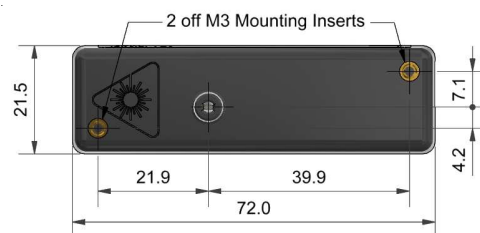
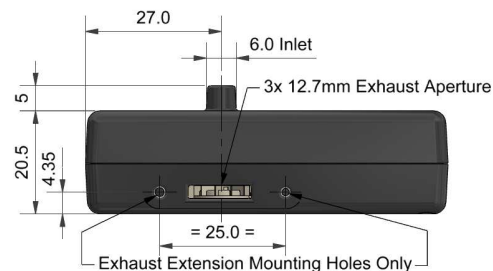




# OPC-R2 Particle Monitor

Figure 1 OPC-R2 Schematic Diagram



Removable Exhaust Extension

- Reports PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> (PM<sub>4.25</sub> as an option), plus histograms
- SPI connection for communication and firmware upgrades  
(SPI interface not included, order code 000-0SPI-00)
- PC software supplied
- Removable fan exit adaptor
- Small size and low power consumption
- Configurable to specific applications
- Pins outs and comms protocol shared with OPC-R1
- Improved detection of sub 0.5 μm particles
- Improved EMC protection

## MEASUREMENT

Particle range*	μm spherical equivalent size (based on RI of 1.5)	0.30 to 12.4
Size categorisation	Number of software bins	16
Sampling interval	Histogram period (seconds)	2 to 30
Total flow rate	L/min (typical)	0.24
Max particle count rate	particles/second	10,000
Max coincidence probability	%concentration at 10 <sup>6</sup> particles/L	0.7

\* Based on 50% detection efficiency at 0.35μm

## POWER

Measurement mode	mA (typical)	110
Standby mode	mA (typical)	< 5
Voltage range	VDC	4.8 to 5.2
Switch-on transient	mW for 1ms	< 5000

## KEY SPECIFICATIONS

Digital interface	(No data storage)	SPI Mode 1
Laser classification	as enclosed housing	Class 1
Temperature range	°C	-10 to 40
Humidity range	% rh (continuous)	0 to 95 (non-condensing)
Warranty	months	12
Weight	g	< 30



At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste, but contact the instrument manufacturer, Alphasense or its distributor for disposal instructions.

**NOTE:** As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the unit is suitable for their own requirements.

Technical Specification



# OPC-R2 Performance Data

Technical Specification

**Figure 2 Particle size distribution for 0.75 and 3 um PSL spheres using the OPC-R2 and the Alphasense software**

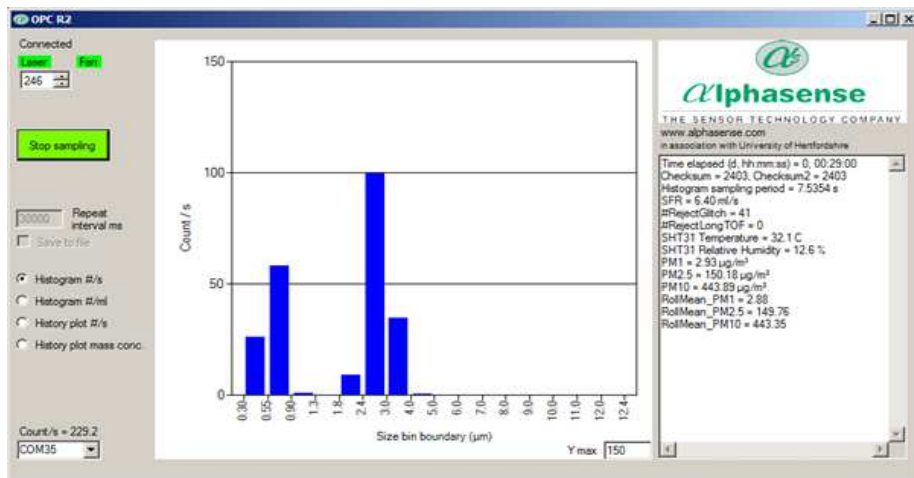


Figure 2 shows the OPC-R2 particle size distribution for the test aerosol.

**Figure 3 Comparison of PM2.5 monitoring with TSI OPS 3330 and DustTrak instruments**

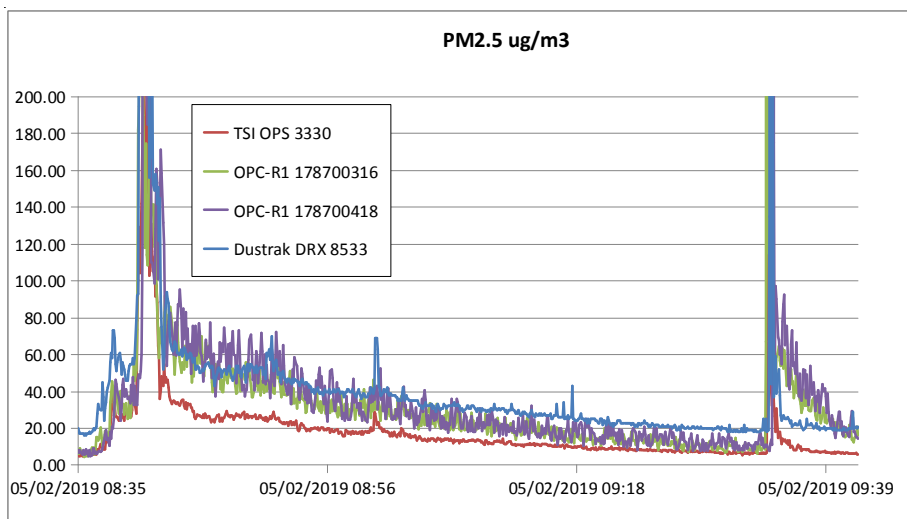


Figure 3 shows a comparison of PM2.5 monitoring by an OPC-R series sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a work shop, the raw 3330 data has been used to calculate a PM figure.

OPC-R2 performance at small particle sizes is improved over the OPC-R1. PM2.5 and PM10 performance are very similar.

**Figure 4 Comparison of PM10 monitoring with TSI OPS 3330 and DustTrak instruments.**

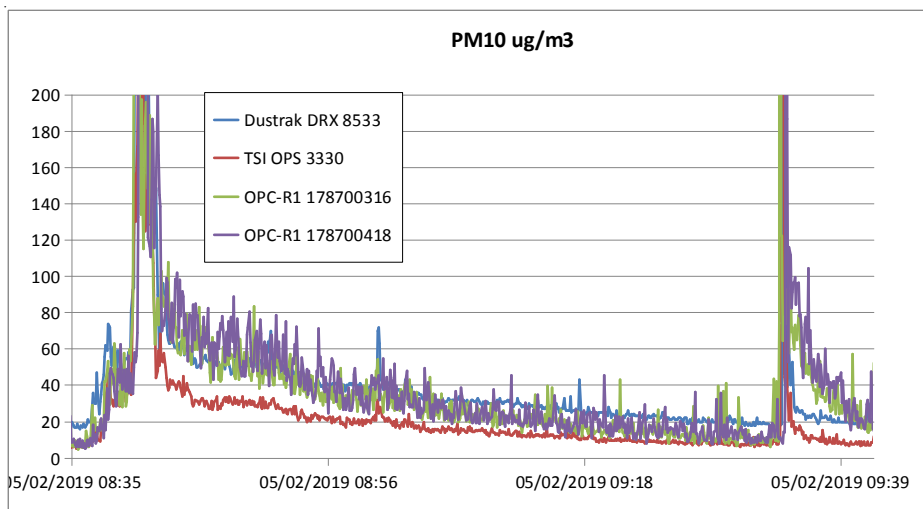


Figure 4 shows a comparison of PM10 monitoring by an OPC-R series sensor and TSI OPS 3330 and DustTrak instruments.

All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.