

DMP PM Monitor

How it works

The DMP PM Monitor delivers continuous, real-time measurement of **PM₁₀**, **PM₇**, **PM_{2.5}**, **PM₄**, **PM₁** and **PM Total**. Engineered to deliver reference-grade data quality, the DMP combines a controlled 5 LPM sample flow with a heated inlet and active humidity control, ensuring stable, representative measurements across varying environmental conditions.

Built for performance in the field, the DMP operates on a flexible 12VDC platform and features a robust, field-serviceable design – minimising downtime, maximising data capture, and ensuring your site is protected with true continuous monitoring.

Perfect for:

- Governments & Authorities
- Consultants & Engineering
- Civil & Construction
- Mining & Quarries
- Logistics, Ports & Terminals
- Research
- Field serviceable – including Tool-less Optical Engine Hot-Swap* to minimise downtime
- Mains, battery or solar power options
- Remote data access via modem
- Set multiple alarms – Email, SMS, External Siren and Visual Beacon

*Patent Pending

Weather & Meteorological Sensors

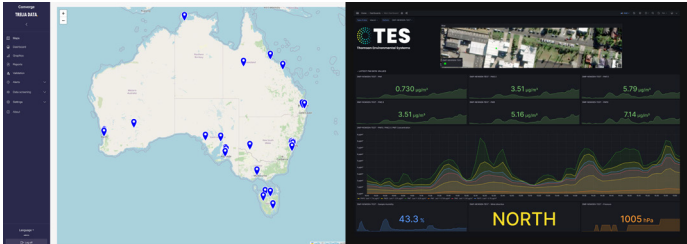
The DMP PM Monitor has Plug ‘n’ Play integration with up to 4 Lufft Meteorological Sensors, which means no additional costly data loggers for your weather monitoring requirements. The DMP has the capability to record up to 47 distinct paramaters, including:

- Wind Speed and Direction
- Air Temperature
- Relative Humidity
- Barometric Pressure
- Precipitation Type, Intensity and Quantity
- Solar Radiation
- Lightning Strikes and more.



- Easily serviced by site teams
- Built to reduce data gaps

TES Environmental Intelligence



FEATURE	BRONZE	SILVER	GOLD
Database Configuration/Setup	✓	✓	✓
FTP Configuration/Setup	✓	✓	✓
Trelia Software Updates	✓	✓	✓
Weekly Database Backup	✓	✓	✓
Weekly System Integrity Checks	✓	✓	✓
Web Interface (Grafana)		✓	✓
Unvalidated Data Weekly Report (Customised)			✓
Unvalidated Data Monthly Report (Customised)			✓
Advanced SMS Alarms (SMS fee not included)			✓
Email Alarms			✓

Proudly Manufactured in Australia by TES

Developed specifically for outdoor monitoring in Australia’s harsh conditions, the DMP PM Monitor is built for ease-of-use, robustness and suitability for a wide range of applications. Since 2008, we have continually strived to make it the highest quality instrument on the market. With years of field operation and a strong positive response from our users, we are proud that the TES range has become a leader in monitoring, construction, mining and industrial monitoring applications.

DMP PM MONITOR			
Measurement Principle	90° Mie scattering	Light Source	685nm Laser
Particle Size Range	0.2um to 18um	Gravimetric Filter Sampling	Integrated filter holder, 37mm filter cartridge (optional)
Dust Measurement Range	0.001 to 10mg/m³ (internal dilution available)	Flow Rate	5.0 litre per minute
Flow Accuracy	Precision automatic flow control to within +/- 2%	Single Pump System	With internal solenoid valve to control internal purge cycle every 30 minutes as standard
Simultaneous PM Fraction Measurements	Simultaneously measures six PM Fractions: Total PM (TSP) , PM10 , PM7, PM4, PM2.5 , and PM1. Other PM fractions available upon request.	Heated Inlet	Precision heated inlet with user-selectable RH control (~35–45% RH), optimised for accurate measurements and low-power, solar-powered operation.
Communications	Ethernet, 4G modem, RS232 digital port, USB, Analogue and Modbus TCP	Alarm Capabilities	Email alerts, SMS alerts, external audio siren and visual beacon
Online Data Portal	TES Data Portal	Relay Contacts	3 relay contacts (NC/COM/NO), Alarm 1 set point, Alarm 2 set point, Instrument fault alert, Max. contact switching 5A for Alarm Capabilities
Data Download	Direct data download, remote data download from TES Data Portal, or remote connection. Upon special request, automatically and continually pushed to your server (FTP)	Inputs	RS485 connectivity for external sensors. SDI-12 connectivity for external sensors. 2 x configurable analogue inputs for external sensors. (0–10v, 4–20mA)
Data Storage	32Gb internal memory	Calibration Method	Fully calibrated to ISO12103-1 international standards by TES
Meteorological Inputs	Up to 4 Lufft instruments can be integrated – each with multiple channels including wind speed, wind direction, humidity, temperature, precipitation, barometric pressure, solar radiation, evaporation, sigma theta, lighting & more.	Annual Calibration	TES’ unique design gives you low-cost calibration. Instead of returning the entire monitor, you can choose to return only the optical engine for annual calibration. To minimise downtime, a newly-calibrated optical engine is sent to you with a new pump and a replacement internal filter. You replace the optical engine and perform temperature, pressure and flow calibrations and return the replaced parts to us. Alternatively, TES can perform the entire calibration.
Noise Input	Class 1 (IEC 61672-1): 24/7 continuous measurement, reliable and traceable with certificate. Real-time analysis in 1/3 octave bands (6.3 Hz – 20 kHz)* + 12 functions Audio files* acquisition with triggers by level, time or emergency.		
Vibration Input	Tri-axial MEMS, Accelerometer		
Ingress Protection	IP67 rated electrical connectors. Enclosure provides adequate protection from rain and dust.	Tripod or Post Mounting	May be easily mounted on a 50mm diameter post or on a TES transportable heavy duty tripod
Weight	Enclosure: 7.86Kg Heated inlet: 1 Kg	Dimensions – Heated Inlet	~50 cm above the enclosure
Dimensions – System	40 x 30 x 21.2 cm (L x W x D) – Enclosure 47 x 30 x 21.2 cm (L x W x D) – Total w/out heater 87 x 30 x 21.2 cm (L x W x D) – Total with heater	Operating Temperature	–0 to 50°C temperature range
DC Power Consumption	<10W (Nominal) <22W (Maximum) – Heater at maximum	Ambient Relative Humidity	0 – 100%
Outputs	Modbus, 2 x configurable relay outputs for all parameters reported by the DMP/MMP. 3 x configurable analogue outputs for all parameters reported by the DMP/MMP. (0–10v, 4–20mA)	Power Options	Mains Power – Operates from 80 to 260 VAC and is fully weatherproof. Battery Power – Standard or Portable. Includes rechargeable battery, regulator and battery box. ‘Standard Battery System’ provides approx 210 hours of operation with the inlet heater OFF or 70 hours with the inlet heater ON.