

# Pi<sup>π</sup> UV254Sense(Water)

## Online UV254 Absorption and Transmission

The UV254Sense UV254 analyser is the first in the world to be designed in modular form so that it can be integrated with other sensors such as pH, turbidity and streaming current to provide all the tools needed for either a stand alone UV254 analyser or a coagulation monitoring or as part of a coagulation control instrumentation package.

As a stand alone instrument the UV254 analysers can be correlated and used as a surrogate measurement for TOC, BOD or COD, or in UV Transmission mode, can be used to control UV disinfection processes.

- **Tough - field proven**
- **Stable and reliable - excellent process control**
- **Surrogate for TOC, BOD or COD**
- **Suitable for all waters (seawater option)**
- **UVT for UV disinfection control**
- **UVA for water monitoring**



*"This modular adaptation of the Realtech UV254 monitor is a big step forward for this technology."*

**Ron Hallett, Canada**

The UV254Sense sensors are available with different controllers giving you the same great performance with different communication, display, and control options. With the Pi range of UV254 monitors, you get everything that you need - and nothing that you don't, without sacrificing the quality of measurement.

### CRONOS® UV254Sense



- 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 UV254Sense



- 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 Options

- **Automatic Cleaning**



- **Seawater Option**
- **Multi Unit Option**



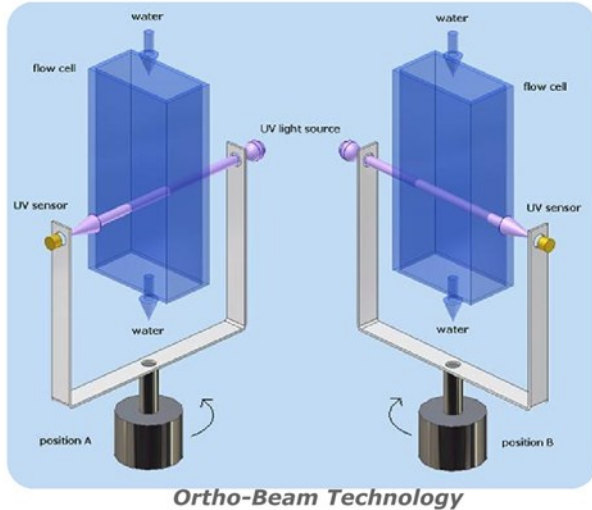
- **Dual Stream**



**Stream 1 Stream 2**

## Principle of Operation

With the Ortho-Beam technology, UV254nm measurements are alternately taken at 90° angles to each other through a rectangular quartz flow cell by rotating the lamp/sensor fixture backwards and forwards between the two positions. The two UV254nm readings give the amount of light able to transmit/absorb through two different path lengths of the sample water. From these two measurements alone, quartz fouling and lamp fluctuations are intrinsically compensated for by the measurement process.



The patent pending Ortho-Beam technology provides many significant advantages while maintaining affordability. The monitor's unique ability to automatically detect and compensate for UV lamp fluctuations and quartz fouling minimises losses in accuracy over time, and significantly reduces maintenance.

The UV254Sense provides online continuous organics monitoring utilising a 254nm ultraviolet light source. The amount of light absorbed provides an ongoing indication of

natural organic matter (NOM) in a flowing sample, and serves as a continuous surrogate measurement for total organic carbon (TOC). More specifically, UV254 is the best detector of aromatic or reactive organics which when combined with chlorine, can form disinfection by products (DBPs).

This information, along with pH, turbidity, and streaming current monitoring (all available from Pi) can give all the information required to control coagulation in a Water Treatment Plant.

## Applications

When using the transmission mode (UVT) the UV254Sense can be used to optimise the light level in UV disinfection equipment providing confidence whilst minimising power levels.

When used in absorbance mode (UVA) the instrument can monitor the NOM levels present. This value can then be used in a feed forward control manner to regulate coagulant dosage levels in water treatment plants.

The UV254Sense can be married with other sensors like pH, turbidity, and streaming current to give a full coagulation control system.

## Standard Features

- Online continuous operation
- Patent pending Ortho-Beam technology
- 254nm wavelength UV light source
- Display either UV transmittance or UV absorbance values
- Turbidity compensation as standard

## Optional Features

- Automatic chemical cleaning system
- Dual sample feed capability
- Seawater version

## Specification\*

<b>Range:</b>	0-100% UVT, 0-1 UVA
<b>Accuracy:</b>	±0.5% FS
<b>Repeatability:</b>	±0.1% UVT
<b>Resolution:</b>	0.1% UVT, 0.001 UVA
<b>Path Length:</b>	1cm
<b>Sampling Time:</b>	10 seconds
<b>Flow Rate:</b>	300-1000mL/min
<b>Cleaning:</b>	Automatic cleaning option (to be specified at the time of order)
<b>Self Diagnostics:</b>	Detection and diagnosis of internal system fault
<b>Humidity Control:</b>	Humidity sensor with large plug-in regenerating desiccant system
<b>Wavelength:</b>	253.7nm
<b>Light Source:</b>	Low pressure mercury UV lamp
<b>Lamp Life:</b>	2 years (warrantied)
<b>Dimensions:</b>	17"H x 14"W x 8"D
<b>Enclosure:</b>	IP65 (Nema 4X) wall mountable
<b>Fluid Connections:</b>	¼" push-fit inlet/outlet
<b>Electrical:</b>	90-250VAC
<b>Operating Temp:</b>	32° to 113°F (0° to 45°C)
<b>Storage Temp:</b>	-4° to 140°F (-20° to 60°C)
<b>Warranty:</b>	2 year limited warranty

*\*All subject to change without notice*

