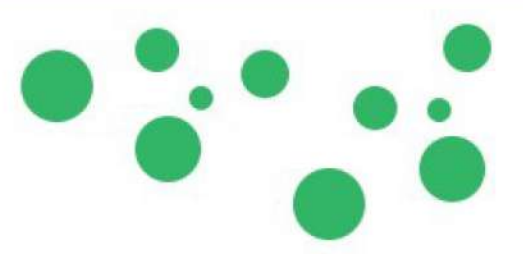# Indoor **Particulate Matter** Detector

The Ace Instruments Particulate Matter Detector or more commonly called a Fine Dust Monitor is a state of the art instrument with a clear 2 line 4 digit LED display. The PM Detector helps in analysing the Indoor Air Quality & accurately displays particulate matter concentrations of **PM1, PM2.5 & PM10** in ambient, indoor & outdoor environments.

PM 1

PM 2.5

PM 10

The PM sensor uses a laser and optical sensor to measure light scattered from   particles passing through the laser beam. The optical sensor transforms scattered light into electrical signals which are processed to provide mass measurements of PM1, PM2.5 & PM10. The PM detector simultaneously shows PM 2.5 & PM10 on the 2 line display or alternatively can be field selected to display PM1 & PM10 together.

The PM detector has individual LEDs for each of the PM1/PM2.5 & PM 10 alarm conditions, which trigger based on freely programmable set limits & also has an integral field programmable buzzer alarm for audio alert.

The PM Detector has a Dual Analog Output of 4-20mA which can be connected to front end BMS/PLC & also comes with an optional RS 485 modbus RTU protocol communication.

Specifications

Measuring Principle	Laser and optical sensor to measure light scattered from particles passing through the laser beam
Measuring Range PM 1	0 to 1000 µg/m3
Measuring Range PM 2.5	0 to 1000 µg/m3
Measuring Range PM 10	0 to 1000 µg/m3
Display	2 Line, 4 Digit Each, 0.56" height 7 segment red LED display (Field Selectable combination of PM 2.5 & PM 10 or combination of PM 1 & PM 10)
Sensor Working Life	> 4 years @ 22-25 Deg. C & 50-75% R.H. for general applications (For Highly contaminated rooms & smoking rooms with continuous readout > 400 µg/m3 , recommended change of sensor every 2 years)
Accuracy	Max of ±15 µg/m3 and ±15% of reading @ 25 °C and 50%R.H.
Analog Outputs	2 x 4-20 mA Outputs, 1 Each for PM2.5 & PM 10 or alternatively 1 each for PM 1 & PM 10
Alarm (Audio)	In Built Buzzer Alarm , freely programmable from front keys with acknowledgement key & buzzer enable/disable feature
Alarm (Visual)	Poor LED for PM 1 & Unhealthy LED for PM 1 Poor LED for PM 2.5 & Unhealthy LED for PM 2.5 Poor LED for PM 10 & Unhealthy LED for PM 10 (Programmable Set Limits for Each LED from front keys)
Communication	RS 485 modbus RTU protocol communication
Warm-up Time	30 seconds for first reasonable readings , 2 minutes for accurate readouts as per specifications
Power Supply	24 VDC, 350 mA
Operating Conditions	Temperature : 0...50 °C Humidity : 5...95% RH (non condensing)
Enclosure Type	Wall Mounting Type IP54 Rating compliant ABS Plastic Body with wall Bracket accessory
Enclosure Size	120 (W) x 80 (H) x 60 (D) mm.

Temp | Humidity | Pressure| Differential Pressure| Vacuum| Gases | Particle | Air Flow
Moisture | Dissolved Oxygen | Radiation | Air Quality | Light / Lux| Distance | Vibration

Instrukart Holdings

INSTRUKART
YOUR WORLDWIDE INSTRUMENT PARTNER