SIEMENS

Submittal Sheet
Document No. A6V11380355
June 19, 2020

QSA Series Fine Dust Sensors with Selectable Measuring Range

Product Numbers

Model	Orderable No.	Description
QSA2700	S55720-S457	Fine Dust Sensor
QSA2700D	S55720-S458	Fine Dust Sensor with Display
AQS2700	S55720-S459	Replacement Sensing Element

Features

- Dual 0 to 10V ouputs
  - U1: PM2.5 particulate
  - U2: PM10 particulate
- Modbus RTU network capable
- 3-color LED operating status indicator (QSA2700)
- QSA2700D
  - 2.4-inch color LCD display for PM2.5 values and AQI indication.
  - Four selectable languages: English, Chinese, German, and French.

Typical Specifications

The fine dust/particulate matter sensor shall be a wall-mounted device capable of measuring and transmitting measured concentrations of particulates falling within the PM2.5 and PM10 ranges. A separate 0 to 10V output shall be provided for each range, or sensor shall be capable of transmitting data to a network using a Modbus RTU. The measuring range shall be 0 to 500 micrograms per cubic meter. Sensors shall have a maximum unit-to-unit variability of ±15 µg/m3 and ±15% of reading @ 77°F (25°C) and 50% rh.

If a display is required, the display shall be full color LCD capable of displaying PM2.5 concentration with 1 µg/m^3 resolution as well as general air quality index based on selectable Class I, Class II and Class III categories. The unit shall be equipped with a proximity sensor that allows the display to enter sleep mode if no movement is detected.

Measuring range shall have the following field selectable ranges:

- 0 to 500 µg/m3
- 0 to 300 µg/m3
- 0 to 100 µg/m3
- 0 to 50 µg/m3

For additional information on particulate matter, visit https://www.epa.gov/pm-pollution.

Description

QSA Series fine dust sensors are designed to measure and transmit indoor concentrations of particulate matter within the PM2.5 and PM10 classifications.

Technical Data

Operating voltage	24 Vac ± 20%/13.5 to 35 Vdc
Frequency	60 Hz @ 24 Vac
Measuring range	0 to 500 µg/m^3
Unit-to-unit variability	Maximum ±15 µg/m^3 and ±15% of reading @ 77°F (25°C) and 50% rh
Analog output Signal	0 to 10 Vdc, linear, 0 to 500 µg/m^3 selectable range • 0 to 500 µg/m3 • 0 to 300 µg/m3 • 0 to 100 µg/m3 • 0 to 50 µg/m3
Communication protocol	RS485 ModBus RTU
Wiring length (max)	1,970 ft (600 m)
Enclosure	NEMA 1 (IP30)
Ambient conditions	
Operation temp.	32°F to 122°F (0°C to 50°C)
Humidity	5 to 95% rh (non-condensing)
Transportation temp.	–4°F to 158°F (–20°C to 70°C)
Humidity	5 to 95% rh (non-condensing)
Color	White
Weight	5 oz. (140 g)
Display (QSA2700D)	
Screen	Color
Sleep mode	Display enters sleep mode when no movement is detected within three feet of the sensor front.
Resolution	1 µg/m^3 increments
Display	PM2.5 value (if value > 500 µg/m^{3,} then display 500+ µg/m$^{3)}$ Air Quality Index corresponding to measured PM2.5 value.
Language	English, Chinese (simplified), German, and French.

Wiring Diagrams

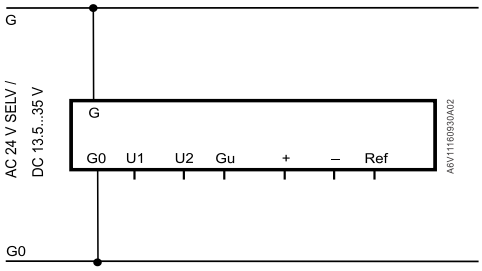

Figure 1.

G, G0: Operating voltage 24 Vac (SELV)/ 13.5 to 35 Vdc

U1: Signal output 0 to 10 Vdc for PM2.5 0 to 500 µg/m3

U2: Signal output 0 to 10 Vdc for PM10 0 to 500 µg/m3

Gu: Signal ground for U1 and U2

+,-, Ref: Modbus signal

Dimensions

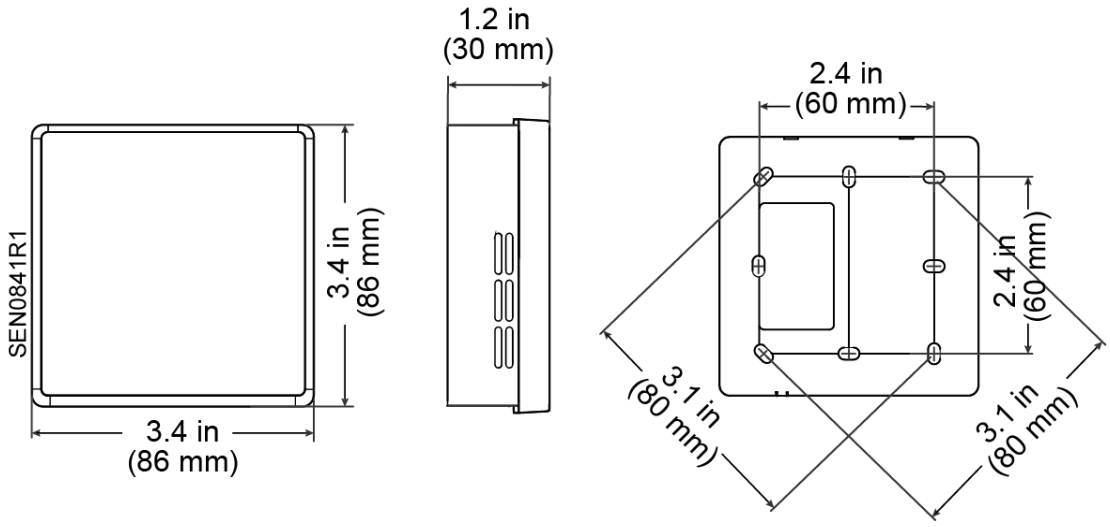

Figure 2. QSA Series Sensors Dimensions in Inches (Millimeters).

NOTE: Use ARG70 Adapter Plate (sold separately) to mount QSA directly on a 2” × 4” box.

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