Particle Matter Sensor

Particle matter (PM1 / PM2.5 / PM10) - dust sensor

Sensor: OPC-N3

Adroit portable and fixed site dust monitoring solutions use the Alphasense OPC-N3 sensors

Performance characteristics

Specifications of the Dust monitoring Sensor

- Laser classification: Class 1 as enclosed housing
- Particle range (µm): 0.35 to 40 spherical equivalent size (based on RI of 1.5, S of 1.65)
- Size categorization (standard): 24 software bins
- Sampling interval (seconds): 1 to 30 histogram period
- Total flow rate: 5.5 L/min
- Sample flow rate: 280 mL/min
- Max particle count rate: 10000 particles/second
- Max coincidence probability: 0.84% at 10,000,000

How it works

The Particle Matter sensor samples continuously for the entire duration of a minute, then outputs readings as specified below.

- The particle matter sensor takes in air in regular one-minute intervals
- Initial 5-second fan operation establishes optimal conditions
- An air sample is drawn in through the inlet and read for 10-seconds
- The sample is illuminated by a laser determining particle size
- Particulate is then sorted into 24 sized particle categories*
- This operation is repeated 3 times within the one-minute interval
- All reads are then averaged to deliver a corrected value
- PM1, PM2.5 and PM10 are derived locally on the device
- Data is uploaded every 15 minutes and displayed on the platform as (µg/m^3)

An optional stalk accessory is available with a larger intake for improved air sampling
*All particle size categories can be displayed on the platform upon request