.1 YEAR WARRANTY

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User's Guide

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MADE IN TAIWAN

CDS107

pH/ORP/Conductivity/TDS/ Salt/Temperature Meter

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Introduction:

We thank you for having purchased CDS107 portable pH/ORP/Conductivity/TDS/Salt/Temp meter.
Before using the instrument, please note that the operation instructions should be read carefully, which will help you to operate and maintain the instrument, as well as to avoid trouble caused by unsuitable operation and maintenance.

CDS107 portable meter employs leading edge technology with integrated microprocessor, which is suitable for measurement in water solutions for institutes, industrial labs and production fields.
The information presented in this manual is subject to change without notice as improvements are made.

Features:

1. Microprocessor based designed.
2. Large displays reading and Temperature simultaneously.
3. Splash proof housing and rubber protective holster.
4. Automatic Temperature Compensation(ATC) or Manual Temperature Compensation(MTC)
5. Simple to calibrate by one keyboard for 5 points standard solutions.
6. Indicate percentage of slope (PTS) after calibration.
7. Auto shut off after 10 minutes of non use.

Specifications:

	pH	ORP	Temp.
Range	–2.00~16.00 pH	–1999 ~ –200 mV –199.9 ~ 499.9 mV 500 ~ 2000 mV	0~110 °C
Accuracy	±0.01+1 digit	±2+1 digit	±0.2+1 digit
Resolution	0.01 pH	0.1/1 mV	0.1 °C
Compensation	ATC: 0~100 °C	N/A	

	Conductivity	TDS	Salt
Range	0.0~199.9µS 200~1999µS 2.00~19.99 mS 20.0~100.0 mS	0.0~131.9 ppm 132~1319 ppm 1.32~13.19 ppt 13.2~66.7 ppt	0.0~99.9 ppm 100~999 ppm 1.00~9.99 ppt 10.0~50.0 ppt
Accuracy	±2% FS	±2% FS	±2% FS
Resolution	0.1/1µS/0.01/0.1 mS	0.1/1ppm/0.01/0.1ppt	0.1/1ppm/0.01/0.1ppt
Compensation	ATC: 0~50 °C	ATC: 0~50 °C	ATC: 0~50 °C

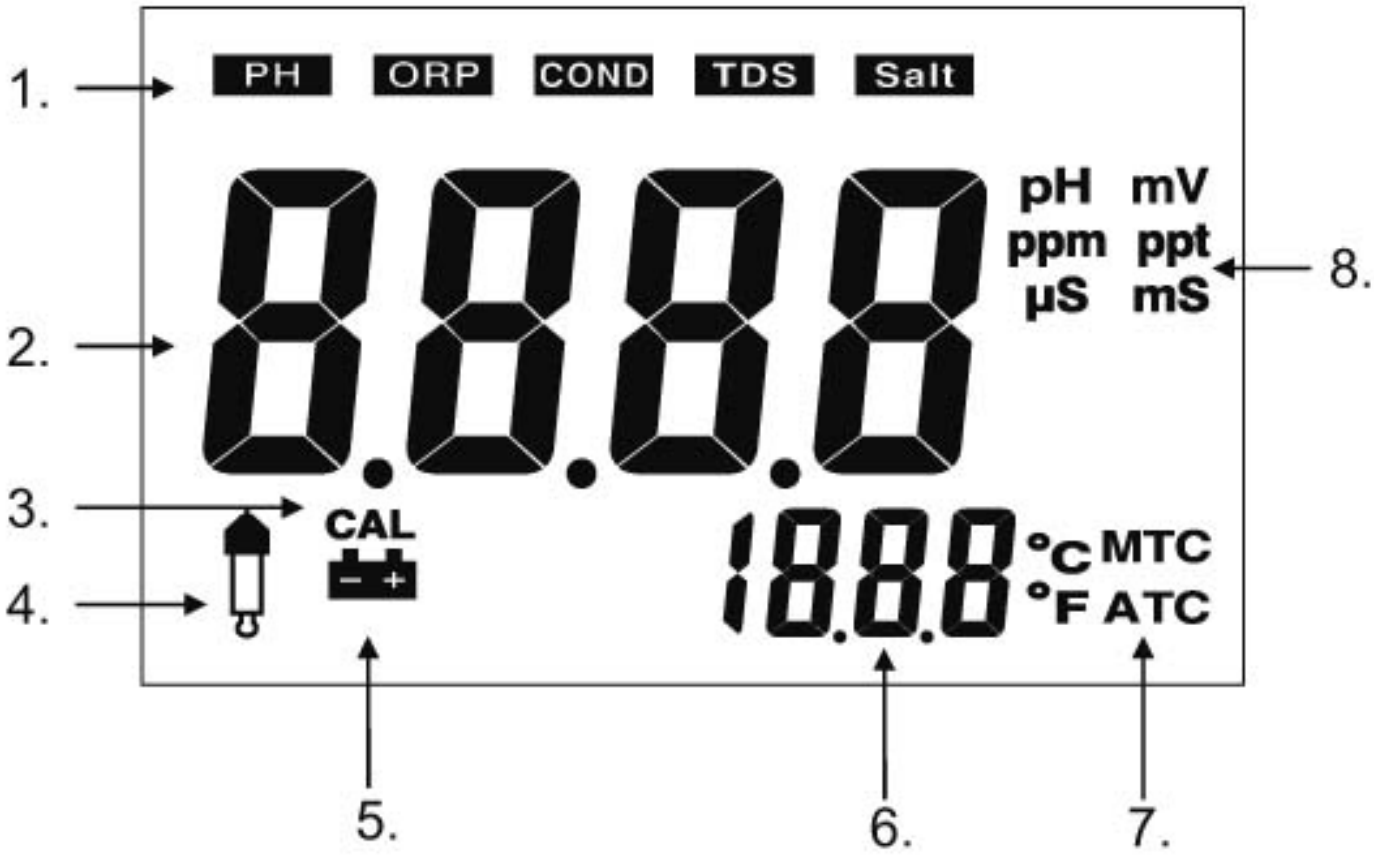
Accessories:

Upon receiving the shipment, please inspect the container and equipment for any signs of damage. Please verify that you have received the orresponding accessories as below:

pH electrode, Conductivity cell, Temperature probe, Buffer 7.00 × 50ml, Buffer 4.01 x 50ml, 1413µS x 50ml, 9V battery, Carrying case

Optional: ORP electrode

Display Description:



1. Function Mode
2. Measuring Value
3. Calibration Mode
4. Calibration error indicator
5. Battery power low Indicator
6. Temperature Indicator
7. Auto/Manual Temperature Compensation
8. Unit

Device Description:

Functions of Keyboard:

	Turn on or off power. Press 3 sec. to enter calibration mode
	Adjust the temperature reading in MTC mode.
	
	Choose different function mode. Press 3 sec. to switch °C/°F.

Preparation:

1. Open the battery compartment and connect the 9V battery.
2. Connect the pH electrode, ORP electrode or conductivity cell and T/probe to meter.
3. Remove the protection cap from the electrode or cell. Press button to turn the meter power on.
4. Rinse the electrode or conductivity cell and T/probe with clean water and wipe them dry.

Calibration:

<pH>

1. Make sure the sensor is pH electrode.
2. Dip the electrode and temperature probe into the buffer solution pH 7.00. Stir gently and wait until the reading is stable. Press and hold (MODE) for 3 sec. to enter calibration mode. The display will appear **CAL** and flashing 7.00. When the display stops flashing and indicates "**SA**", then "**End**" while calibration ends, and will return to measurement mode.
3. Rinse the electrode and probe with clean water and wipe them dry. Dip the electrode and probe into the buffer solution pH 4.01 as previous steps.
4. After pH 4.01 or pH 10.01 calibration, the display will indicate the percentage of slope (PTS) to show the status of the electrode. If the PTS is below 70% or above 130%, the electrode must be replaced. A slope of 100% is ideal.

Note:

1. Calibration error indicator icon will appear, and "**Err**" instead of "**SA**", if calibration fails.
2. When doing a 2 or 3 points calibration, Calibrate buffer pH 7 first, and then follow buffer pH 4 or pH 10.

<ORP>

Calibration is not necessary for ORP. However, it could be tested with specific ORP standard solution to check whether the electrode is good.

<COND, TDS, Salt>

1. Make sure the probe is Conductivity cell.
2. Dip the cell and temperature probe into the standard solution 1413 µS/cm. Stir gently and wait until the reading is stable. Press and hold (CAL) for 3 sec. to enter calibration mode. The display will appear **CAL** and flashing 1413µS/cm. When the display stops flashing and indicates "**SA**", then "**End**" while calibration ends, and will return to measurement mode.

Note:

1. Calibrate 12.88 mS/cm standard solution would be better for measuring high conductivity solution.
2. The icon **COND** will display automatically during calibration mode.
3. Calibration error indicator icon will appear, and "**Err**" instead of "SA", if calibration fails.
4. If the reading is not 0 µS/cm while the cell is in the air and not dipped into any solution, calibrate it in the air to make reading becomes 0 µS/cm.
5. The calibration point of Conductivity are 0, 84 µS/cm, 1413 µS/cm, 12.88 mS/cm and 80.0 mS/cm.

Measurement:

<pH>

1. Press (MODE) to choose pH mode.
2. After calibration, rinse the pH electrode and temperature probe with clean water and wipe them dry. Dip the electrode into the sample solution which is going to be measured. Stir gently and wait until a stablereading can be obtained.

<ORP>

1. Insert ORP electrode, and press (MODE) to choose ORP mode.
2. Rinse the ORP electrode with clean water and wipe it dry. Dip the electrode into the sample solution which is going to be measured. Stir gently and wait until a stable reading can be obtained.

Note:

1. The display will appear "----" when it is over measuring range.
2. After measurement, rinse the electrode and probe with clean water. Replace the soaking bottle. The soaking bottle should be always filled with soaking solution (4M KCL).

<COND, TDS, Salt>

1. Insert Conductivity cell, and press (MODE) to choose COND, TDS or Salt mode.
2. After calibration, rinse the conductivity cell and temperature with clean water and wipe them dry. Dip the electrode into the sample solution which is going to be measured. Stir gently and wait until a stable reading can be obtained.

Note:

1. The display will appear "----" when it is over measuring range.
2. The unit will auto-range to µS/cm or mS/cm, or ppm or ppt.
3. After measurement, rinse the cell and probe with clean water and replace the protective cap.
4. Don't touch or wipe the surface of the inner black plate of the conductivity cell.

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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