



# Sensedge Mini

## Technical Specifications (SE-200 & SE-200P)

### Product Overview

The Sensedge Mini provides real-time, accurate measurements of PM<sub>1</sub>, TVOC, CO<sub>2</sub>, and O<sub>3</sub>\* concentrations, as well as temperature and relative humidity readings. With multiple power, connectivity, and installation options, the Sensedge Mini is made to the satisfaction of building owners, facility managers, tenants, and employees.

\* Ozone measurement available with KM-207 module.

# Particulate Matter Sensor Specification

01

---

## Mass concentration accuracy for PM<sub>2.5</sub>

0 to 30 µg/m<sup>3</sup>: ±3 µg/m<sup>3</sup>  
30 to 1000 µg/m<sup>3</sup>: ±10 % m.v.

---

## Mass concentration accuracy for PM<sub>10</sub>

0 to 30 µg/m<sup>3</sup>: ±3 µg/m<sup>3</sup>  
30 to 1000 µg/m<sup>3</sup>: ±15 % m.v.

---

## Mass concentration range

0 to 1,000 µg/m<sup>3</sup>

---

## Sensor technology

Laser particle sensor (Light scattering)

---

## Recommended lifetime

High pollution concentration (> 200 µg/m<sup>3</sup>)  
1.3 years  
Low pollution concentration (< 100 µg/m<sup>3</sup>)  
2 years

---

## Mass concentration size range

PM <sub>1</sub>	0.3 to 1.0 µm
PM <sub>2.5</sub>	0.3 to 2.5 µm
PM <sub>10</sub>	0.3 to 10.0 µm

---

## Sensor output resolution

1 µg/m<sup>3</sup>

---

## Typical response time

≤10 s

---

## Calibration

Calibrated against standardized aerosol mix

# TVOC Sensor Specification

# 02

---

## Target gas profile

Complex mixture of 22 VOCs<sup>1</sup> as defined by Molhave et al.

---

## Measurement range

0 - 60000 ppb

---

## Accuracy

±15 % ±8 ppb

---

## Sampling process

Diffusion

---

## Calibration

Calibrated against ethanol

---

## Sensor output resolution

1 ppb

---

## Sensor technology

Multi-pixel metal oxide sensor (MOx)

<sup>1</sup> n-Hexane, n-Nonane, n-Decane, n-Undecane, 1-Octane, 1-Decene, Cyclohexane, m-Xylene, Ethylbenzene, 1,2,4-Trimethylbenzene, n-Propylbenzene, α-Pinene, n-Pentanal, n-Hexanal, Iso-propanol, n-Butanol, 2-Butanone, 3-Methyl-2-butanone, 4-Methyl-2-pentanone, n-Butylacetate, Ethoxyethylacetate, 1, 2-Dichloroethane

# CO<sub>2</sub> Sensor Specification

# 03

---

## Target gas

CO<sub>2</sub>

---

## Measurement range

400 to 2,000 ppm<sup>1</sup>  
Up to 10,000 ppm extended range<sup>2</sup>

---

## Accuracy<sup>3</sup>

± 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 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.

# Ozone Sensor Specification

(Available with KM-207 module)

# 04

---

## Target gas

O<sub>3</sub>

---

## Measurement range

20 to 2,000 ppb

---

## Accuracy

±10 %

---

## Typical response time

< 90 s

---

## Sensor technology

Electrochemical

---

## Sensor output resolution

1 ppb

---

## Recommended lifetime

2 years

---

## Interference gas

NO<sub>2</sub>, CL<sub>2</sub>, H<sub>2</sub>, CO

# Temperature Sensor Specification

# 05

---

## Measurement range

-40 - 125 °C

---

## Accuracy

±1 °C

\*Works with WELL

---

## Long term drift<sup>1</sup>

<0.03 °C/y

---

## Typical response time<sup>2</sup>

>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.

# Humidity Sensor Specification

# 06

---

## Measurement range

0 - 100 % RH

---

## Accuracy

±5 % RH

---

## Long term drift

<0.25 % RH/yr

---

## Typical response time<sup>1</sup>

>8 s

---

## Sensor technology

Digital sensor

---

## Sensor output resolution

0.01 % RH

---

## Recommended lifetime

10 years

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

# General Device Specifications

# 07

---

## Calibration

Calibration via hot-swappable sensor modules

---

## Data storage & logging

Frequency of readings (Log interval):  
1 minute, 1 hour, 1 day  
Data push interval: 1 minute<sup>1</sup>  
Onboard memory: 1 hour of data

---

## Weight

370 g (0.82 lbs)

---

## Recommended Monitor Density

One monitor per 3,500ft<sup>2</sup> (325m<sup>2</sup>)  
Space types and layouts should be considered in accordance with project requirements.

---

## Operating conditions

Operational temperature: 0 - 50 °C  
Operational humidity: 5 to 95 %RH, non-condensing

---

## Dimensions

Length: 155 mm (6.1 in)  
Width: 129 mm (5.1 in)  
Height: 34 mm (1.3 in)

---

## Warranty

Standard warranty: 1 year<sup>2</sup>

---

## 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

<sup>1</sup> Customizable upon request

<sup>2</sup> Optional extended warranty with contract



# Power and Connectivity Options

# 08

---

## Installation

Surface mount  
Drywall mount  
Electrical box mount

---

## Ethernet

IEEE 802.3  
Data rate: Up to 100 Mbps

---

## Integration

RS-485 Modbus/RTU  
BACnet/IP  
Cloud MQTT  
On premise MQTT  
Open API

---

## Wi-Fi

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

---

## Power

100 - 240 V AC      Via USB-C (5V 1.8A DC)  
12 - 30 V DC      Via direct wiring

PoE (Available for model SE-200P)

IEEE 802.3af (PoE), Class3

IEEE 802.3at (PoE+), Class3

PD maximum power  $\leq$  10 W

PSEs: Midspan & endspan supported

Cable: Cat5 (Cat5e, Cat6, and Cat6a)<sup>1</sup>

Average power consumption: 1.7W

Peak power consumption: 4~5W

<sup>1</sup> Total length of cabling up to 100 meters.

---

## Get in touch with us!

[www.kaiterra.com](http://www.kaiterra.com)

[info@kaiterra.com](mailto:info@kaiterra.com)