

PROTINUS 1000

REAL-TIME DUST MONITOR

The Protinus 1000 provides a particulate monitor ideally suited for use around mines, quarries, construction and other dust generating activities.

The Protinus 1000 utilises two measurement methods to ensure accurate real-time dust measurements at TSP, PM₁₀ or PM_{2.5}.

When correlated against the monitor's gravimetric sample filter, forward light scatter method provides accurate and instantaneous measurement of dust concentrations.

Gravimetric Sampling Filter method samples dust onto an internal 47mm filter for use in correlating the light scatter method. Filter can also be used for later chemical analysis such as XRF to determine heavy metal concentrations.

Measurement errors induced by changes in ambient relative humidity are eliminated by incorporating an inbuilt sample heater controlled by a relative humidity sensor.

Available on its own or as a full turn-key installation, the Protinus can be combined with a solar panel, wind speed and direction sensor, a modem, and data collection software—a powerful tool for remotely quantifying dust emissions from around any site.

STABLE & ACCURATE MONITORING

- Measures PM₁₀, PM_{2.5} or TSP.
- Automatic flow control.
- Programmable auto zero/span.
- Laser Diode precision optical engine.

ROBUST ENCLOSURE

- Sheath-air protected optics.
- Aluminium weatherproof enclosure.
- Completely self contained.
- Inbuilt data logger.



SPECIFICATIONS

Concentration ranges (Auto-ranging)

0-0.5, 0-1, 0-10, 0-65mg/m³

Sensitivity

1 µg/m³

Particle size sensitivity range

0.1-100 micron

Accuracy

8% of NIOSH 0600

Precision

3 µg/m³ or 2% reading

Long-term stability

5% reading

Sampling frequency

1 sec

Sample flow rate

2 lpm

Available cut points

TSP, PM₁₀, PM_{2.5}, PM₁

Temperature range

-10 °C to 50 °C

Size

267 X 235 X 145 mm

POWER

Power consumption

350mA (no heater)

1.1 A (with heater)

Internal battery (Optional)

12 VDC 12 Amp-Hr,

No heater: >30 Hours

With heater: 10 Hours

DATA LOGGING

Average period

1 - 60 minutes selectable

Display

4X20 LCD

Outputs analog

0-1, 0-2.5, 0-5VDC, RS232

Data storage capacity

12000 Records

STANDARD EQUIPMENT

- Universal voltage power supply
- Inlet heater
- TSP Inlet
- 47 mm Filter holder
- Internal battery charger
- Comet software
- Digital output cable
- Instruction manual

OPTIONS

- PM₁₀, PM_{2.5}, PM1 Sharp-Cut Cyclone
- Aluminum tripod
- Modem (radio or 3G)
- Wind Speed/Direction Sensor
- Ambient RH
- Battery
- External battery cable

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