PM MONITORING SYSTEM

DESCRIPTION

The PM Monitor is an industrial air-quality sensor designed to provide accurate measurements of particle concentration in both indoor and outdoor environments for PM10, PM2.5, PM1 or TSP.

The unit is supplied in a rugged weatherproof enclosure. It includes LCD display to provide information about particulate concentration, flow rate, instrument status and power. The electronics and optical system are protected from moisture by a built-in intake heater that is humidity level controlled. The heater power is regulated to maintain a minimum humidity level. Additional features include a purge air system and automatic zero calibration routine.

The sensor can be wall mounted or installed on a vertical mast up to 3 inch in diameter. The monitor is supplied with a 10 ft cable and connector for power (10 to 40 VDC) and signal output.

The monitor measures particulate concentration using a highly sensitive forward scatter laser nephelometer, having a measurement range of 0 to 100mg/cubic meter or 0 to 100,000 ug/ cubic meter. Optional sharp-cut cyclones are used to set the measurement level.

As supplied, it provides particulate monitoring for TSP. With the addition of the sharp-cut cyclone, it can be set for particulate smaller than PM10 or smaller than PM2.5, or PM1. The accuracy of the instrument is +/-5% based on a traceable PSL 0.6 micron reference standard.

The PM monitor measures real-time airborne particulate concentration levels using the principle of forward laser light scatter.

APPLICATIONS

- Hotels and public venues
- Rail and roadside monitoring
- Schools and playgrounds
- Underground facilities
- Solar power installations
- Wind energy installations
- Farms and ranches

Typical wall mounting

Typical pole mounting

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EURO-GAS
MANAGEMENT SERVICES LTD

PM MONITORING SYSTEM

TECHNICAL SPECIFICATIONS

Measurement Principles:	Particulate concentration by forward light scatter laser Nephelometer
Available Cut Points:	TSP Inlet Standard. PM10, PM2.5 and PM1 sharp-cut cyclone inlets available
Measurement Range:	0 to 100 mg/m³ (0 to 100,000 g/m³)
Measurement Sensitivity:	0.001 mg/m³
Nephelometer Accuracy:	± 5% traceable standard with 0.6um PSL
Particle Size Sensitivity:	0.1 to 100 micron. Optimal sensitivity 0.5 to 10 micron particles
Display:	2x16 backlit LCD. Provides information on operation including: Power, Flow Operation, Status and Concentration
Zero Calibration:	Automatic Zero Calibration every hour or as programmed from 1 to 999 minutes
Flow Rate:	2.0 liters/minute ± 0.1 liters/minute
Power:	10 – 40 Vdc @ 1.5 A maximum
Power Consumption:	350 mA (no heater) 1.1 A (with heater) @ 15 Vdc
Analogue Output:	4-20 mA and 0 – 10 Vdc
Digital I/O:	RS-485 full and half duplex, RS-232
Serial Communication:	ASCII Text data format and MODBUS RTU
Alarm Output:	Normally open and normally closed relay 30 VDC @ 1A maximum
Operating Temperature:	-10 to +50°C (Ambient Temperature Sensor Range -30 to +50°C)
Barometric Pressure:	600 to 1040 mbar pressure sensor range
Ambient Humidity Range:	0 to 90% RH, non-condensing
Intake Moisture Control:	Automatic 10 Watt inlet heater module controlled to sample RH set point
Factory Service Interval:	24 Months typical, under continuous use in normal ambient air
Mounting Options:	Wall mount bracket standard. Optional EX-905 tripod
Unit Weight:	2.27 kg (6.0 lbs)
Unit Dimensions:	22.9cm high, 17.8cm wide, 10.8cm deep (9.0” x 7.0” x 4.25”) without inlet assy 48.3cm high, 17.8cm wide, 10.8cm deep (19.0” x 7.0” x 4.25”) with inlet assy
Warranty period:	12 months from date of despatch

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