GS-AQRPM Series

Room Particulate Matter Sensor

Overview

The GS-AQRPM 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, and PM10, 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.

Applications

- Indoor Air Quality
- Detection of airborne particules
- Alarming

Features & Benefits

- Visual Queue - Air Quality Index
- Preset Air Quality Index
- Accurately monitor Air Quality
- Fast response time (1 second)
- Laser light scattering technology
- PM1.0, PM2.5, PM4.0, or PM10
- 8 Years Continuous Sensor Operation

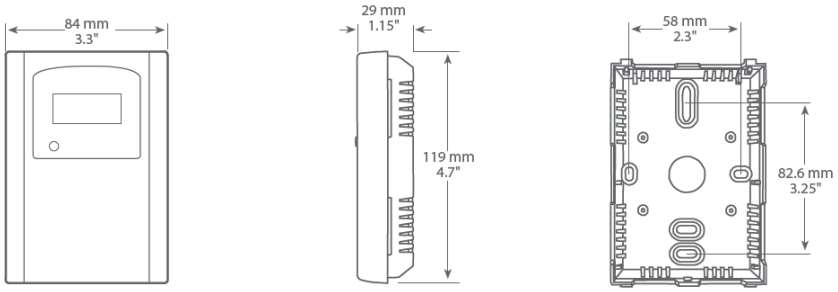
Model Selection

GS-AQ	R	PM	X	X	X	A
Air Quality Sensor						
R= Room Unit						
Particulate Matter						
X = No Display D = With Display						
X = No LED L = With LED						
X = No Relay R = With Relay						
A = Analog B = BACnet M = Modbus						

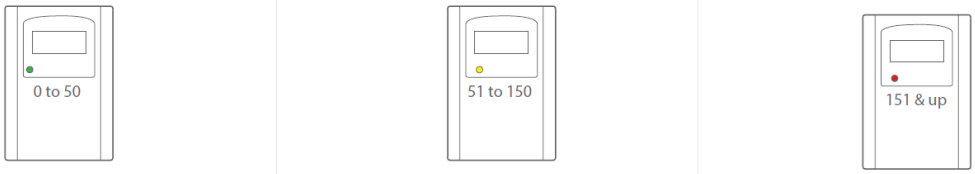
Specifications

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
▯ Output signal	4-20 mA (sourcing) or 0-5 Vdc / 0-10 Vdc (selectable)
▯ Output drive capability	Current - 550Ω max, Voltage - 5,000Ω min
▯ Output scale	0 to 1000 ug/m³ (menu selectable)
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	0-255 (menu selectable)
Tri-color LED (optional)	
▯ Good	Green (0 - 50 ug/m³)
▯ Moderate	Yellow (51 - 150 ug/m³)
▯ Poor	Red (151 - 1000 ug/m³)
PM alarm relay (optional)	
▯ Contact Ratings	Form C (NO + NC), 2A @ 140 Vac, 2A @ 30 Vac
▯ Setpoint + Hysteresis	Programmable via menu
▯ Time Display	Programmable via menu
LCD size	35mm W x 15mm H (1.4” x 0.6”)
LCD backlight	Enable or disable via menu
Display value	
▯ Mass Concentration	0 - 1000 ug/m³
▯ 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, overvoltage protected
Operating conditions	0 to 50°C (32 to 122°F), 20 to 80 %RH non-condensing
Storage conditions	-30 to 60°C (-22 to 140°F)
Enclosure	White ABS, UL94-V0, IP30 (NEMA 1)
Enclosure dimensions	84mm W x 117mm H x 29mm D (3.3” x 4.6” x 1.15”)
Wiring	Screw terminal block (14 to 22 AWG)
Weight	150 gm (5.3 oz)
Country of origin	Canada
Certifications	ROHS, ISO9001, CE, Senrision SPS30 sensor: MCERTS & DIN EN 15267

Dimensions



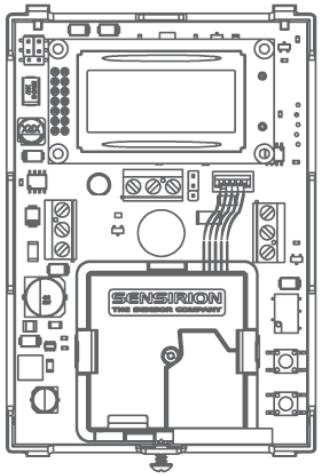
LED Display: Air Quaity INdex Values



0 to 50: Good	**51 to 100:** Moderate **101 to 150:** Unhealthy for Sensitive Groups	**151 & up:** Unhealthy

Tri-color system developed in relation to the EPA Air Quality Index as found at: https://airnow.gov/index.cfm?action=aqibasics.aqi

Wiring Information



Terminal	Function
PWR	+24 Vdc/24 Vac (HOT)
COM	Common
OUT	Analog Output
NO	Digital Output
R. COM	Digital Output
NC	Digital Output
If BACnet or Modbus Output Selected	
B(+)	Network Output
A(-)	Network Output
SHLD	Network Output

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