



# CounterSense

## Particle Counter

With the CounterSense range of Particle Counters you get a world's first. The first particle counter to allow multiple sensors on a single analyser. The CounterSense is a sophisticated particle counter with the capability to size and count particles from 2-127 microns.

- Counts particle 2-750 microns
- Counts and sizes 2-127 microns
- Up to 6 user programmable size ranges
- Sapphire optics for extended life
- User calibratable for a lower cost of ownership
- Suitable for use with CRONOS® or CRIUS®4.0



The CounterSense sensors are available with different controllers giving you the same great performance with different communication, display, and control options. Each sensor comes with a 'clean me' alert and can be run with a constant head weir or a flowmeter, to maintain a constant flow.

### CRONOS® CounterSense



- 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 CounterSense



- 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**

### Particle Counter Sensors

#### CounterSense



- Up to 6 size ranges
- Multipoint
- Remote access optional
- PID controls

#### ParticleSense



- Up to 8 channels
- Stand alone
- Modbus RTU
- Modbus TCP optional

#### FilterSense



- Multiple filters
- Low cost per part
- Up to 3 size ranges
- Filter breakthrough alarms

#### ParticleSense Portable

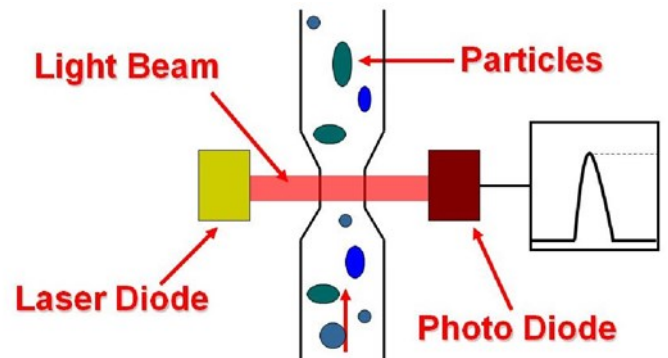


- Same specification as ParticleSense
- Portable
- Grab and online mode
- Ideal for troubleshooting
- Rugged case

## Principle of Operation

As particles in a water stream pass through a measurement cell they break a laser beam. This break is measured by a detector opposite the laser beam and the number of breaks is equal to the number of particles. The size of the signal (created as the particle passes through the beam) is proportional to the size of the particle. The CounterSense is unique in the marketplace in that it allows:

- **Simple user calibration**
- **Set up direct from the instrument (no software/PC required)**
- **Multiple sensor capability**
- **Control with PID functions based on particle counts**
- **Multipoint capability**



## Applications

The most common application for a CounterSense is in water treatment and the optimisation or ongoing monitoring of filters. The CounterSense, can be coupled with turbidity and differential pressure sensors and offers onboard PID control of automatic backwash and can provide datalogging and optionally remote access via the mobile phone network such that you can have your filtration expert in your plant wherever they are in the world.

Other applications for CounterSense include:

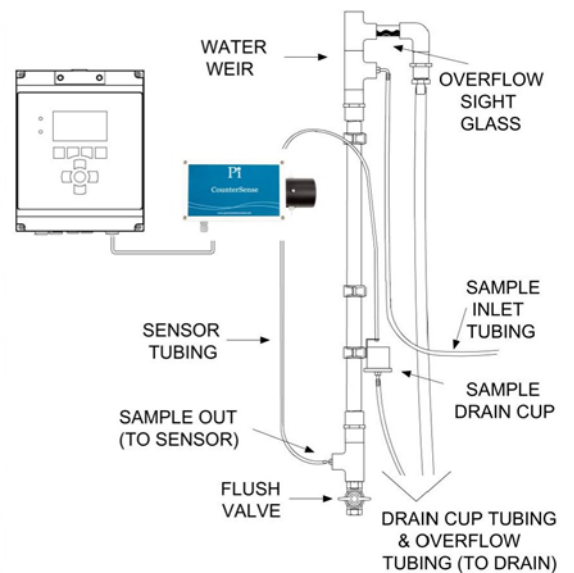
- **Pre RO monitoring**
- **Make up water monitoring**
- **Ultraclean medical device washing monitoring**
- **Membrane filtration monitoring**

For more information please visit: [www.processinstruments.co.uk/products/particle-counter](http://www.processinstruments.co.uk/products/particle-counter)

## Specification\*

<b>Laser Type:</b>	Solid-state laser diode (780nm)
<b>Cell Material:</b>	Nituff™ coated aluminium, PEEK plastic (optional)
<b>Viewing Windows:</b>	Sapphire
<b>Detection Range:</b>	2-750 microns
<b>Sizing Range:</b>	2-127 microns
<b>Flow Rate:</b>	75ml/min
<b>Resolution:</b>	Better than 10% at 10 micron (ASTM-F658)
<b>Coincidence Limit:</b>	20,000cnts/ml (2 micron)
<b>Signal to Noise Ratio:</b>	Better than 5:1
<b>Size Channels:</b>	Up to 6 user selectable and total counts
<b>Alarms:</b>	Sensor diagnostic, particle count limit, cell condition
<b>Laser Diode Life:</b>	MTBF 75,000 hours at 55°C
<b>Measurement Type:</b>	Light obscuration, volumetric
<b>Comms:</b>	TCP/IP, Modbus, RS232, RS485, 4-20mA, Profibus
<b>Power Supply:</b>	100-250 VAC, 50/60Hz, 9-36 VDC
<b>Operating Ambient Temperature:</b>	0-50°C
<b>Sample Process Temperature:</b>	0-50°C
<b>Cleaning:</b>	<5 mins, 6 monthly on clean water
<b>Enclosure Rating:</b>	IP65
<b>Display:</b>	Value and alarms at the same time, controller dependent

*\*All subject to change without notice*



**CRIUS® CounterSense with overflow weir**