kaiterra

Sensedge Mini Commercial IAQ Monitor

Product Overview

RESET Grade B certified and part of the Works with WELL catalog, the Sensedge Mini is a compact indoor air quality monitor made for commercial buildings and modern workplaces. It offers both cloud-based analytics and BMS integration, making it a perfect fit for those looking for in-depth insights and building automation.

Product Features

Cloud + BMS integration
Send air quality data both to the cloud for detailed analysis and to the BMS via BACnet/IP for powerful automation and control.

Minimal, unobtrusive design
Sleek and compact design that blends into any space effortlessly.

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.

Sensedge Mini is Available in 3 Models*

	SE-200AW/PW	SE-200A/P	SE-200AL/PL
	Sensedge Mini for WELL	**Sensedge Mini**	**Sensedge Mini Core**
	Made for WELL projects to earn 9 points and replace performance testing for Air & Thermal Comfort	**Best for commercial buildings and workplace wellbeing projects**	**Great for increasing monitoring coverage and data density**
CO_2	✓	✓	✓
Temperature	✓	✓	✓
Relative Humidity	✓	✓	✓
Particulate Matter ($PM_{2.5}$, PM_{10})	✓	✓	
TVOC	✓	✓	
NO_2	✓		
CO	✓		
O_3	✓		

* The A/P in model number is used to differentiate non-PoE and PoE versions.

Sensor Specification

Particulate Matter Sensor

(Available in SE-200AW/PW, SE-200A/P)

Sensor technology
Laser particle sensor (Light scattering)
Mass concentration size range
$PM_{2.5}$: 0.3 to 2.5 µm
PM_{10}: 0.3 to 10.0 µm
Mass concentration range
0 to 1,000 µg/m³
Mass concentration accuracy for $PM_{2.5}$
0 to 30 µg/m³: ±3 µg/m³
30 to 1000 µg/m³: ±10 % m.v.
Mass concentration accuracy for PM_{10}
0 to 30 µg/m³: ±3 µg/m³
30 to 1000 µg/m³: ±15 % m.v.
Sensor output resolution
1 µg/m³
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.

O_3 Sensor

(Available in SE-200AW/PW)

Sensor technology
Electrochemical
Measurement range
20 to 2,000 ppb
Accuracy
±10%
Sensor output resolution
1 ppb
Target gas
O_3

Temperature Sensor

(Available in all models)

Sensor technology
Digital sensor
Measurement range
-40°C - 125 °C
Accuracy
±0.3 °C
Comply with WELL[5]
Sensor output resolution
0.01 °C

TVOC Sensor

(Available in SE-200AW/PW, SE-200A/P)

Sensor technology
Multi-pixel metal oxide sensor (MOx)
Target gas profile
Complex mixture of 22 VOCs[1] as defined by Molhave et al.
Measurement range
0 - 1,382 ppb
0 - 5,482 ug/m³
Accuracy
±15 % ±4 ppb
±15 % ±18 ug/m³
Sensor output resolution
1ug/m³
Calibration
Calibrated against ethanol
Sampling process
Passive
WELL specification requirements
Calibration gas: ethanol
Target gas profile (ppb=µg/m³ conversion factor under STP): 22 VOC mixed per Molhav et al. (1 ppb = 4.57 µg/m³)
Complies with WELL Performance Verification Guidebook to be used in WELL certification.

CO_2 Sensor

(Available in all models)

Sensor technology
Non-dispersive infrared (NDIR)
Measurement range
400 to 5,000 ppm[2]
Up to 10,000 ppm extended range[3]
Accuracy
± 40 ppm ± 3%[4] (Comply with ANSI/ASHRAE Standard 62.1-2022)
Sensor output resolution
1 ppm
Target gas
CO_2

Relative Humidity Sensor

(Available in all models)

Sensor technology
Digital sensor
Measurement range
0 - 100 %RH
Accuracy
±3 % RH
Sensor output resolution
0.01 % RH

Device Specification

Power
USB-C: 100 - 240 V AC: (5V 1.8A DC)
Direct Wiring: 12 - 30 V DC
PoE (Available for SE-200PW/P/PL):
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)
Power Consumption:
Average: 1.7W
Peak: 4~5W

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
Drywall mount
Electrical box mount

Data Logging & Storage
Frequency of readings (Log interval):
1 minute, 1 hour, 1 day
Data push interval: 1 minute[6]
Onboard memory: 1 hour of data

Modules & Calibration
Compatible modules:
KM-200: Particulate Matter ($PM_{2.5}$&PM_{10})
KM-203: TVOC
KM-207: TVOC, Ozone
KM-208: TVOC, O_3, NO_2, CO
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, TDRA, SRRC
Safety: FCC (US), CE (Europe), BIS (India)

Size & Weight
155 mm x 129 mm x 34 mm (6.1" x 5.1" x 1.3")
370 g (0.82 lbs)

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

1. n-Hexane, n-Nonane, n-Decane, n-Undecane ,1-Octane, 1-Decene, Cyclohexane, m-Xylene, Ethylbenzene, 1,2,4-Trimethylbenzene, n-Propylbenzene, a-Pinene, n-Pentanal, n-Hexanal, Iso-propanol, n-Butanol, 2-Butanone, 3-Methyl-3-butanone, 4-Methyl-2-pentanone, n-Butylacetate, Ethoxyethylacetate, 1, 2-Dichloroethane
2. Extended exposure to concentrations below 400 ppm may result in incorrect operation of ABC algorithm and should be avoided.
3. Sensor provides readings in the extended range but the accuracy may be lower than that specified in the table.
4. 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.
5. As a RESET Certified Grade B air quality monitor, this device automatically meets technical requirements for this parameter.
6. Customizable upon request