



PARTICULATE MATTER SENSOR

PMRMC Series

The PMRMC 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 an attractive, low-profile enclosure to monitor ambient PM levels for room 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
* Highly accurate and reliable PM measurements
* Network communication available (BACnet® or Modbus)





SPECIFICATIONS

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| DESCRIPTION | ENGINEERING SPEC |
| SENSOR | Laser scatter method |
| PARTICLE SIZE | PM2.5 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 VdcOutput 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 outputOutput 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-485Baud 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, RTUBaud 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 | 0 - 50°C (32 - 122°F), 0 – 95 %RH non-condensing |
| STORAGE CONDITIONS | -30 to 60°C (-22 to 140°F) |
| WIRING CONNECTIONS | Screw terminal block (14 to 22 AWG) |
| ENCLOSURE SIZE | 84mm W x 117mm H x 29mm D (3.3” x 4.6” 1.15”) |
| ENCLOSURE MATERIAL | ABS |
| WEIGHT | 150gm (5.3oz) |
| TRI-COLOR LED | Good Green (0 – 50ug/m3) Yellow (51 – 150ug/m3Red (151 – 1000ug/m3) |
| PM ALARM RELAY (OPTIONAL) | Contact Ratings: Form C (NO + NC), 2A @ 140 Vac, 2A @ 30 Vdc Relay Setpoint + Hysteresis: Programmable via menuRelay Time Delay: Programmable via menu |
| COUNTRY OF ORIGIN | Canada |