SENTEK
Conductivity Electrode
Operating Instruction Sheet.

Introduction

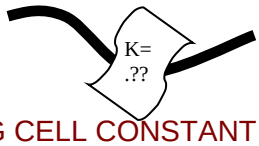
Your new Conductivity Electrode is supplied ready for use. The following data will enable you to acquire accurate, reliable results over an extended period.

PREPARATION FOR USE

When unpacking this electrode remove the outer protective sheath, where fitted, prior to use.

CALIBRATION

The cell constant of this electrode is marked clearly on the cable. Calibration with a Conductivity Meter is achieved simply by entering this information at the appropriate stage of setting up your instrument.



Cell constant marked clearly on cable.

RESETTING CELL CONSTANT

Materials required to make 0.745g/litre Potassium Chloride. (1413Microsiemens)

a) 0.745 grams of Analar Grade Potassium Chloride
b) 1 litre of de-ionised water

0.745 grams of Analar Grade Potassium Chloride

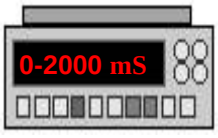
1litre De-ionised Water

1413 Microsiemens

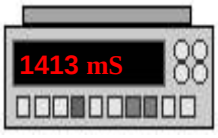
Dissolve the Potassium Chloride into the de-ionised water and place into a water bath set to 25 degrees centigrade. When the temperature of the calibration standard solution has equilibrated, place the electrode in the solution and leave for 5-10 minutes. Select the 0-2000 microsiemens range on the conductivity meter and adjust to 1413 microsiemens.
Switch the instrument to SET K mode and record the reading. Re- label the electrode with new cell constant.

Place in a water Bath

Place electrode in solution for 5-10 minutes

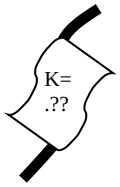


Select the 0-2000 mS range



Adjust to 1413 mS

Switch instrument to SET K



Re-label new cell Constant

GOOD MEASUREMENT PRACTICES

a) If the sample temperature is, to a large extent, different from ambient, then allow the electrode to soak for a few minutes in the sample solution before recording a reading.
b) The electrode should be immersed in a sample to at least 10 mm above the breath holes in stem.
c) Whenever possible keep the tip wet.
d) Ensure that the cable connectors are kept free of moisture and dirt.

CARE AND MAINTENENCE

STORAGE

On sheathed versions simply replace the sheath over the electrode. For non-sheathed versions it is preferable to keep the electrode tip soaked in De-ionised Water.

CLEANING

After each use the electrode tip should be rinsed thoroughly in de-ionised water. If there is a build-up of solids inside the measurement area of the cell, these should be removed very carefully with a cotton bud soaked in solvent, taking care not to touch the metal parts of the inner cell.

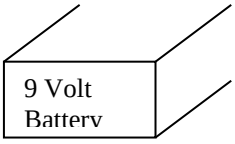
REPLATING INTERNAL ELEMENTS

Mounted on the inside wall of this type of electrode are two small platinum plates. These plates and their connecting wires should be of a uniform matt black colour. It is important to inspect this plated surface for scratches periodically, especially after cleaning, as blemishes will cause erratic measurement results. Blemishes and scratches can be repaired quite easily by carrying out the following procedures:-

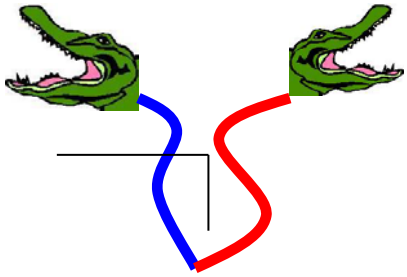
MATERIALS REQUIRED:

a) A small glass beaker

b) 25ml of 5% w/v Chloroplatinic Acid doped with one crystal of Lead Acetate



c) A small 9 volt battery



d) 2 Leads fitted with small crocodile clips

PLATING METHOD

a) Fix leads to positive and negative terminals of the 9 volt battery.
b) Remove the outer casing of the multipin connector and fit one crocodile clip to pin 1 of the outer connector and the other crocodile clip to pin 7.
c) Place the electrode into the beaker containing the Chloroplatinic Acid.
d) Swap crocodile clips between connector pin numbers 1 and 7 every 15 seconds until the plates are a uniform black colour.

IMPORTANT: DO NOT LEAVE THE ELECTRODE IN THIS ACTIVE PLATING SOLUTION MODE FOR MORE THAN 1 MINUTE AS THIS MAY DAMAGE THE ELECTRODE.

SENTEK

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