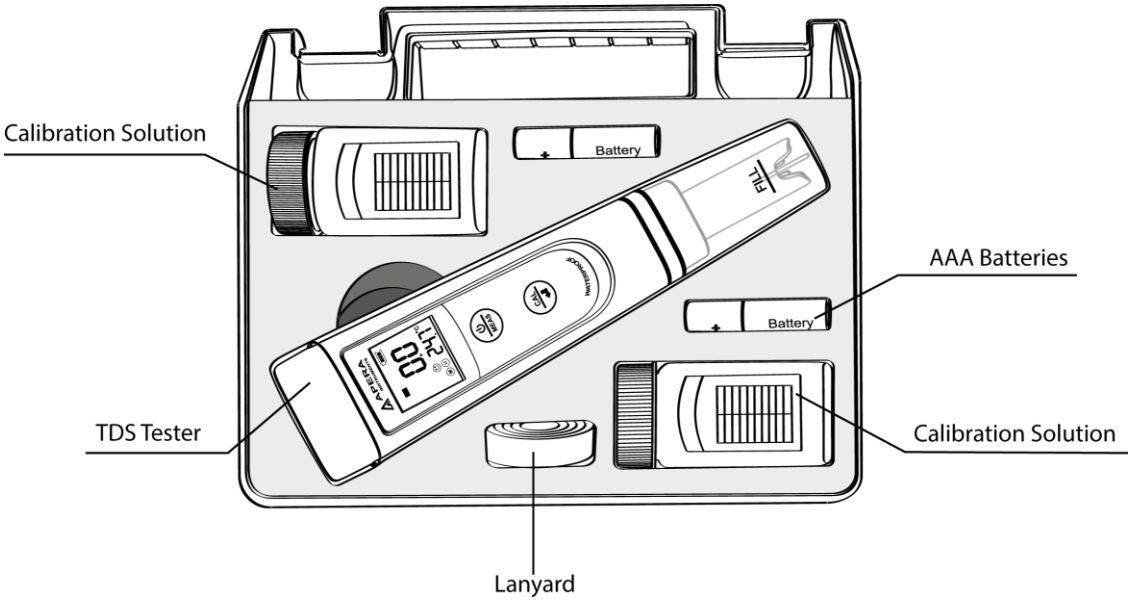


Diagram - 2

4. Calibration

4.1 Rinse the probe in distilled water and dry it. Short press MEAS to turn on the tester.

Diagram - 3

4.2 Long press CAL to enter calibration mode; Short press MEAS to exit.

4.3 Dip the probe into 1413 µS calibration solution. Stir gently, leave it to stand, LCD displays ☺ (Diagram 3), short press CAL to complete 1-point calibration. The tester returns to measuring mode, and calibration icon (M) appears at the button left of LCD.

4.4 Rinse probe in distilled water and dry it. Follow the steps in 4.2-4.3 to complete 2nd point calibration in 12.88 mS calibration solution, tester returns to measuring mode, calibration icons (M) (H) display on bottom left of LCD.

5. TDS Measurement

5.1 Short press MEAS to turn on tester. Rinse probe in distilled water and dry it.

5.2 Stir probe in the sample solution gently, leave it to stand. Get readings after the smile icon comes up and stays.

6. Notes

6.1 The tester adopts 1413 µS and 12.88 mS standard calibration solutions. Users can use 1-2 point calibrations as needed. For most circumstances, calibrating in 1413 µS to complete 1st point calibration will meet testing requirements.

6.2 The tester has self-diagnosis functions:

Symbol	Self-Diagnosis information	How to fix
Er 1	Wrong calibration solution, which exceeds the recognizable range of the meter.	1. Check if calibration solution is correct 2. Check if probe is damaged.
Er2	CAL is pushed before measurement is stable (☺ comes up)	Wait for the smile icon to stay, and then short press CAL

6.3 The tester has already been calibrated after manufacture. Usually users can use the tester right away, or test it in the calibration solutions to test its accuracy. When error is large, calibrate it before using.

7. Parameter Setting

7.1 Parameter setting reference chart:

Symbol	Parameter Setting Items	Code	Factory Default
P1	TDS Factor	0.40 to 1.00	0.71
P2	Select Temperature Unit	℃– ℉	℃
P3	Restore to factory default	No – Yes	No

7.2 How to setup parameters:

a) P1— Adjust TDS factor (0.40~1.00)

When turned off, long press MEAS to enter P1, press CAL , 0.71 (or other factor) flickering, press MEAS to adjust TDS factor (0.40~1.00), press CAL to confirm parameter selection. Long press MEAS to return to measurement mode. Factory default setting is 0.71.

Users can adjust TDS Factor by experimental data or experience. The following chart lists some commonly used TDS Factors for reference.

Conductivity and TDS Factor

Conductivity of the solution	TDS Factor
0~100 µS/cm	0.60
100~1000 µS/cm	0.71
1~10 mS/cm	0.81
10~100 mS/cm	0.94

b) P2-Select temperature unit (℃– ℉)

In P1 mode, press MEAS to enter P2, press CAL , ℃(or ℉) flickering, press MEAS to choose ℃– ℉, press CAL to confirm parameter selection. Long press MEAS to return to measurement mode.

c) P3-Restore to factory default (No – Yes)

In P2 mode, press MEAS to enter P3, press CAL , No flickering, press MEAS to choose No-Yes, press CAL to confirm parameter selection. Long press MEAS to return to measurement mode. No- cancel restore, Yes- restore.

When meter’s calibration or measurement performs abnormally, this function can be adopted so the meter goes back to factory default setting and then users can conduct calibration or take measurements again.

8. Technical Specifications

TDS	Range	0–100.0 ppm, 0–1000 ppm, 0–10.00 ppt
	Resolution	0.1/1 ppm, 0.01 ppt
	Accuracy	±1% F.S
	Calibration points	1-2 points
	Automatic Temp. Compensation	0-50˚C
Temp.	Range	0-50˚C
	Resolution	0.1˚C
	Accuracy	±0.5˚C

9. Other Functions & Parameters

Indication of calibration points	Ⓜ Ⓗ	Auto Power-off	Power-off in 8 minutes if no operation
Indication of stable measurements	☺	Waterproof level	IP67, floats on water
Self-Diagnosis information	**Er1, Er2**	Power Supply	AAA batteries*4
Low battery reminder	Flashes to remind to replace batteries	Battery Life	1000 hours
Dimensions/Weight	Instrument: 40*31*178mm/107g; Carrying case: 190*165*140mm/438g		

10. Warranty

We warrant this instrument to be free from defects in material and workmanship and agrees to repair or replace free of charge, at option of APERA INSTRUMENTS (Europe) GmbH, any malfunctioned or damaged product attributable to responsibility of APERA INSTRUMENTS (Europe) GmbH for a period of **two years** from the delivery (a **six-month** limited warranty applies to probes). This warranty does not apply to defects resulting from actions such as misuse (violation of the instructions in this manual or operations in the manner not specified in this manual), improper maintenance, and unauthorized repairs. Warranty period is the time limit to provide free service for the products purchased by customers, not the service life of the tester or probe.

Apera Instruments reserves the right to update the information in this manual without giving notice in advance.

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