TRUEscience Redox

REDOX/ORP Measurement

Features

- Log change over time
- Easy reference point set
- Measure remotely
- Send results via the cloud

TRUEscience SMART Cap for REDOX

Oxidation Reduction Potential (ORP or REDOX Potential) measures an aqueous system's capacity to either release or accept electrons from chemical reactions. When a system tends to accept electrons, it is an oxidizing system. When it tends to release electrons, it is a reducing system. A system's reduction potential may change upon introduction of a new species or when the concentration of an existing species changes.

ORP/REDOX values are used much like pH values to determine water quality. Just as pH values indicate a system's relative state for receiving or donating hydrogen ions, ORP values characterize a system's relative state for gaining or losing electrons. ORP values are affected by all oxidizing and reducing agents, not just acids and bases that influence pH measurement.

How does it work?

The REDOX combination electrode consists of a platinum sensor and an Ag/AgCl reference half-cell built in standard 12mm electrode body. The measurements are displayed in millivolts (mV). Most REDOX measurements are made in dynamic environments where a reaction is taking place. This is indicated by the increase or decrease in the circulation of free electrons. Typical applications include corrosion monitoring or rusting for example. As the ratio of Fe(3+) to Fe(2+) increases the potential of the surrounding solution changes to reflect this.

Another common use of REDOX measurement is in disinfection measurement where the effectiveness of decontamination can be monitored and any redisue of bleaching agents detected.

Continuous or frequent monitoring using REDOX electrodes can be extremely useful in early detection of issues related to a change from the steady or "stable state" of any aqueous system. These reactions can be brought about by contamination or undesired chemical or environmental interference.

Applications

- Agriculture
- Hydroponics
- Wasterwater
- Pool & Spa
- Food & beverage

true science redox

Specification

TECHNICAL SPECIFICATION – REDOX

Measuring range(mV)	0-1000mV
Resolution (mV)	+/- 0.1mV
Standard recognition	QR code input
Temperature range	0°C - 80.0°C
mV range	+/- 1000mV
mV accuracy	+/- 0.1mV
Temperature accuracy	+/- 0.5°C
Store values	10,000 measurements/log
Battery life	1 year normal use
Battery type	1/2 AA lithium thionyl chloride, 3.6V, 1200mA
Tablet and App requirements	See below or specified list of tested models on our website
Dimensions of Cap	L218 x W48 x D24 mm including temperature probe
Temperature probe length	130mm long
Weight	91.5 g
Operating/storage temperature	0-55°C
Colour keyed battery covers	Yes
Multiple cap measurements	Yes, up to 6 simultaneously, multiple parameter possible
Consumables ordering online	Yes
Interval logging	Yes

Note: launch specifications subject to change. Please see website for latest details.

Ordering Information

TRUEscience SMART Cap* (available in white or grey)

WHITE SMART CAP Order Code 1201689

GREY SMART CAP Order Code 1201821

* This SMART Cap is suitable for:
pH, DO, REDOX & ION

Item No	Description
1209053	Glass redox combination electrode
1205230	Epoxy redox combination electrode
1201564	Replacement lithium battery for SMART Cap
1201710	Spare battery covers colour coded grey, white, teal and red
1201708	Tablet 7/8 inch Bluetooth enabled Android
1202695	Storage stand
1201562	Charging tablet stand
1201563	Height adjustable stand, stainless steel, non-charging
1201698	Replacement smart clip

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Made in the UK

Distributed by:
Camlab Ltd
24 Norman Way Industrial Estate
Over
Cambs
CB24 5WE
P: +44 (0)1954233100 sales@camlab.co.uk
F: +44 (0)1954233101 www.camlab.co.uk