

# LogIT Microsense Conductivity Probe Set

## Instructions for use

### Overview

The Microsense Conductivity set comprises a conductivity adapter and a DCP K=1 Cell which has a working range to 20,000 $\mu$ S (micro-Siemens), a resolution of 10 $\mu$ S and nominal accuracy of +/- 10% (depending on cell). The system incorporates automatic temperature compensation with the standard coefficient of 2%/ $^{\circ}$ C, which is suitable for most substances. The cell and associated cable (NOT the plug and adapter) are waterproof and can be completely submerged making it ideal for environmental work as well as laboratory bench use. The system takes its power from the LogIT it is connected to and so requires no batteries.

### The adapter

The adapter contains a signal conditioner and amplifier matched to the specially designed DCP K1 cell. It provides a very wide dynamic range of 100 to 20,000 $\mu$ S continuous (without requiring any manual range switching) thus providing smooth logging over the full span without range steps. The adapter should always be plugged directly into the datalogger - do not use on an extension lead.

### The cell

The cell consists of a 12mm diameter plastic body housing platinum over glass electrodes. The cell calibration has been checked by the factory and its K constant value is printed on the label near the plug.

### Calibration

The system is supplied factory calibrated to an ideal cell but if you have the necessary 'Standard' solutions available you can calibrate it more accurately to your cell. It is best to calibrate it to a Standard solution close to the range you intend to measure.

- Connect the probe to a LogIT with display or connected to computer
- Submerge the cell in Standard solution for 30 minutes to allow temperatures to stabilise
- Using a small flat blade screwdriver *carefully* adjust the recessed control in the adapter until display reads the same as the Standard

### Care Cleaning and maintenance

You should always wash the cell thoroughly after use using distilled water and it can be stored either in distilled water or dry (if clean). Complete replacement cells are also available if required. Never allow the plug, adapter or datalogger to get wet - only the cell with cable are waterproof.

### Electrical Noise

The system is measuring a very wide dynamic range of conductivity/resistance (50 $\Omega$  to 10,000 $\Omega$ !) in a variety of substances and some electrical 'noise' will be apparent if you zoom in close to results which is quite normal and within specification. However the adapter will give fast responses to change and the trends can easily be seen and recorded without the need for any adjustments or range setting enabling fully automatic datalogging.

If using the conductivity sensor with other electrode based sensors connected to the same datalogger (eg pH, DO2) you may experience interference problems between them because of the electrical interaction through the conductivity of the substance being measured. If you experience these kinds of problems we recommend that you try to keep the probes as far away from each other as possible. If you have more than one LogIT available then try using separate loggers which have no electrical connection between them and then merge data after the experiment.

### Software/CheckIT upgrades

If you are using quite old software or CheckIT's you may need to get it upgraded to recognise this sensor. For software check our website at [www.dcpmicro.com](http://www.dcpmicro.com) or if you require a CheckIT upgrade contact DCP.

*Designed & made in Great Britain by*

DCP Microdevelopments Limited  
Bryon Court, Bow Street  
Great Ellingham, Norfolk, NR17 1JB  
Tel 01953 457800/FAX 01953 457888  
eMail [support@dcpmicro.com](mailto:support@dcpmicro.com)  
Web site [www.dcpmicro.com](http://www.dcpmicro.com)



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