

## Mini Real-Time Dust Sensor

### Portable Laser Dust Sensor for Quantification of Particulates in Ambient Air

TERRA DUST® is a portable, real-time, continuous dust sensor able to measure simultaneously PM2.5, PM10 and Total Suspended Solids (TSP) in ambient air. The sensor is designed for long-term unattended sampling. The sensor can measure the different fractions of dust and log the data within an internal memory. Data can be then downloaded via USB or accessed remotely via telemetry. The miniaturised design makes the sensor easy to transport, the electronic display and the plug-and-play function allow for a quick field deployment. The sensor is easy to install and commission, virtually maintenance free. Powered with a miniaturised solar panel can be used in all the situations where main power is not available. The sensor can be used by site personnel, regulators and local community to make informed decision based on timely, critical information about the local dust levels including any exceedances of the relevant environmental and health standards. The dust concentration is accurately measured using laser technology and it is based on the proven scientific principle of visible light scattering of nephelometry. The sensor is a competitive, well priced alternative to obtain the data granularity required to gain a better understanding to dust concentration in the environment and quickly respond to the situation.



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### About the Sensor

The sensor is based on laser technology which detects and counts particles using visible light scattering with a response time of <6 s. The detection concentration range between 0 µg/m<sup>3</sup> to 1,000 µg/m<sup>3</sup>. The sensor is an advanced photodetector that measures light scattered by particulates present in the air sample. An internal pump draws a quantity of air into the detection chamber fitted with the laser sensor. The laser light source illuminates the particles present in the air sample pulled through the detection chamber. As particles pass through the laser beam, the light reflects off the particles and is recorded on the photo or light detector. The light is then analysed and converted to an electrical signal to calculate particle concentration.

- Easy Installation and use
- Extremely portable
- Robust build with quality components
- Laser technology
- Maintenance free
- Dust and waterproof
- Low cost

**Real-time dust levels at your fingertips**

### Technical Specifications

Dust Measurement Range		Measurement Sensitivity		Measurement Accuracy		Sensor Type	
PM2.5	0 to 20 mg/m <sup>3</sup>	PM2.5	0.1 ug/ m <sup>3</sup>	PM2.5	±15ug/ m <sup>3</sup>	PM2.5	Laser scattering
PM10	0 to 20 mg/m <sup>3</sup>	PM10	0.1 ug/ m <sup>3</sup>	PM10	±15ug/ m <sup>3</sup>	PM10	Laser scattering
PM100/TSP	0 to 20 mg/m <sup>3</sup>	PM100/TSP	1 ug/ m <sup>3</sup>	PM100/TSP	±30ug/ m <sup>3</sup>	PM100/TSP	Laser scattering
Data Logging		Simultaneous Measurements		Data Access		IP65 Rated	
Internal data logging with full flash memory backup. Can hold up to 4 months' worth of real-time data		Simultaneously measures all 3 popular PM fractions; PM2.5, PM10 and Total TSP with option to add PM7 and PM4. Other PM fractions available upon request.		USB Port to download data from device Telemetry options to download and visualize data remotely		Totally dust tight, protected against low pressure jets	
Power Options		Display		Dimensions (System)		Dimensions (Dust Sensor)	
Battery	7.4V Lithium	128 x 64 LCD display for quick measurement check		Width	160mm	Diameter	183mm
Solar Panel	5W			Depth	80mm	Height	163mm
				Height	55mm		