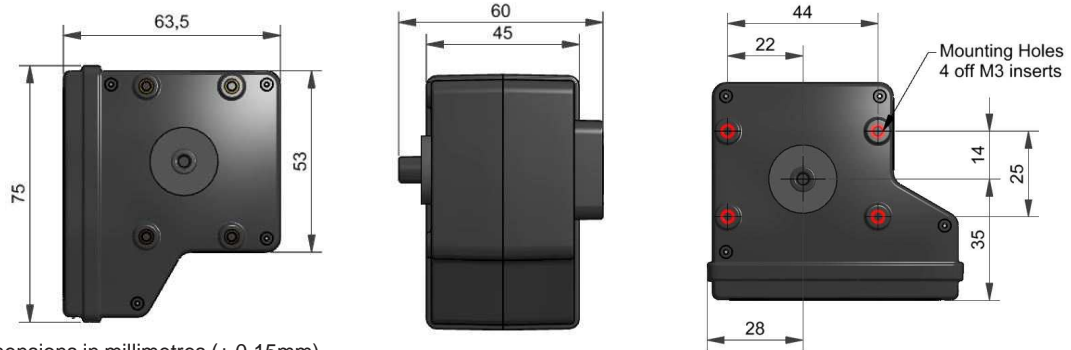




# OPC-N2 Particle Monitor



Figure 1 OPC-N2 Schematic Diagram



All dimensions in millimetres ( $\pm 0.15\text{mm}$ )



- \* Micro USB socket allows on-site firmware updates
- \* Onboard data logging via 16GB SD card: 12 months' capture
- \* SPI control of fan and laser for lowest power  
(SPI interface not included, order code 000-0SPI-00)
- \* Factory set:  
particle density/Total RI  
bin weighting for respirable profiling

## MEASUREMENT

Particle range	$\mu\text{m}$ spherical equivalent size (based on RI of 1.5)	0.38 to 17
Size categorisation	Number of software bins	16
Sampling interval	Histogram period (seconds)	1 to 30
Total flow rate (typical)	L/min	1.2
Sample flow rate (typical)	mL/min	220
Max particle count rate	Particles/second	10,000
Max coincidence probability	%concentration at $10^6$ particles/L	0.84
	%concentration at 500 particles/L	0.24

## POWER

Measurement mode	mA (typical)	175
Laser on, fan off	mA (typical)	95
Voltage range	VDC	4.8 to 5.2
Switch-on transient	mW for 1ms	< 5000

## DATA

Digital interface/connections	SPI (real-time data and communications) Micro USB (firmware updates and standalone mode)	
Data storage	micro-SD (.CSV format) (GB)	16

## KEY SPECIFICATIONS

Digital interface	SPI (Mode 1), USB	
Laser classification	as enclosed housing	Class 1
Temperature range	$^{\circ}\text{C}$	-10 to 50
Humidity range	% rh (continuous)	0 to 99 (non-condensing)
Weight	g	< 105



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.

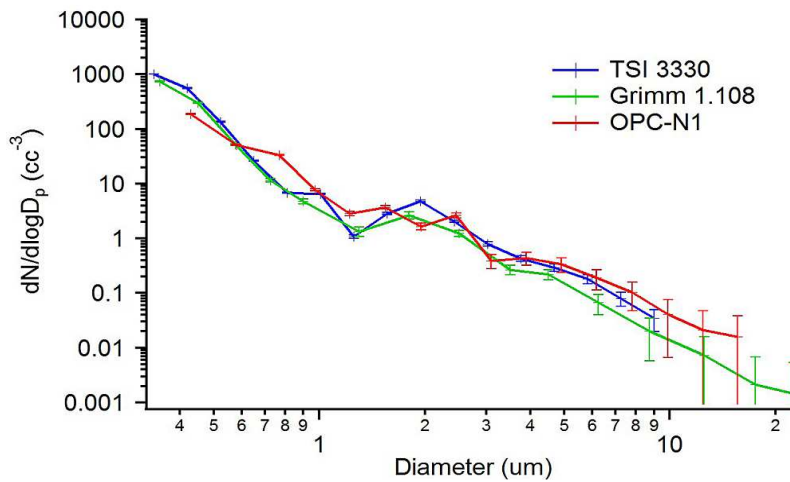
**NOTE:** As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors are suitable for their own requirements.



# OPC-N2 Performance Data

Technical Specification

**Figure 2 Particle size derivative comparison**



The OPC correlates well when validated with Grimm and TSI instruments.

**Figure 3 Particle size distribution for broad 5 um alumina (Spherisorb™) as displayed on PC, direct from the OPC-N2.**

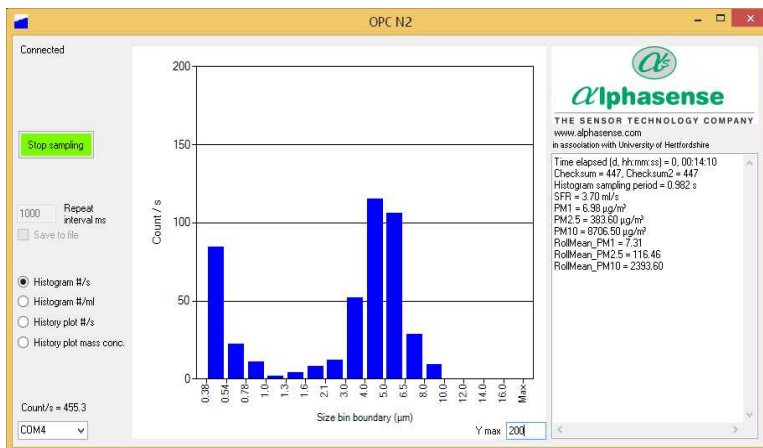


Figure 3 shows the OPC-N2 particle size distribution for a test aerosol.

**Figure 4 TSI 3330 Particle size count for 5 um alumina (Spherisorb™)**

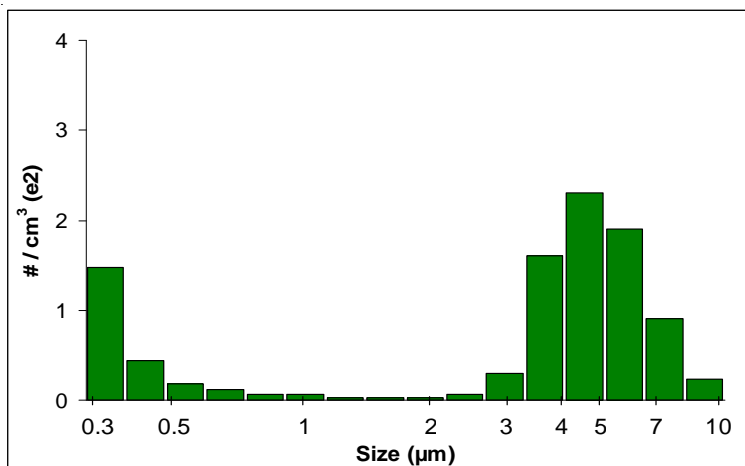


Figure 4 shows the TSI 3330 displayed particle size distribution for the same calibration aerosol, as measured by University of Hertfordshire.

Calculated PM from particle size includes assumptions about particle density and refractive index which will vary with application.

For further information on the performance of this sensor, on other sensors in the range or any other subject, please contact Alphasense Ltd. For Application Notes visit "[www.alphasense.com](http://www.alphasense.com)".

*In the interest of continued product improvement, we reserve the right to change design features and specifications without prior notification. The data contained in this document is for guidance only. Alphasense Ltd accepts no liability for any consequential losses, injury or damage resulting from the use of this document or the information contained within. (©ALPHASENSE LTD) Doc. Ref. OPC-N2/MAY17*