# PMMS®

## Particulate Matter Measuring System

PMMS is a Particulate Matter Measuring system that provides for efficient, round the clock monitoring of particulate matter concentrations at diverse locations. Particulate matter pollution is a matter of serious concern as it has a direct impact on the health of the exposed population from minor effects such as irritation, coughing, breathlessness to major impacts such as aggravated asthma, decreased lung function, irregular heartbeats, heart attacks and fatalities. Particularly, **PM 10, PM 4, PM 2.5 & PM 1** are particulate matter of serious concern and PMMS is designed to monitor these extremely fine particulate matter concentrations accurately that will help the customer to deploy suitable remediation measures.

In addition to the abovementioned sizes, PMMS has a vide operating range with capacity to measure sizes from 1 to 10 microns including i.e. from ultrafines to total suspended particulates.

Its robust compact design makes it suitable for deployment at varied such as industries, manufacturing plants, construction sites, mining sites, quarries, ports, townships, urban areas, smart cities, MSW sites, etc.

PMMS can easily integrate with your main control panels and intelligently display the particulate matter concentrations.

## Product Variants

| Product Name | Application | Uses |
|---|---|---|
| PMMS (Universal) | Capable of measuring varied size range of particulate matter concentrations from PM 1 To PM 10, Temperature and Humidity | Can be installed at varied locations such as industries, ports, Smart cities, mining, etc. to measure particulates from PM1, PM2.5, PM10 |
| PMMS (Customized) | As per the requirement of the user, we provide customized solutions with focus on size range of particulate matters | User defined |

## Technical Specifications

| | | |
|---|---|---|
| **A.** | **General Parameters** | |
| A.1 | Size | 36 cm (w) x 72 cm (h) x 20 cm (d) and 50 cm (w) x 108 cm (h) x 200 cm (d) |
| A.2 | Weight | 1500 g and 2500 g |
| A.3 | Material | IP 68 |
| **B.** | **Technical Parameters** | |
| B.1 | Sensor Type | Optical sensor |
| B.2 | Processor | ARM Cortex |
| B.3 | Power options | AC and DC<br>AC: External 110 – 230 V AC, 50 Hz<br>DC: Uninterrupted 24 V DC, 2 Amperes 60 watt, 24 v solar panel<br>Battery backup upto 12 hrs |
| B.4 | Data storage | Internal storage 6 GB<br>Cloud storage for 180 days |
| **C.** | **Communication and connectivity** | |
| **C.1** | Data Interval | 2 -30 minutes (configurable) |
| C.2 | Data-push Protocol | HTTP post request to host server |
| C.3 | Data-pull | HTTP request on device IP |
| C.4 | Firmware Updates | Over the air Firmware update |
| C.5 | Wireless Connectivity options | GSM, LoRa, LTE, NB -IoT, SigFox, WiFi |
| **D.** | **Environmental Parameters required** | |
| D.1 | Operating Temperature | - $20^0$C to 80 $^0$ C |
| D.2 | Operating Humidity | 0 to 90 %RH (Recommended range 20 to 60 %RH) |

## Product Features

- Round the clock Real time measurement
- IP 68 Grade (certified) to ensure strong weather endurance and durability
- Robust electronic design to provide great accuracy in measurement
- Compact design with ease of installation at diverse locations
- Ease of integration with the centralized control rooms, data monitoring rooms
- Intelligent Data display
- Compatibility with wide range of communication network