



Sensedge Mini for Outdoors

Technical Specifications (SE-201 & SE-201P)

Product Overview

The Sensedge Mini for Outdoors provides real-time, accurate measurements of PM_{2.5}, CO₂, temperature, and relative humidity readings. With multiple power, connectivity, and installation options, the Sensedge Mini for Outdoors is made for building owners, facility managers, tenants, and employees.

Particulate Matter Sensor Specification

01

Mass concentration accuracy for PM_{2.5}¹

0 to 30 µg/m³: ±3 µg/m³
30 to 1000 µg/m³: ±10 % m.v.

Mass concentration range

0 to 1,000 µg/m³

Sensor technology

Laser particle sensor (Light scattering)

Recommended lifetime

High pollution concentration (> 200 µg/m³)
1.3 years
Low pollution concentration (< 100 µg/m³)
2 years

Mass concentration size range

PM _{2.5}	0.3 to 2.5 µg/m ³
PM ₁₀	0.3 to 10.0 µm

Sensor output resolution

1 µg/m³

Typical response time

≤10 s

Calibration

Calibrated against standardized aerosol mix

¹ Operates with high accuracy and reliability down to temperatures of -20°C. Performance may degrade below -20°C

CO₂ Sensor Specification

02

Target gas

CO₂

Measurement range

400 to 2,000 ppm¹
Up to 10,000 ppm extended range²

Accuracy³

± 40 ppm ± 3%
Comply with ANSI/ASHRAE Standard
62.1-2022

Typical response time

2 minutes by 90 %

Sensor technology

Non-dispersive infrared (NDIR)

Sensor output resolution

1 ppm

Recommended lifetime

15+ years

1 Extended exposure to concentrations below 400 ppm may result in incorrect operation of Automatic Baseline Correction (ABC) algorithm and should be avoided.

2 Sensor provides readings in the extended range but the accuracy may be lower than that specified in the table.

3 The accuracy specification covers environments ranging from 0-50°C and 0-80% RH, and complies with indoor air quality standards ANSI/ASHRAE Standard 62.1-2022 at 25°C.

Temperature Sensor Specification

03

Measurement range

-40 - 125 °C

Accuracy²

±1 °C

*Certified by WELL

Long term drift¹

<0.03 °C/y

Typical response time³

>2 s

Sensor technology

Digital sensor

Sensor output resolution

0.01 °C

Recommended lifetime

10 years

1 Typical value for operation in normal RH/T operating range. Higher drift values may occur due to contaminant environments with vaporized solvents, out-gassing tapes, adhesives, packaging materials, etc.

2 Temperature response times strongly depend on the type of heat exchange, the surrounding surface and the airflow in the final application environment.

* As a RESET Certified Grade B air quality monitor, this device automatically meets technical requirements for this parameter.

3 The accuracy of the temperature sensor may vary based on the outdoor location chosen for installation and the environmental conditions in the area, including the local wind velocity. Rapid changes in temperature may not be immediately reflected in the sensor readings.

Humidity Sensor Specification

04

Measurement range

0 - 100 % RH

Accuracy

±5 % RH

Long term drift

<0.25 % RH/yr

Typical response time¹

>8 s

Sensor technology

Digital sensor

Sensor output resolution

0.01 % RH

Recommended lifetime

10 years

¹ Humidity response times strongly depend on the surrounding surface and the airflow in the final application environment.

General Device Specifications

05

Calibration

Calibration via hot-swappable sensor modules

Operating conditions

Operational temperature: - 20 °C - 50 °C
Operational humidity: 5 to 95 %RH, non-condensing

Data storage & logging

Frequency of readings (Log interval):
1 minute, 1 hour, 1 day
Data push interval: 1 minute¹
Onboard memory: 1 hour of data

Dimensions

Length: 190 mm (7.5 in)
Width: 80 mm (3.2 in)
Height: 170 mm (6.7 in)

Weight

Sensedge Mini: 370 g (0.82 lbs)
Outdoor housing: 426 g (0.94 lbs)

Warranty

Standard warranty: 1 year²

Certifications

Environmental: ROHS, WEEE, TDRA, SRRC
Safety: FCC (US), CE (Europe), BIS (India)
Quality: RESET Grade B
Building automation: BTL
Healthy Building: Works with WELL

¹ Customizable upon request

² Optional extended warranty with contract

Power and Connectivity Options

06

Installation

Surface mount
Electrical box mount

Ethernet

IEEE 802.3
Data rate: Up to 100 Mbps

Integration

BACnet/IP
Cloud MQTT
On premise MQTT
Open API

¹ Total length of cabling up to 100 meters. However, we don't recommend using cables longer than 50m to guarantee the stability of power and data transmission.

Wi-Fi

2.4 GHz 802.11 b/g/n
Security supported: 64/128 WEP, WPA-PSK, WPA2-PSK, WPA, WPA2 Personal

Modbus (RS-485)

RS-485 Modbus/RTU

Power

Device: 12 - 30 V DC Via direct wiring
Power supply: Input 90-305V AC , Output 24V DC, Frequency 47Hz to 63 Hz

PoE (Available for model SE-201P)

IEEE 802.3af (PoE), Class3
IEEE 802.3at (PoE+), Class3
PD maximum power ≤ 10 W
PSEs: Midspan & endspan supported
Cable: Cat5 (Cat5e, Cat6, and Cat6a)¹

Get in touch with us!

www.kaiterra.com

info@kaiterra.com