OPC-N1 Particle Monitor

Figure 1 OPC-N1 Schematic Diagram

All dimensions in millimetres (± 0.15mm)
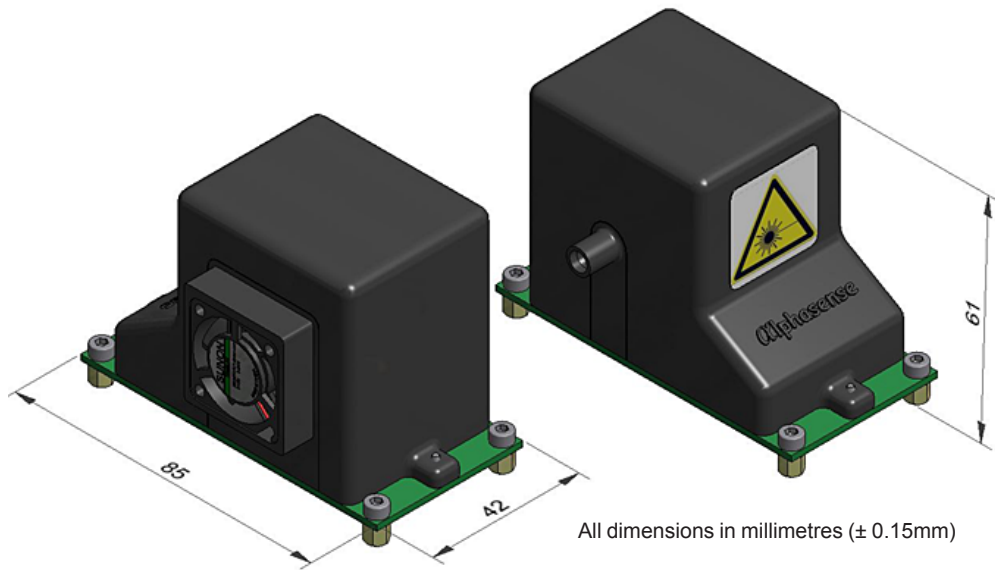
MEASUREMENT

Particle range	Spherical equivalent size (um)	0.5 to 15
Size categorisation	Number of software bins (standard)	16
Sampling interval	Histogram period (ms)	200
Flow rate	L/min	1
Particle count rate	Particles/second	20,000
Coincidence probability	%concentration at 10^6 particles/L	0.24

POWER

Measurement mode	Continuous measurement (mA)	115
Standby mode	Flow control (mA)	43
Sleep mode	Lowest power, no flow (μA)	30

KEY SPECIFICATIONS

Digital Interface		SPI
Laser classification		3B
Temperature range	°C	-30 to 50
Pressure range	kPa	80 to 120
Humidity range	% rh continuous	15 to 90
Weight	g	< 70

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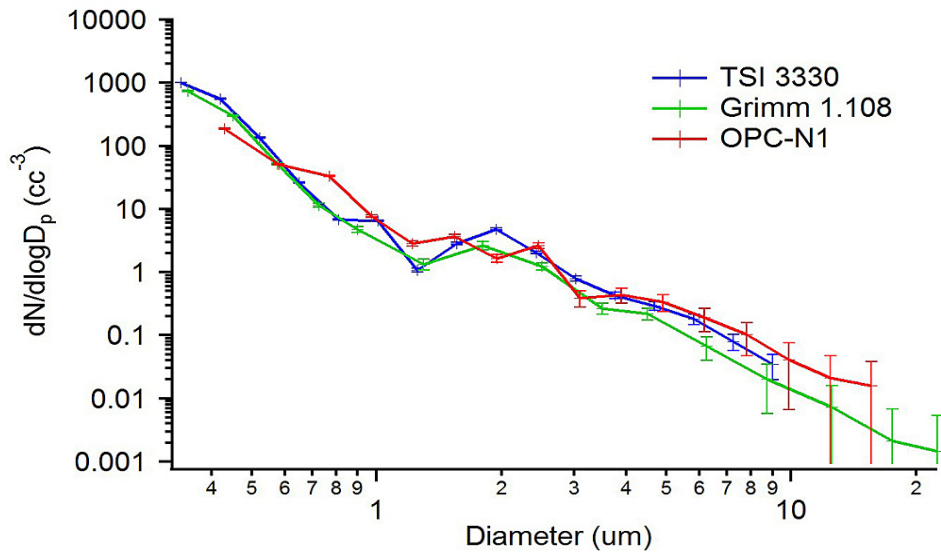
NOTE: As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors are suitable for their own requirements.
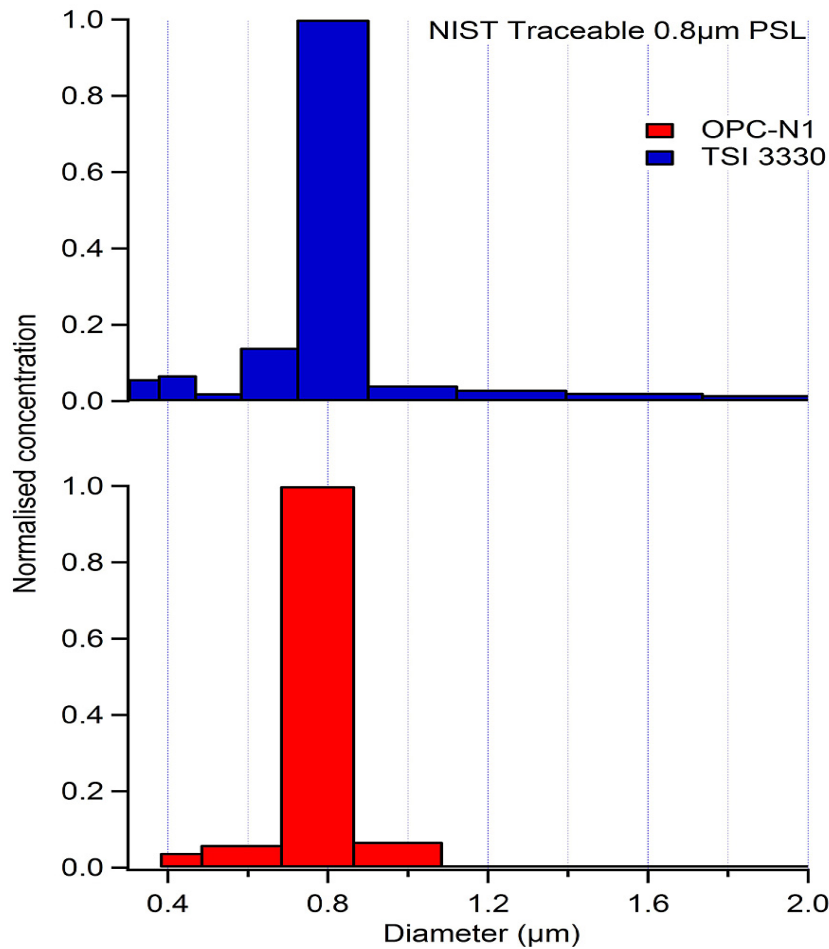
Technical Specification

Figure 2 Particle size derivative comparison

The OPC correlates well when tested with Grimm and TSI instruments

Figure 2 Particle size distribution comparison

OPC and TSI 3330 were tested with NIST Polystyrene latex spheres. The OPC showed good correlation.

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".

Hardware interface

The OPC interface is a 5V, 4 wire 3V3 SPI

SPI Pin out assignment

The SPI socket is a Molex 'Pico Clasp' 6 way Housing, Part Number 501330-0600. Pins are assigned in table 1.

	Function
1	Vcc
2	SCK
3	SDO
4	SDI
5	/SS
6	GND

Table 1. SPI socket pin assignment. Pin 1 is closest to the mounting pillar and R29.

OPC power requirement

The OPC requires 260mA continuous (186mA continuous with fan off).

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Technical Specification