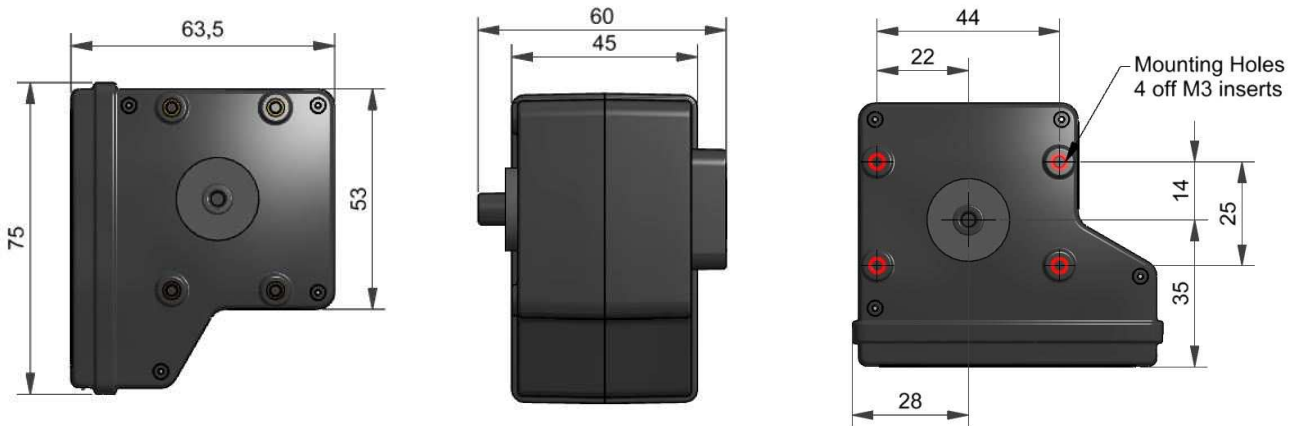


## OPC-N3 particle monitor – for use in high pollution urban environments



Dimensions are in millimetres ( $\pm 0.15$  mm).



- $PM_{1\mu}$ ,  $PM_{2.5}$  and  $PM_{10}$  ( $PM_{4.25}$  as an option)
- Measures up to  $40\ \mu\text{m}$  for pollen detection
- Reduced power standby mode
- Capability to measure up to  $2,000\ \mu\text{g}/\text{m}^3$
- Onboard temperature and humidity sensor
- SPI interface not included, order code 000-OSPI-00

### Measurement

Particle range*	$\mu\text{m}$ spherical equivalent size (based on RI of 1.5)	0.35 to 40
Size categorisation	Number of software bins	24
Sampling interval	Histogram period (seconds)	1 to 30
Total flow rate (typical)	L/min	5.5
Sample flow rate (typical)	mL/min	280
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

\*Based on 100% detection efficiency at  $0.35\ \mu\text{m}$ , 50% at  $0.3\ \mu\text{m}$

### Power

Measurement mode	mA (typical)	180
Standby mode	mA (typical)	< 45
Voltage range	VDC	4.8 to 5.2
Switch-on transient	mW for 1ms	< 5000

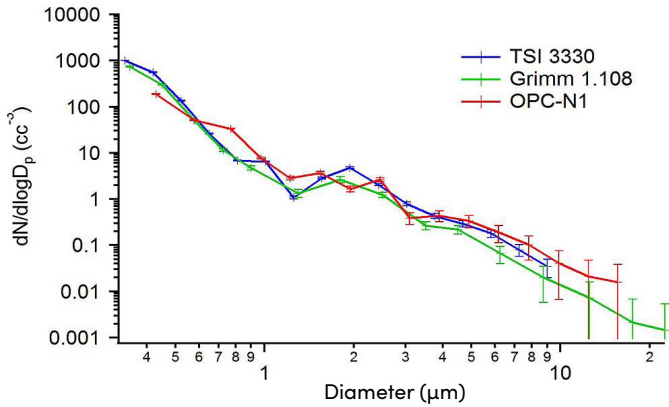
### Data

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

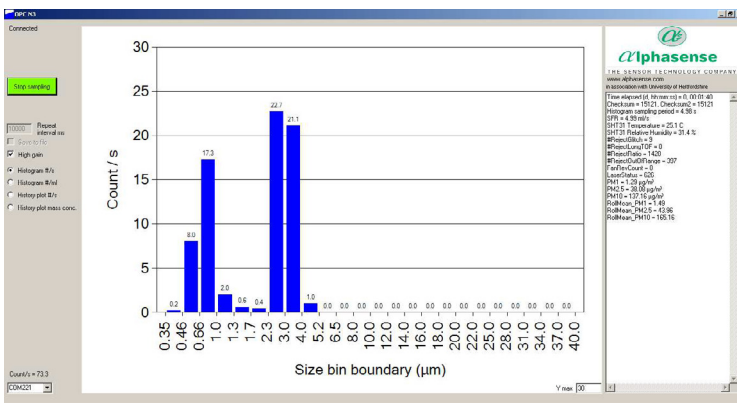
Digital interface	SPI (Mode 1), USB	
Laser classification	as enclosed housing	Class 1
Temperature range	$^{\circ}\text{C}$	-10 to 50
Humidity range	% rh (continuous)	0 to 95 (non-condensing)
Warranty	Months	24
Weight	g	< 105

**Figure 1 Particle size derivative comparison**



The OPC-N3 uses the same algorithms for 0.3 - 17µm as the OPC-N1.

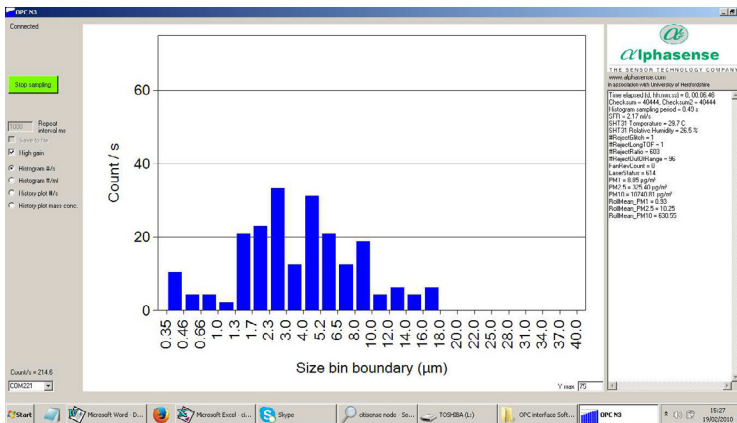
**Figure 2 OPC-N3 response to 0.75 and 3 um PSL calibration standards, as displayed on the supplied software**



Size speciation can support pollution source apportionment.

The expanded range to 40µm helps to identify pollen types.

**Figure 3 OPC-N3 response to a broad size range test dust**



Combustion soot, inorganic or metal?

Size speciation adds more information to identify the polluting source.

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