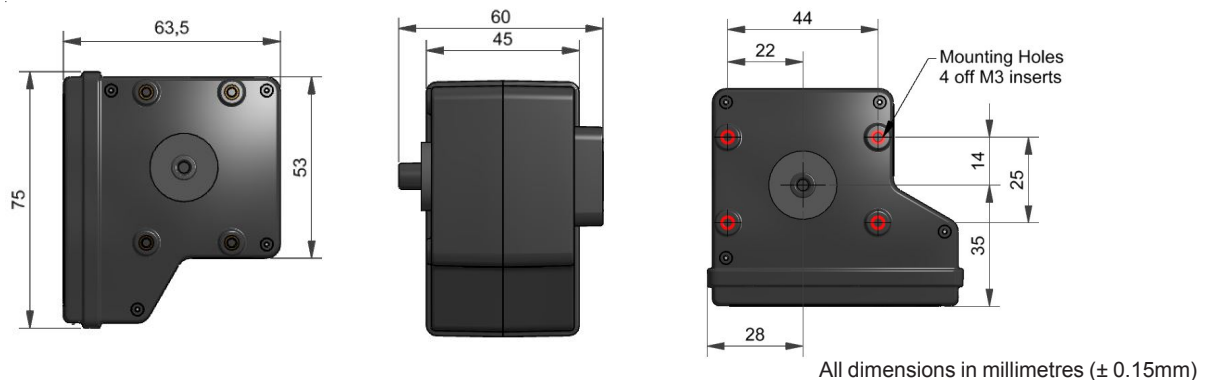


OPC-N2 Particle Monitor



Figure 1 OPC-N2 Schematic Diagram



- * Micro USB socket allows on-site firmware updates
- * Onboard data logging using optional 16GB SD card: 12 months' capture
- * SPI control of fan and laser for lowest power
- * Factory set:
 - particle size
 - particle density/Total RI
 - bin weighting for respirable profiling

MEASUREMENT

Particle range	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)	1.4 to 10
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 1 ms	< 5000

DATA

Digital interface/connections	Micro USB (programming), SPI (data)	
Data storage	micro-SD (.CSV format)	16GB

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.

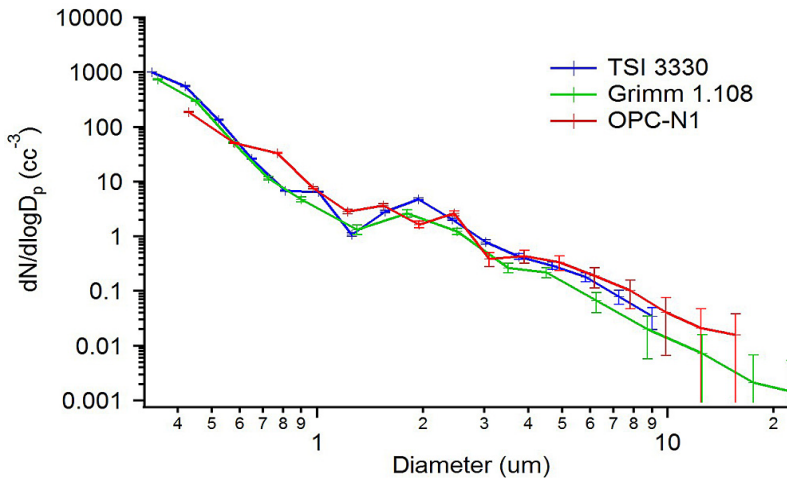
NOTE: As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors are suitable for their own requirements.

Technical Specification

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 5 mm alumina (Spherisorb) as displayed on PC, direct from the OPC-N2.

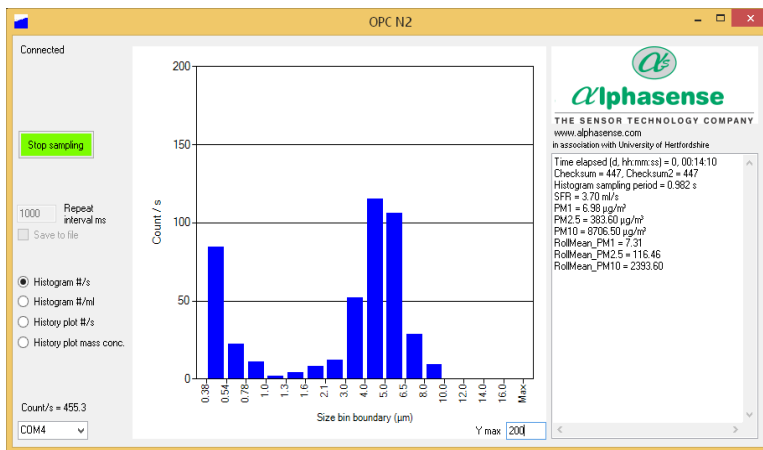


Figure 3 shows the OPC-N2 particle size distribution for a calibration aerosol.

Figure 4 TSI 3300 Particle size count for 5um Alumina (Spherisorb)

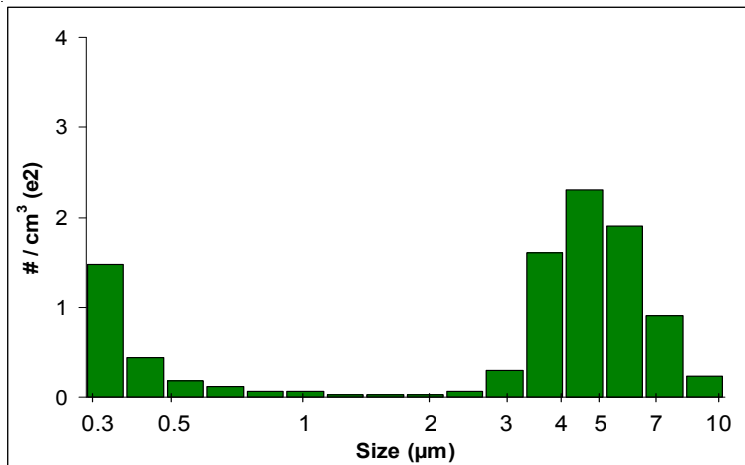


Figure 4 shows the TSI 3300 displayed particle size distribution for the same calibration aerosol, as measured by University of Hertfordshire.

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