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# Introduction

Many measurement problems arise from the electrode or from a wrong use, rarely from the instrument itself. Therefore it is important to:

- Use the right electrode for your application (see [Selection Guide](#)).
- Always clean the electrode after use with an appropriate method (see [Cleaning Methods](#)).
- Store the electrode properly when not in use. It is best to keep the measurement surface wet so that the electrode is immediately ready for use. Place it in distilled water with some detergent added.
- Be aware of mechanical impacts.
  - Avoid to drop the electrode, use an electrode holder where possible.
  - Do not put unnecessary stress on the cable or the plug to avoid internal interruptions.
- Keep your instrument clean, avoid moisture on the connectors.
- Follow the Good Measurement Practices to avoid measurement errors.

When an error arises, it is best to try to locate the cause first.

## Check the following

Many conductivity measurement errors occur from one or more of the following causes:

- Immediately using a dry electrode. Place in distilled water for some time before using it when an electrode is completely dry. Some detergent added to the water lowers the surface tension and helps to remove small air bubbles.
- Trapped air bubbles or other impurities in the measurement compartment of the cell.
- Temperatures of solution and electrode have not stabilised yet, wait until they have.
- Non homogeneous solutions, stir gently or use by preference a magnetic stirrer.
- Contamination of the product due to carry-over. Avoid this by shaking off excessive drops and softly drying the outside with filter paper before inserting into a solution.
- Polluted electrode due to sticky products, deposits on the measurement plates, ... . Use an appropriate method to clean the products or deposits.

### These advices help also

- Water samples and products are subject to changes in conductivity due to evaporation. Close all containers immediately after measurement.
- Use fresh and clean calibration solutions.
- Choose calibration values that are close to the expected measurements.

# Report a measurement problem

## Very important for all next steps!

- Only fresh calibration solutions should be used!
- All calibration solutions should be maintained at room temperature.
- Rinse the electrode twice between measurements: first thoroughly in distilled water and then with a small amount of the next solution to be measured.
- Always stir the solutions while measuring (use a magnetic stirrer!).
- Allow the electrodes sufficient time to stabilise while measuring (a stability indicator on most of our meters prompts the user when readings should be taken).
- Never calibrate during this test!

We need some information to be able to help. There are several manners to return this information which is requested in the grey box: you can print this page or export it as pdf and fill in the information at the desired location. It is also possible to: **Select and Copy the text in the grey box here below, paste it into a new email message and fill in the requested items before sending it to Consort support (click to to open your email editor).**

### Identify your application

- What is/are the main use(s) of the measurement system?
  - (e.g. laboratory, agriculture, waste control, food processing, ...)
  - .....
  - .....
- What is the frequency of use?
  - (e.g. online, daily, weekly, sporadically, ...)
  - .....
  - .....

### Identify your equipment

- Meter:
  - Model: .....
  - Serial Number: .....
- Electrode: (see codes on cable or electrode head)
  - Model (e.g. SK10B): .....
  - Date code (e.g. Oct14) : .....
- Standard Solutions:
  - Value Standard 1: .....  $\mu\text{S}$  or  $\text{mS/cm}$  (?), Batch nr / Production date: .....
  - Value Standard 2: .....  $\mu\text{S}$  or  $\text{mS/cm}$  (?), Batch nr / Production date: .....

### Perform the following steps

1. Store the conductivity electrodes in distilled water with some detergent overnight (OBLIGED!).

2. Prepare 1 or 2 fresh standard solutions: Standard 1 and Standard 2 (see identification!)
3. Reset the meter (OBLIGED! switch on while holding MODE pressed).
4. Select the conductivity mode (OBLIGED!).
5. Leave the input open and read the display: ..... ( $\mu\text{S}$  or  $\text{mS}$  ? Please specify)/cm
6. When available, connect a 1000 Ohm resistor to the input and read the display: ..... ( $\mu\text{S}$  or  $\text{mS}$  ?)/cm
7. Rinse the conductivity cell, dip it in first standard and read the display: ..... ( $\mu\text{S}$  or  $\text{mS}$  ?)/cm
8. Rinse the cell, dip in second standard and read the display: ..... ( $\mu\text{S}$  or  $\text{mS}$  ?)/cm
9. When available, connect new cell, rinse, dip in first standard and read display: ..... ( $\mu\text{S}$  or  $\text{mS}$  ?)/cm
10. Rinse the new cell, dip in second standard and read the display: ..... ( $\mu\text{S}$  or  $\text{mS}$  ?)/cm
11. What is the temperature of the solutions? ..... °C
12. If any message occurs, what is EXACTLY shown on the display(s) ?

- .....
- .....
- .....
- .....
- .....
- .....

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