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Sensedge Mini Technical Specifications

(SE-200)

Product Overview

The Sensedge Mini provides real-time, accurate measurements of $PM_{2.5}$, TVOC, and CO_2 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.

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Particulate Matter Sensor Specification

Mass concentration range	0 to 1,000 µg/m³	
Mass concentration size range	$PM_{2.5}$	0.3 to 2.5 µg/m³
	PM_{10}	0.3 to 10.0 µm
Mass concentration accuracy for $PM_{2.5}$	0 to 30 µg/m³	±3 µg/m³
	30 to 1000 µg/m³	±10 % m.v.
Sensor output resolution	1 µg/m³	
Sensor technology	Laser particle sensor (Light scattering)	
Typical response time	≤10 s	
Recommended lifetime	High pollution concentration (> 200 µg/m³)	1.3 years
	Low pollution concentration (< 100 µg/m³)	2 years
Calibration	Calibrated against standardized aerosol mix	

TVOC Sensor Specification

Target gas profile	Complex mixture of 22 VOCs[1] as defined by Molhav 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)
Typical start-up time	0.4 ms

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

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CO_2 Sensor Specification

Target gas	CO_2
Measurement range	400 to 2,000 ppm[1]
	Up to 10,000 ppm extended range[2]
Accuracy[3]	±3 % m.v. ±50 ppm
Typical response time	2 minutes by 90 %
Sensor technology	Non-dispersive infrared (NDIR)
Sensor output resolution	1 ppm
Recommended lifetime	15+ years

Temperature Sensor Specification

Measurement range	-20 - 100 °C
Accuracy	±1 °C
Long term drift[4]	<0.03 °C/y
Typical response time[5]	>2 s
Sensor technology	Digital sensor
Sensor output resolution	0.1 °C
Recommended lifetime	10 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 Accuracy is specified over operating temperature range. Specification is referenced to certified calibration mixtures. Uncertainty of calibration gas mixtures (±2% currently) is to be added to the specified accuracy for absolute measurements.
4 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.
5 Temperature response times strongly depend on the type of heat exchange, the surrounding surface and the airflow in the final application environment.

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Humidity Sensor Specification

Measurement range	0 - 99 % RH
Accuracy	±5 % RH
Long term drift	<0.25 % RH/yr
Typical response time[1]	>8 s
Sensor technology	Digital sensor
Sensor output resolution	1 % RH
Recommended lifetime	10 years

General Device Specifications

Calibration	Calibration via hot-swappable sensor modules
Operating conditions	Operational temperature: 0 - 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 minute[2]
	Onboard memory: 1 hour of data
Dimensions	Length: 155 mm (6.1 in)
	Width: 129 mm (5.1 in)
	Height: 34 mm (1.3 in)
Weight	370 g (0.82 lbs)
Warranty & durability	Standard warranty: 1 year[3]
	Expected lifespan: 5 to 7 years

1 Humidity response times strongly depend on the surrounding surface and the airflow in the final application environment.
2 Customizable upon request
3 Optional extended warranty with contract

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Power and Connectivity Options

Installation	Surface mount	
	Drywall mount	
	Electrical box mount	
	Ceiling mount	
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	
Modbus (RS-485)	RS-485 Modbus/RTU	
	Modbus/TCP (Coming soon)	
Integration	BACnet/IP (Coming soon)	
	Local and cloud MQTT	
	Open API	
Power	100 - 240 V AC	Via USB Type-C
	12 - 30 V DC	Via direct wiring
	PoE (SKU: SE000200P)	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]

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.

Distributed By:

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