



Room



Duct

PM Particulate Matter

"Particulate matter" (PM) is the general term used to describe solid particles and liquid droplets found in the air. The PM series of transmitters are designed to measure Particulates that include smoke, smog, bacteria, fine dust, liquid droplets, and report the total particle concentration of the monitored environment. ACI's PM series transmitters utilize a laser particulate matter sensor, that is offered in two different measuring ranges. The PM series transmitters operate on a laser scattering principle, utilizing a fan sampling method.

The PM2.5 is designed to detect Particles less than 2.5 μm in diameter. The PM10 is designed to detect Particles less than 10 μm in diameter.

The sensor has good long-term stability with an accuracy 10% reading or 10 $\mu\text{g}/\text{m}^3$. The room unit features field selectable outputs, 4-20 mA, 0-10 VDC, and Modbus RTU (RS485), relay, and display.

The sensor has two jumper selectable working modes for monitoring PM. The Normal Mode monitors the environment continuously and Auto Mode reduces the measuring time to extend service life. The sensor is sent default in Auto Mode.

Applications: Monitoring air quality, Air purifiers, WELL Building Standard

The PM Series is covered by ACI's Two (2) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's web site, workaci.com.

PRODUCT SPECIFICATIONS

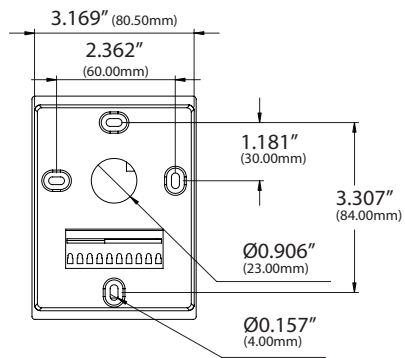
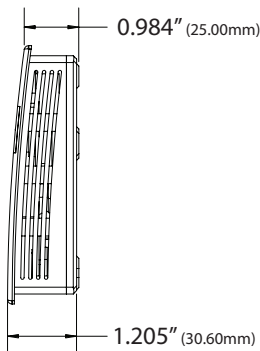
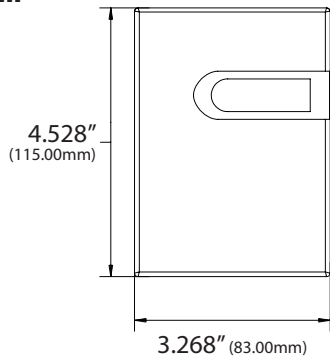
Supply Voltage:	16-28VAC/16-35VDC (Reverse Polarity Protection)
Sensor Type:	Laser particulate matter sensor
Detected Particle Size:	PM2.5: 0.3 ~ 2.5 μm PM10: 0.3 ~ 10 μm
Sensing Range:	PM2.5: 0 ~ 500 $\mu\text{g}/\text{m}^3$ PM10: 0 ~ 600 $\mu\text{g}/\text{m}^3$
Accuracy:	+/- 10 $\mu\text{g}/\text{m}^3$ @ 0 ~ 100 $\mu\text{g}/\text{m}^3$, +/- 10% reading @ 100 ~ 500/600 $\mu\text{g}/\text{m}^3$ @ 25°C/50%RH
Resolution:	1 $\mu\text{g}/\text{m}^3$
Output/Load Resistance:	4-20 mA: 500 Ohms maximum (Default) 0-10 VDC: 2K Ohms minimum
Communication Protocol:	Modbus RTU; EIA RS-485
Relay (Room with LCD Only):	1 SPDT, N.O. rated 3A @ 30VDC, 3A @ 250VAC
Relay Trip Point:	100 (Factory set), user adjustable
Sampling Method:	Fan
Response Time:	In continuous service mode, sample time <1s, response time <10s
Warm Up Time:	15 minutes
Service Life:	MTBF more than 3 years in continuous service mode, service life up to 8-10 years in auto (intermittent) service mode
Connection/Wire Size:	Screw Terminal Blocks/16 AWG (1.31 mm ²) to 22 AWG (0.33 mm ²)
Terminal Block Torque Rating:	0.45 lb-in (0.5 Nm) nominal
Operating Temperature Range:	32 to 122°F (0 to 50°C)
Storage Temperature Range:	-30 to 70°F (-34 to 21°C)
Operating Humidity Range:	0 to 95% RH, non-condensing
Enclosure Protection:	IP30 (Room) IP65 (Duct) IP30 (Probe)
Enclosure Material/UL Flammability:	ABS Plastic/UL94V-0
Weight:	Room: ~200g Duct: ~270g
Approval:	CE





DIMENSIONAL DRAWING

Room

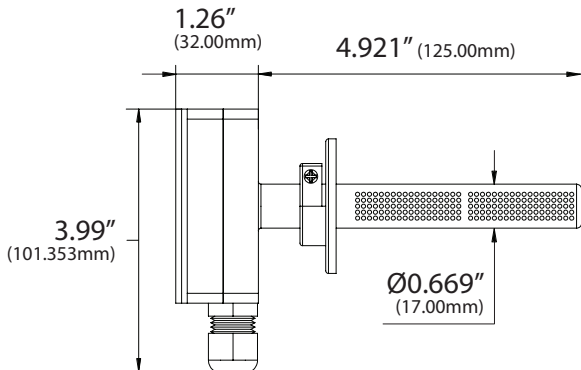
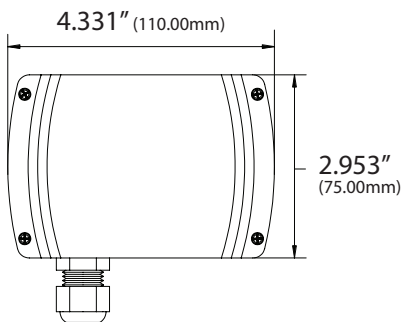


Front View

Side View

Back View

Duct



Front View

Side View

STANDARD ORDERING

Configuration	Item #	Detected Partical Size	Description
PM-R	147638	0.3 ~ 2.5 µm	Room mount, PM2.5, 4-20mA, 0-10V, Modbus RS-485
PM-R-LCD	147639	0.3 ~ 2.5 µm	Room mount, PM2.5, Relay, LCD, Keypad, 4-20mA, 0-10V, Modbus RS-485
PM-D	147640	0.3 ~ 2.5 µm	Duct mount, PM2.5, 4-20mA, 0-10V, Modbus RS-485
PM10-D	148522	0.3 ~ 10 µm	Duct mount, PM10, 4-20mA, 0-10V, Modbus RS-485

