





PARTICULATE MATTER SENSOR

PMOS Series

The PMOS Particulate Matter Sensor uses an optical sensor based on laser scattering principles and features innovative contamination-resistance technology to perform highly accurate and reliable PM measurements. With a continuous-operation lifetime of more than 8 years, the sensor will provide long-term reliability and high-resolution particle size binning for the detection of environmental dust and other particles.

The sensor is housed within a sealed enclosure to monitor PM levels for room outside applications. The sensor achieves excellent performance characteristics, including high accuracy and low power consumption to ensure stable long-term operation. The PMRMC features both 4-20 mA and voltage outputs (0-5 / 0-10 Vdc) for simple integration into any building automation system to assure good indoor air quality. The device is also available with an RS-485 MS/TP network connection including either ModBus or BACnet protocol.

PRODUCT HIGHLIGHTS

* Laser scatter method sensor
* Detection of environmental dusts and other particles
* LCD Display
* Four selectable PM ranges
* Highly accurate and reliable PM measurements
* Network communication available (BACnet® or Modbus)
* IP65 enclosure







SPECIFICATIONS

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| DESCRIPTION | ENGINEERING SPEC |
| SENSOR | Laser scatter method |
| PARTICLE SIZE | PM1.0, PM2.5, PM4.0 or PM10 (selectable) |
| MASS CONENTRATION RANGE | 0 – 1000 ug/m3 |
| RESOLUTION | 1ug/m3 |
| ACCURACY | ±10ug/m3 (0 – 100ug/m3), ±10% (100 – 1000ug/m3) |
| RESPONSE TIME | 1 second |
| SENSOR LIFETIME | >8 years |
| ANALOG MODEL | Consumption: 75 mA max @ 24 Vdc, 100 mA max @ 24 Vdc  Output Signals: 4-20 mA (sourcing) or 0-5 Vdc / 0-10 Vdc (selectable)  Output Drive Capability: 550Ω max for current output, 5KΩ min for voltage output  Output Scale: 0 – 1000ug/m3 (menu selectable scales) |
| BACnet® MODEL | Consumption: 50 mA max @ 24 Vdc, 80 mA max @ 24 Vac Interface: MS/TP, 2-wire RS-485  Baud Rate: 9600, 19200, 38400, 57600, 76800, or 115200 (menu selectable) Address Range: 0 – 127 (menu selectable) |
| MODBUS MODEL | Consumption: 50 mA max @ 24 Vdc, 80 mA max @ 24 Vac Interface: MS/TP, 2-wire RS-485, RTU  Baud Rate: 9600, 19200, 38400, 57600, 76800, or 115200 (menu selectable)  Address Range: 1 – 255 (menu selectable) |
| LCD SIZE | 35mm W x 15mm H (1.4” x 0.6”) alpha-numeric 2 line x 8 characters |
| LCD BACKLIGHT | Enable or disable via menu |
| DISPLAY VALUES | 0 – 500 Air Quality Index or 0 – 1000ub/m3 |
| POWER SUPPLY | 24 Vac/dc ±20% (non-isolated half-wave rectified) |
| PROTECTION CIRCUITRY | Reverse voltage protected, overvoltage protected |
| OPERATING CONDITIONS | -10 - 60°C (14 - 140°F), 0 – 95 %RH non-condensing |
| STORAGE CONDITIONS | -40 to 70°C (-40 to 158°F) |
| WIRING CONNECTIONS | Screw terminal block (14 to 22 AWG) |
| ENCLOSURE SIZE | 110mm W x 180mm H x 90mm D (4.33” x 7.09” x 3.54”) |
| ENCLOSURE MATERIAL | PC |
| WEIGHT | 408gm (14.4oz) |
| TRI-COLOR LED | Good Green (0 – 50ug/m3) Yellow (51 – 150ug/m3  Red (151 – 1000ug/m3) |
| PM ALARM RELAY (OPTIONAL) | Contact Ratings: Form C (NO + NC), 2A @ 140 Vac, 2A @ 30 Vdc Relay Setpoint + Hysteresis: Programmable via menu  Relay Time Delay: Programmable via menu |
| COUNTRY OF ORIGIN | Canada |