DRAFT

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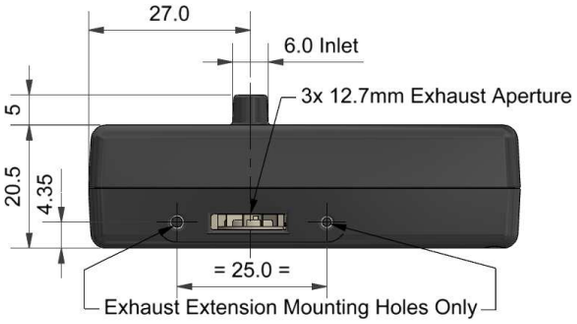
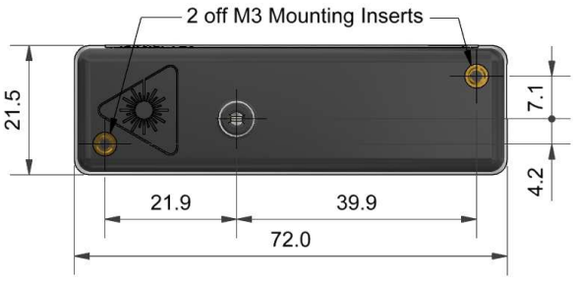
Technical specifications Version 1.0

OPC-R2 Particle Monitor





- Reports PM_1, $PM_{2.5}$, PM_{10} ($PM_{4.25}$ 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 0.5µm 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 10^6 particles/L	0.7

*Based on 50% detection efficiency at 0.35µm

Power	Measurement mode	mA (typical)	110
	Standyby 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

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For further information on the performance of this sensor, on other sensors in the range or any other subject, please contact Alphasense Ltd. or visit our website at "www.alphasense.com".

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Figure 1 Particle size distribution for 0.75 and 3 um PSL spheres using the OPC-R2 and the Alphasense software

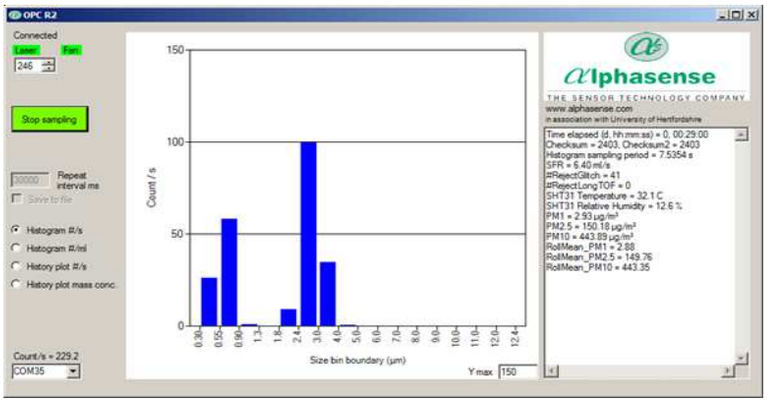

Figure 1 shows the OPC-R2 particle size distribution for the test aerosol.

Figure 2 Comparison of PM2.5 monitoring with TSI OPS 3330 and DustTrak instruments

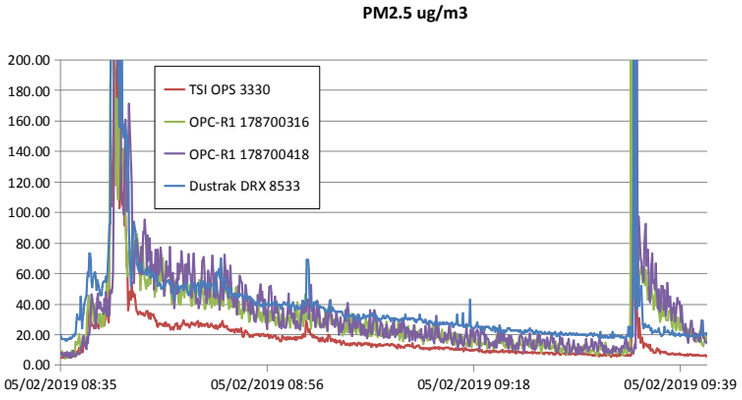

Figure 2 shows a comparison of PM2.5 monitoring by an OPCR series sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a work shop, the raw 3330 data has been used to calculate a PM figure.

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

Figure 3 Comparison of PM10 monitoring with TSI OPS 3330 and DustTrak instruments

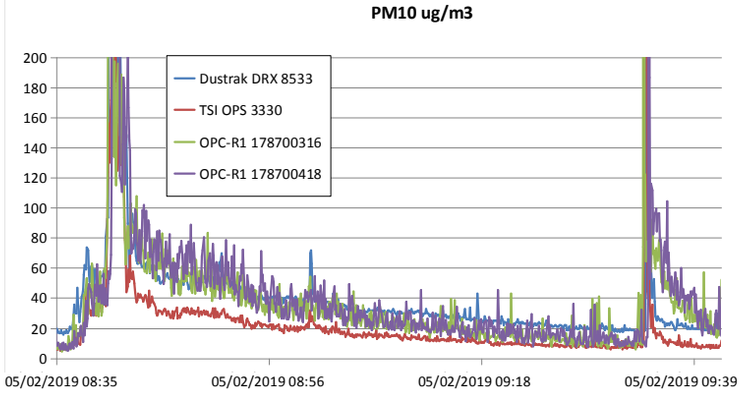

Figure 3 shows a comparison of PM10 monitoring by an OPCR series sensor and TSI OPS 3330 and DustTrak instruments.

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.