

Conductivity Electrode Quick Help Guide

This electrode is a hand crafted, precision analytical device. Carefully read this instruction sheet for best performance and electrode life.

Introduction

Conductivity probes are used with a conductivity meter to measure the conductance of a solution. There is an array of conductivity cells available with different cell materials, cell constants, body materials, connectors, and ATC elements. Choose a probe with a proper cell constant, temperature compensator, and connector to match the meter being used and the range to be measured. Glass body probes with platinum cells are suitable for almost all applications, even solutions with organic solvents. Epoxy body probes with platinum cells offer not only a wide measuring range capability, but also epoxy body durability. Epoxy body probes with carbon cells are designed for general purpose measurements. Their measuring range is not as wide as platinum cells; however, their durability can meet the challenge of tough applications, especially rough field use. Use a cell constant of $K=1 \text{ cm}^{-1}$ for full range measurements, a cell constant of $K=10 \text{ cm}^{-1}$ for the high range, and a cell constant $K=0.1 \text{ cm}^{-1}$ for the low range.

Specifications

The cell constant tolerance for platinum cells is +/- 10%. The cell constant tolerance of carbon cells is +/- 20%.

Electrode Preparation & Meter Calibration

- Before using a conductivity probe, soak the probe in distilled water for about 30 minutes.
- Ensure the measuring cells are clean.
- Connect the probe to a conductivity/TDS meter.
- Dip the probe in a 0.01 M KCl solution or other standard with known value. The cell portion of the probe must be totally immersed in the known solution.
- Stir the probe to get rid of any air bubbles trapped within the cell chamber. No air bubbles can be present in the cell chamber.
 - If a 0.01 M KCl solution is used to calibrate the meter, adjust the meter reading according to the attached chart at the corresponding temperature.
 - If other standards are used to calibrate the meter, refer to the standard value printed on the bottle.
- To use, rinse the probe cell portion with distilled water, put the probe in an unknown solution, and then shake the probe well to get rid of air bubbles within the cell chamber.
- The data logger will display the correct conductivity of the solution.

Maintenance

- Do not touch the probe cell surface with any hard object. If the probe cell surface is contaminated, soak the probe cell portion in light detergent and mild acid for about 15 minutes respectively.
- Rinse the probe well with distilled Water. Most platinum cells are electroplated with a layer of black platinum for better performance. Re-electroplate the platinum cells when the probe can no longer perform proper calibration.