



# AZ-PMOS

## OUTSIDE PARTICULATE MATTER SENSOR

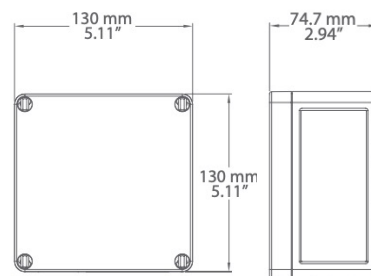
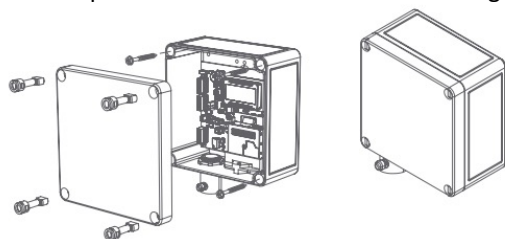
### DESCRIPTION

The AZ-PMOS Outside 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. The replaceable sensor measures particles of PM1.0, PM2.5, PM4.0, or PM10, with a continuous operation lifetime of more than 8 years. The sensor will provide longterm reliability and high resolution particle size binning for the detection of environmental dust and other particles.

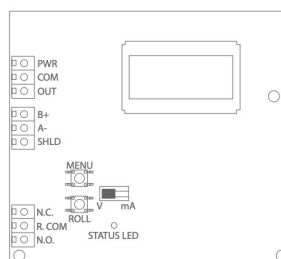
### TYPICAL INSTALLATION

**For complete installation and wiring details, please refer to the product installation instructions.**

The AZ-PMOS series should be mounted on an outside North facing wall, under the eaves which will provide protection from direct sunlight and wind. The PMOS can be mounted directly to buildings wall face using the provided mounting holes. There are 0.85" knockouts for conduit connection. The basic PMOS has a screw block terminal provided for connection to the Building Automation System.



### WIRING INFORMATION



| TERMINAL | FUNCTION                      |
|----------|-------------------------------|
| PWR      | + 24 Vdc/24 Vac (HOT)         |
| COM      | Common                        |
| OUT      | Analog Output                 |
| NO       | Relay Normally Open Contact   |
| R. COM   | Relay Common                  |
| NC       | Relay Normally Closed Contact |
| B (+)    | Network Output                |
| A (-)    | Network Output                |
| SHLD     | Network Output                |

### ORDERING

| PRODUCT     | PMOS        | Outside Particulate Matter Sensor                                             |
|-------------|-------------|-------------------------------------------------------------------------------|
| RELAY       | X<br>R      | None<br>Alarm Relay                                                           |
| OUTPUT      | X<br>B<br>M | Analog Output Only<br>BACnet® and Analog Outputs<br>Modbus and Analog Outputs |
| ACCESSORIES | PMFRSM      | Replaceable Sensor Module and wire harness                                    |

### PART NUMBER

| PMDT |
|------|
|      |
|      |
|      |

### MCERTS CERTIFICATION

The PMRMC series incorporates the SPS30 PM sensor for accurate and reliable PM sensing. The SPS30 particulate matter sensor has achieved MCERTS certification, which proves the performance of the PM sensor. In addition, the certification confirms that the SPS30 can be easily integrated into applications that comply with the European Air Quality Standard DIN EN 15267. The MCERTS certification scheme was established by the UK's Environment Agency and is built around international and European standards to ensure highquality environmental data monitoring. The SPS30 underwent laboratory and field tests and has been proven to fulfill the latest MCERTS and associated DIN EN 15267 European air quality standards. Compliance with the above-mentioned standards requires low intra-model variability ( $\leq 5 \mu\text{g}/\text{m}^3$ ), making the SPS30 the first choice for integration into applications requiring high precision. The certification is issued by the Sira Certification Service, one of the leading notified bodies in Europe. They are also accredited according to ISO/IEC 17065 UKAS and are part of the Canadian Standards Association (CSA Group).

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HVAC Manufacturer's Representative



# AZ-PMOS

## OUTSIDE PARTICULATE MATTER SENSOR

### SPECIFICATIONS

|                           |                                                                                                                                                                                                                                                         |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SENSOR                    | Laser scatter method (field replaceable)                                                                                                                                                                                                                |
| PARTICULATE SIZE          | PM1.0, PM2.5, PM4.0, or PM10 (selectable)                                                                                                                                                                                                               |
| MASS CONCENTRATION RANGE  | 0 - 1000 ug/m3                                                                                                                                                                                                                                          |
| RESOLUTION                | 1 ug/m3                                                                                                                                                                                                                                                 |
| ACCURACY                  | ±10 ug/m3 (0 - 100 ug/m3 ), ±10% (100 - 1000 ug/m3 )                                                                                                                                                                                                    |
| RESPONSE TIME             | 1 second                                                                                                                                                                                                                                                |
| SENSOR LIFETIME           | >8 years                                                                                                                                                                                                                                                |
| ANALOG MODEL              | Consumption: 75 mA max @ 24 Vdc, 100 mA max @ 24 Vac<br>Output Signals: 4-20 mA (sourcing) or 0-5 Vdc / 0-10 Vdc (selectable)<br>Output Drive Capability: Current - 550Ω max<br>Voltage - 5,000Ω min<br>Output Scale: 0 to 1000 ug/m3 (menu selectable) |
| BACnet® MODEL             | Consumption: 50 mA max @ 24 Vdc, 80 mA max @ 24 Vac<br>Interface: MS/TP, 2 wire RS-485<br>Baud Rate: 9600, 19200, 38400, 57600, 76800 or 115200 (menu selectable)<br>Address Range: 0 - 127 (menu selectable)                                           |
| MODBUS MODEL              | Consumption: 50 mA max @ 24 Vdc, 80 mA max @ 24 Vac<br>Interface: MS/TP, 2 wire RS-485, RTU<br>Baud Rate: 9600, 19200, 38400, 57600, 76800 or 115200 (menu selectable)<br>Address Range: 1-255 (menu selectable)                                        |
| PM ALARM RELAY (OPTIONAL) | Contact Ratings: Form C (NO + NC), 2A @ 140 Vac, 2A @ 30 Vac<br>Setpoint + Hysteresis: Programmable via menu                                                                                                                                            |
| DISPLAY                   | Internal LCD for setup<br>Display values<br>Mass Concentration: 0 - 1000 ug/m3<br>Air Quality Index: 0 - 500 AQI Good/Moderate/Poor (menu selectable)                                                                                                   |
| POWER SUPPLY              | 24 Vac/dc ±20% (non-isolated half-wave rectified)                                                                                                                                                                                                       |
| PROTECTION CIRCUITRY      | Reverse voltage protected, over-voltage protected                                                                                                                                                                                                       |
| OPERATING CONDITIONS      | -10 to 60°C (14 to 140°F), 20 to 80 %RH non-condensing                                                                                                                                                                                                  |
| STORAGE CONDITIONS        | -30 to 60°C (-22 to 140°F)                                                                                                                                                                                                                              |
| ENCLOSURE                 | Polycarbonate, IP65 (NEMA 4X)                                                                                                                                                                                                                           |
| ENCLOSURE DIMENSIONS      | 130mm W x 130mm H x 75mm D (5.12" x 5.12" x 2.95")                                                                                                                                                                                                      |
| WIRING                    | Screw terminal block (14 to 22 AWG)                                                                                                                                                                                                                     |
| COUNTRY OF ORIGIN         | CANADA                                                                                                                                                                                                                                                  |

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