



# pHSense

## Continuous Online pH Meter

The pHSense range of pH analysers from Pi utilise the very latest and best pH sensors available in the world today for measuring the online pH of any aqueous solution. They are combination glass electrodes with integral reference and automatic temperature compensation, which use no reagents, are extremely stable, and have reduced maintenance and reduced whole life costs.

- **Up to 3 years continuous operation**
- **Stable and reliable - excellent process control**
- **Suitable for all potable and process waters**
- **Suitable for very low conductivity waters**
- **Integral temperature compensation**
- **Suitable for use in Autoflush (see separate brochure)**



*"The pH sensors from Pi are much more stable than others we've tried and they seem to last forever!"*

**Kahraman Kalyoncu, Turkey**

The pHSense sensors and flow cells are available with different controllers giving you the same great performance with different communication, display, and control options. With the pHSense range of online pH meters, you get everything that you need - and nothing that you don't.

### CRONOS® pHSense



- 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 pHSense



- 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**

### Sensor Selection

#### pH1

- Suitable for pools and spas
- Max. temp 80°C
- Flow cell mounting options



#### pH2\*

- Suitable for potable and process waters
- Max. temp 80°C
- Flow cell, at line tee, Autoflush flow cell and welding stub mounting options



#### pH3\*

- Suitable for waste and process water
- Max. temp 80°C
- Flow cell, at line tee, Autoflush flow cell, Autoclean immersion, handrail and welding stub mounting options



#### pH5\*

- Suitable for potable, waste and process waters
- Max. temp 100°C
- Flow cell, at line tee, Autoflush flow cell, handrail and welding stub mounting options



#### pH6\*

- Suitable for potable, waste and process waters
- Max. temp 100°C
- Flow cell, at line tee, Autoflush flow cell, handrail and welding stub mounting options



*\*Includes a temperature sensor for automatic temperature compensation.*

## Principle of Operation

At the heart of the pHSense are the pH electrodes. The pH5 electrode has a double-junction reference to prevent contamination of the reference from sample components. This design gives the electrode a longer life compared to ordinary electrodes (up to 3 years). The electrode also has a hemi-shaped glass measuring surface which is more durable than the traditional bulb-shaped glass. Although they command a higher price in the market place, these sensors are more than cost effective with their longer life and lower maintenance requirements, typically only needing calibration once per two or three months.

pH5 and pH6 are particularly sensitive to difficult applications such as very low ionic strength waters or high temperature applications. pH1-pH3 are less expensive, more traditional combination electrodes.

## Applications

- Remote Sites
- Food Preparation
- Potable Water
- Cooling Towers
- Paper Mills
- Chemically Challenging Applications

Anywhere you have a requirement to measure pH is a suitable application for the pHSense. The pHSense pH meter range is particularly suited to working in sites where reliability and ease of use are most important. One area where the pHSense excels is in the measurement of pH in very low conductivity or ultra clean water.

## Automatic Cleaning

As described in a separate brochure (ISB36 Autoflush), the pHSense can come equipped to automatically clean itself at

user defined intervals with all the benefits of no operator intervention for 6 months. The Autoflush is particularly useful in food preparation, pulp and paper, and many applications where there is likely to be a build up of solids in the sample. Automatic cleaning is available for at line, and in line versions including dip and screw-in Autoclean pipe versions. Please see the Autoflush brochure (ISB36) available on our website, or if you are online, please [click here](#).

## Multi-Sensor Systems

The whole range of pHSense pH meters can be fitted with additional sensors such as chlorine or ORP. Please ask your local distributor for more details.

*"Multi-sensor systems can save considerable sums without compromising measurement integrity"*

**Dr Craig Stracey, UK**

## Installation

The pHSense can be installed in a variety of auxiliary flow cells and self-cleaning devices. Please see the pH Selection guide (ISB56) available on our website, or if you are online, please [click here](#).



## Specification\*

Type:	pH1	pH2	pH3	pH5	pH6
	Combined reference and measuring electrode			Combined reference and measuring electrode	
<b>Reference Type:</b>	Ag/AgCl gel filled	Ag/AgCl gel filled	Ag/AgCl gel filled	Ag/AgCl gel filled	Ag/AgCl gel filled
<b>pH Range:</b>	0-12	0-14	0-13	0-14	0-14
<b>Slope:</b>	95-102%	95-102%	95-102%	≥97%	≥97%
<b>Pressure Range:</b>	0-7 Bar	0-7 Bar	0-7 Bar	0-7 Bar	0-7 Bar
<b>Impedance:</b>	≤135 MOhm	≤150 MOhm	≤130 MOhm	≤150 MOhm	≤150 MOhm
<b>Response Time:</b>	95% of step pH2 to pH12 <5s			95% of step pH2 to pH12 ≤3s	
<b>Temperature Range:</b>	0-80°C	0-80°C	0-80°C	0-100°C	0-100°C
<b>Conductivity:</b>	>100µS/cm	>100µS/cm	>100µS/cm	>100µS/cm	<300µS/cm
<b>Wetted Surface:</b>	PVC/Glass	PVC/Glass	PVC/Glass	RYTON/Glass	RYTON/Glass
<b>Junction:</b>	Single Gelled	Single Gelled	Double Gelled	Double Gelled	Double Gelled
<b>Cable Length:</b>	1m	6m	6m	6m	6m
<b>Shelf Life:</b>	12 months	12 months	12 months	12 months	12 months
<b>ATC:</b>	-	PT100	PT100	PT100	PT100
<b>Estimated Life (Application Dependent):</b>	12-18 months	12-18 months	12-18 months	3 years	18 months
<b>Warranty:</b>	3 months	3 months	3 months	6 months	6 months

*\*All subject to change without notice*