



# AlkaSense®

## Online Total Alkalinity Analyser

The AlkaSense® from Pi measures total alkalinity online with none of the problems associated with traditional total online methods.

Traditional online alkalinity methods include titrating a sample to known pH (e.g. pH 4.3) or colorimetric methods with the additions of multiple expensive reagents. The problem with the former is that pH sensors have a short life (often measured in months rather than years) and require frequent calibrations and cleaning. The problem with the online colorimetric method is the frequent changing of expensive reagents, and both methods are expensive to purchase.

In comparison the novel use of conductivity as the measurement method in the AlkaSense® means that:

- **Online alkalinity method** - no calibration required
- **A single inexpensive reagent**
- **Works out of the box** - plug it in and off you go!
- **Stable and reliable** - excellent process control
- **Suitable for all potable and process waters**
- **Up to 6 months between maintenance**
- **Typically 2 months reagent life**

### CRONOS® AlkaSense®



- High Quality - Lowest Cost
- Multilingual
- High resolution grayscale display
- 9 buttons for easy navigation
- Graphing and datalogging
- Enclosure; wall, panel, pipe or pole-mounting. IP65/Nema 4x.
- Options:
  - Modbus RS485/LAN
  - Profibus DPV 1
  - Up to 2 sensors
  - PID/flow proportional controls
  - Remote sensors
  - Colour display
  - Downloadable data logs

### CRIUS®4.0 AlkaSense®



- High Quality - Lowest Cost
- Multilingual
- High resolution colour display
- Intuitive user interface
- Downloadable data logs
- Customisable home pages
- All CRONOS® options plus:
  - Up to 4 sensors
  - Remote access via LAN
  - Remote access via 3G/4G
  - Expandable to 16 sensors

***For more information please see the individual brochures for CRONOS® and CRIUS®4.0***

### Mounting Options



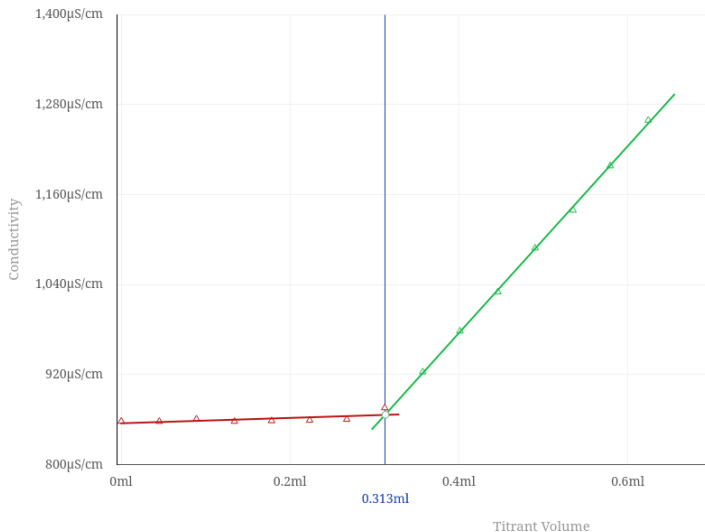
Model shown is an AlkaSense®



Mounted with controller

## Principle of Operation

With no pH sensor, the AlkaSense® uses a conductivity sensor to indicate when the alkalinity in the sample is used up by the automatic titration of an acid. As the acid is added it uses up alkalinity and changes the conductivity. Once all the alkalinity is gone, by continuing to add acid the conductivity changes but in a different way. As AlkaSense® knows the amount of an acid of known normality that has been added, it can calculate the total alkalinity of the sample. This clever use of conductivity as a measurement means that the AlkaSense® never needs to be calibrated! In turn, this will enable operators who have previously been restricted to offline alkalinity measurements to measure alkalinity online with the automation that opens up, such as in swimming pools, water treatment works, and cooling towers.



## Options

The AlkaSense® is available on multi-parameter controllers. This means that other measurands can be added such as pH, Turbidity etc.

## Applications

- Swimming Pools
- Water Treatment Works
- Cooling Towers

## Installation

The AlkaSense® online alkalinity analyser range is particularly suited to sites where reliability and accuracy are most important.

AlkaSense® comes pre-mounted on a backboard with four mounting stand offs for wall mounting. A bespoke manual comes with every instrument and wiring instructions are on the controller itself.

If there are likely to be significant solids then the AlkaSense® can be coupled with an [automatic self cleaning particle strainer](#) for trouble free monitoring.



## Key Benefits

- Low total cost of ownership
- Variable sample frequency from 600 seconds up
- Stable and reliable
- Easy and simple maintenance
- Reagent warning and empty alarms

For more information about AlkaSense® and to discuss your application, process control requirements, and any remote communications, please contact Pi and talk to one of our technical specialists.

## Specification\*

Parameter:	Total alkalinity
Range:	5-1500 ppm
Accuracy:	±0.5 ppm
Reproducibility:	<2% of measured value or 1 mg/L CaCO <sub>3</sub> (whichever is greater)
Limit of Detection:	10 mg/L CaCO <sub>3</sub>
Typical Titrant:	PTSA (Paratoluenesulfonic Acid)

*\*All subject to change without notice*