

# Sensedge Mini for Outdoors Technical Specifications

(EK-200P)



## Product Overview

The Sensedge Mini for Outdoors is a durable air quality monitor designed for outdoor air quality monitoring. Built to withstand various weather conditions, it provides accurate, real-time data on key air quality parameters, helping real estate leaders and building managers better understand their surrounding environment.

## Product Features

---

### Default sensors

Particulate Matter (PM<sub>2.5</sub>, PM<sub>10</sub>),  
CO<sub>2</sub>, Relative Humidity, Temperature

### Designed for outdoor use

Engineered for durable, uninterrupted performance in a range of outdoor conditions whether it's rain, wind, sleet, or snow.

### Replaceable sensor modules

Modules can be swapped in seconds providing a cost-effective way to maintain long-term accuracy and avoid the traditional calibration process.

### Deeper insights

No more fragmented insights—leverage real-time indoor and outdoor air quality data side by side, unlocking a comprehensive understanding of your complete environment.

# Sensor Specification

---

## Particulate Matter Sensor

### Sensor technology

Laser particle sensor (Light scattering)

### Mass concentration size range

PM<sub>2.5</sub>: 0.3 to 2.5 µm

PM<sub>10</sub>: 0.3 to 10.0 µm

### Mass concentration range

0 to 1,000 µg/m<sup>3</sup>

### 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.

### Sensor output resolution

1 µg/m<sup>3</sup>

### Calibration

Calibrated against standardized aerosol mix

### WELL specification requirements

Adjustable particle density (K-factor) to accommodate project/region specific particulate profile.

Complies with [WELL Performance Verification Guidebook](#) to be used in WELL certification.

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

### Sensor technology

Non-dispersive infrared (NDIR)

### Measurement range

400 to 5,000 ppm<sup>1</sup>

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

### Accuracy

± 40 ppm ± 3%<sup>3</sup> (Comply with ANSI/ASHRAE Standard 62.1-2022)

### Sensor output resolution

1 ppm

### Target gas

CO<sub>2</sub>

---

## Temperature Sensor

### Sensor technology

Digital sensor

### Measurement range

-40°C - 125 °C

### Accuracy

±0.3 °C

Comply with WELL<sup>4</sup>

### Sensor output resolution

0.01 °C

---

## Relative Humidity Sensor

### Sensor technology

Digital sensor

### Measurement range

0 - 100 %RH

### Accuracy

±3 % RH

### Sensor output resolution

0.01 % RH

# Device Specification

---

## Power

Direct Wiring: 12 - 30 V DC  
Power supply:  
Input 90-305V AC  
Output 24V DC, Frequency 47Hz to 63 Hz  
PoE:  
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)

## Connectivity

Wi-Fi:  
2.4 GHz 802.11 b/g/n  
Security supported: 64/128 WEP, WPA-PSK, WPA2-PSK, WPA, WPA2 Personal  
Ethernet:  
IEEE 802.3  
Data rate: Up to 100 Mbps

## Integration

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

## Installation

Methods:  
Surface mount  
Post mount

## Data Logging & Storage

Frequency of readings (Log interval):  
1 minute, 1 hour, 1 day  
Data push interval: 1 minute<sup>5</sup>  
Onboard memory: 1 hour of data

## Modules & Calibration

Compatible modules:  
KM-200: Particulate Matter (PM<sub>2.5</sub>&PM<sub>10</sub>)  
Calibration: Swappable sensor modules

## Security

Kaiterra's platform architecture meets the most stringent security standards and is regularly subjected to 3rd party penetration tests. Read more about our security [here](#).

## Certifications

Quality: RESET Grade B  
Healthy Building: Works with WELL  
Building Automation:  
BTL: Certified under the BACnet Smart Sensor (B-SS) device profile  
Environmental: ROHS, WEEE, REACH  
Safety: BIS (India), CE (Europe), FCC (US), IC (Canada), MIC (Japan), RCM (Australia & New Zealand), SRRC (China), TDRA (UAE)

## Size & Weight

190 mm x 170 mm x 80 mm (7.5" x 6.7" x 3.2")  
Sensedge Mini: 370 g (0.82 lbs)  
Outdoor housing: 426 g (0.94 lbs)

## Operating conditions

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

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.
4. As a RESET Certified Grade B air quality monitor, this device automatically meets technical requirements for this parameter.
5. Customizable upon request