

twilight

INSTRUMENTOS DE MEDICIÓN INDUSTRIAL

**Medidor de conductividad de
bolsillo
AT-DEC-2**

www.twilight.mx



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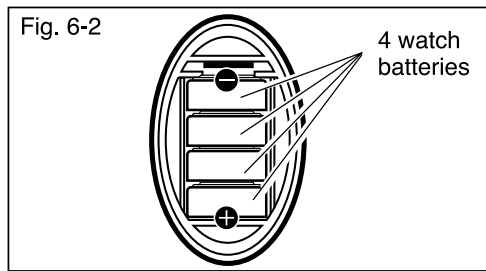
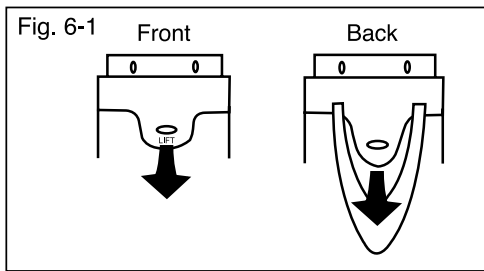
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■ 6. Battery Replacement

- ① Lift the locking clip on the front side of the battery compartment lid towards you until it is free.
Next, lift the clip on the back side in the same way to remove the lid completely (Fig. 6-1).
- ② As shown in Fig. 6-2, four watch batteries are included with the unit at the time of purchase.
- ③ When replacing new batteries, insert them in the same manner as shown in Fig. 6-2.
- ④ Replace the battery compartment lid, making sure the locking clips are secured.



■ 7. Repair and Warranty

The DEC-2 is warranted for one year after the date of purchase against any manufacturer defect in materials or workmanship. Since the DEC-2 is a precise electronic instrument, great care must be taken in the instrument's storage and use. If any mistreatment or misuse of the instrument is detected, the warranty will be voided and repair fees will be charged. Ask your supplier for more details.

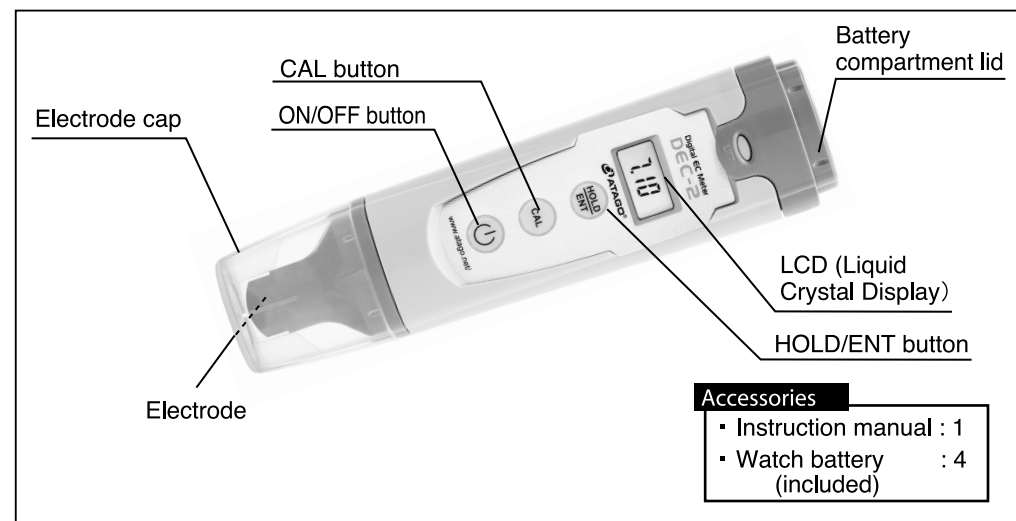
■ 8. DEC-2 Specifications

Measurement range : 0.0 to 19.90mS/cm
Minimum indication : 0.10mS/cm (The second decimal place remains '0'.)
Measurement accuracy : $\pm 0.20\text{mS/cm}$ (At 0.0 to 10.0mS/cm)
 $\pm 0.40\text{mS/cm}$ (At 10.10 to 19.90mS/cm)
Temperature correction range: 0 to 50 °C (Automatic Temperature Compensation)
Calibration : 12.9mS/cm standard solution
Power supply : watch battery (LR44) 1.5V \times 4
Dimensions and weight : 4.5 \times 3.0 \times 16.3cm, 90g

⚠ Caution

- Before using the DEC-2, read this instruction manual and fully understand the function and operation of each part.
- Perform the necessary operations according to this instruction manual.
- When transporting the unit, be careful not to subject the instrument to any strong shock or impact. Do not drop the instrument.
- ATAGO shall not be held responsible for any or all damages that may result from the use of this instrument for purposes other than its intended use (measurement of EC level of a liquid sample).
- If use of this unit has undesired effects on the consumption of the measured materials, etc., ATAGO shall not be liable for the result.

■ 1. Names of Functions and Components



■ 2. Before First Use

- The most common cause for irregular measurement value is a dry electrode. Soak the electrode in tap water for about 30 minutes before first use. Also, if the DEC-2 has not been used for a few days, soak the electrode in tap water for about 10 minutes before using it again.

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3. Measuring a Sample

Clean the electrode with Ethylene Alcohol after measuring samples containing oil.

- ① Remove the electrode cap and press the ON/OFF button on the keypad to turn on the DEC-2.
- ② Dip the electrode about 3cm into the sample solution (Fig. 3-1). Keep the distance between the electrode and the container at least 5mm.
- ③ The measured value will be displayed. Stir the sample to stabilize the readings (about 2 minutes). Press the HOLD/ENT button to hold the reading. In this hold mode, [HO] will display and "mS" will flash to the right of the measurement value (Fig. 3-2). Press the HOLD/ENT button again to resume the normal measuring mode.
- ④ Rinse the electrode with tap water for the next measurement (Fig. 3-3). Be sure to wipe off the electrode with a soft cloth or tissue before measuring the next sample.
- ⑤ When measurements are completed, press the ON/OFF button to turn off the instrument.
If not used, the instrument will automatically shut off in 7 minutes to conserve batteries.
- ⑥ When measuring is complete, clean the electrode with tap water and dry before replacing the electrode cap to store the instrument.

Fig. 3-1

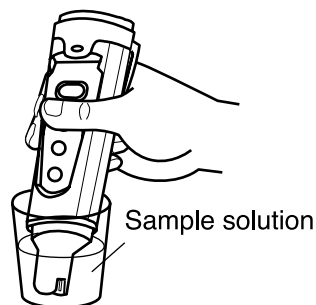


Fig. 3-2



Fig. 3-3



4. Error Messages

BAt

Old batteries → Replace with new batteries.

Er

Wrong or bad buffer value → Make sure the buffer is correct.
The thermo sensor is failing → Check the sensor.

Or

Out-of-range signal → Make sure the measured sample is within the measuring range.

5. Calibration

- Perform calibration when the instrument has not been used for a long period of time (as instructed below). If the measured value is questionable, calibrate the instrument.
- Use 12.9mS/cm standard solution.
- Standard solution for DEC-2 (RE- 99205: 12.9mS/cm, 500ml) is available through ATAGO.
*Not Available in North America or South America.

How to calibrate

- ① Remove the electrode cap and press the ON/OFF button on the keypad to turn on the DEC-2.
 - ② Dip the electrode approximately 3cm into 12.9mS/cm standard solution (Fig. 5-1), keeping the distance between the electrode and the container at least 5mm apart.
 - ③ The display will indicate a value close to 12.90. Wait approximately 2 minutes.
 - ④ Press the CAL button. [CAL] will blink momentarily and then display a blinking measured value.
 - ⑤ If the displayed value is 12.80 or less, then keep the electrode submerged in the solution and hold the HOLD/ENT button down. The value will keep increasing by 0.10. Release the HOLD/ENT button when the value reaches 12.90. After the value blinks, [ENT] is displayed, and then 12.90 is displayed. The calibration process is now complete (Fig. 5-2). If the displayed value is 13.00 or more, keep the electrode submerged in the solution and hold the HOLD/ENT button down. The value will keep increasing by 0.10 up to 18.30. Once the value reaches 18.30, the displayed value switches to 7.80. Release the HOLD/ENT button when the value reaches 12.90. After the value blinks, [ENT] is displayed, and then 12.90 is displayed. The calibration process is now complete.
 - ⑥ After calibration, clean the electrode with tap water. Be sure to wipe off the electrode with a soft cloth or tissue before measuring the next sample.
- * After 6 seconds of no operation, [ESC] will appear and then calibration will automatically abort. To manually abort calibration, press CAL button while the measured value is blinking in ④. This will display [ESC] and then abort calibration.

Fig. 5-1

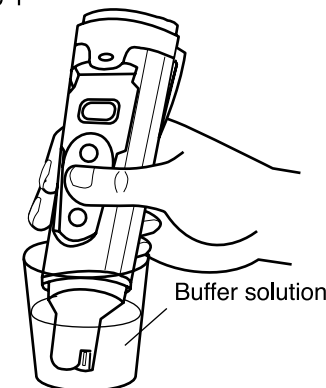


Fig. 5-2





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