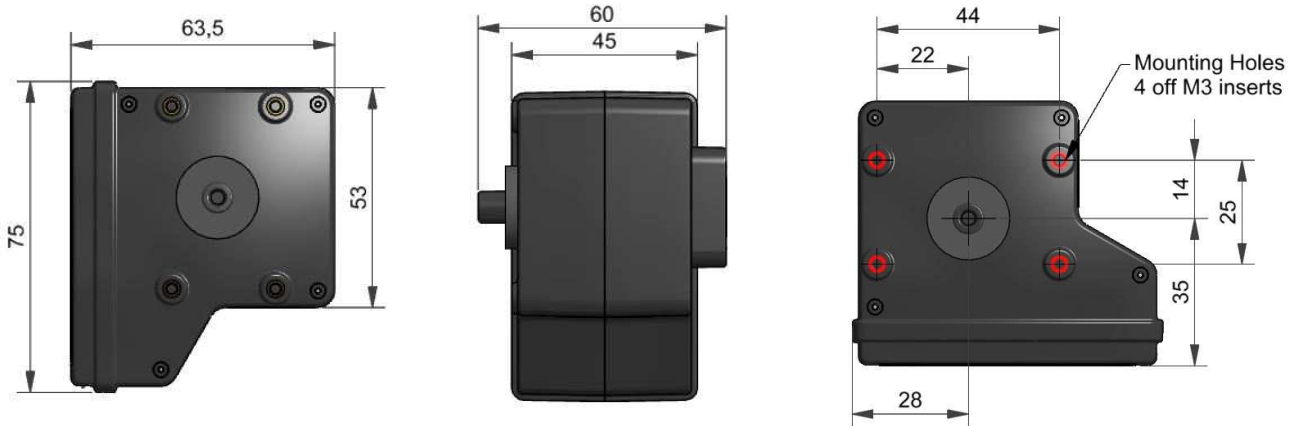


OPC-N3 particle monitor – for use in high pollution urban environments



Dimensions are in millimetres (± 0.15 mm).



- PM_{10} , $PM_{2.5}$ 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* | μm 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 |

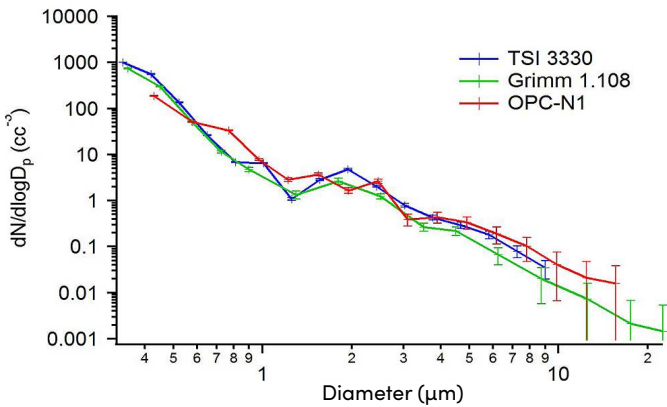
Data

| | | |
|-------------------------------|---|----|
| 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

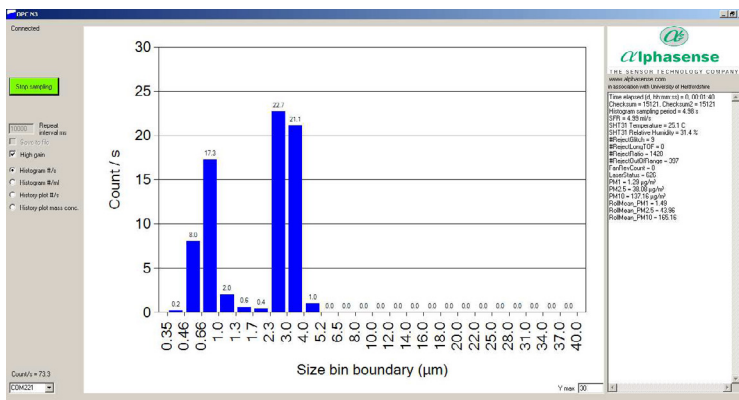
| | | |
|----------------------|---------------------|--------------------------|
| Digital interface | SPI (Mode 1), USB | |
| Laser classification | as enclosed housing | Class 1 |
| Temperature range | $^{\circ}\text{C}$ | -10 to 50 |
| Humidity range | % rh (continuous) | 0 to 95 (non-condensing)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

Figure 1 Particle size derivative comparison



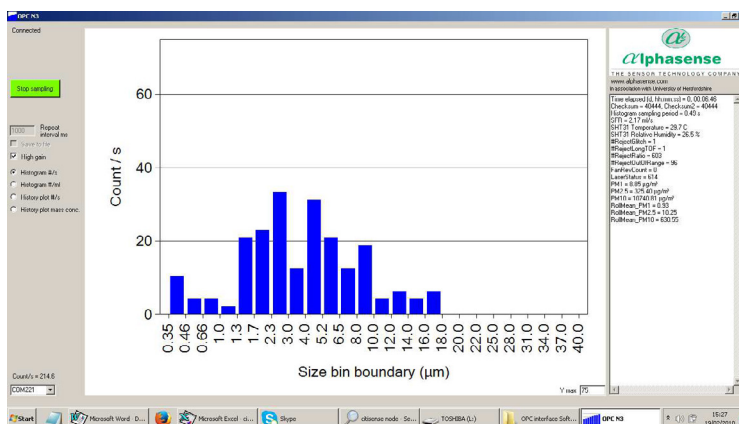
The OPC-N3 uses the same algorithms for 0.3 - 17µm as the OPC-N1.

Figure 2 OPC-N3 response to 0.75 and 3 µm 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.

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 unit is suitable for their own requirements.

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