



All-in-One IAQ Sensor

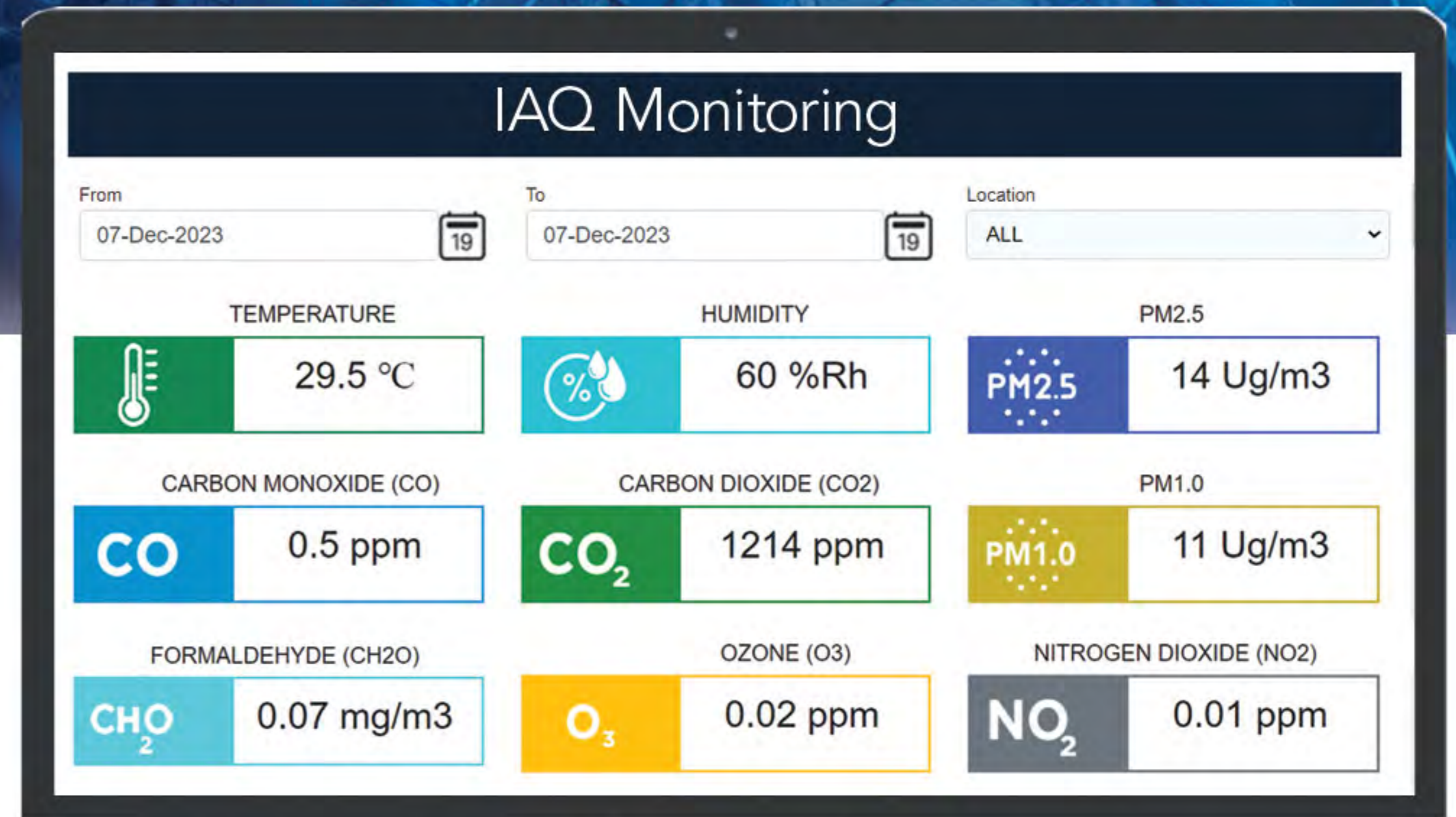
Monitoring CO₂, PM2.5, CH₂O, O₃, CO, TVOC, NO₂, Temperature, Humidity



Clean air in indoor environment means healthier, more productive people. Indoor Air Quality (IAQ) solution gives user the insights to make safer and healthier decision. At scale, this has potential to significantly increase productivity and efficiency.

All-in-one indoor air quality sensor integrating laser dust sensor, infrared carbon dioxide sensor, electrochemical formaldehyde sensor, electrochemical ozone sensor, electrochemical carbon monoxide sensor, VOC sensor, NO2 sensor, temperature and humidity sensor.

It can accurately measure the concentration of various gases in the air, with UART (TTL level) communication interface.



IAQ Monitoring App



5G Router



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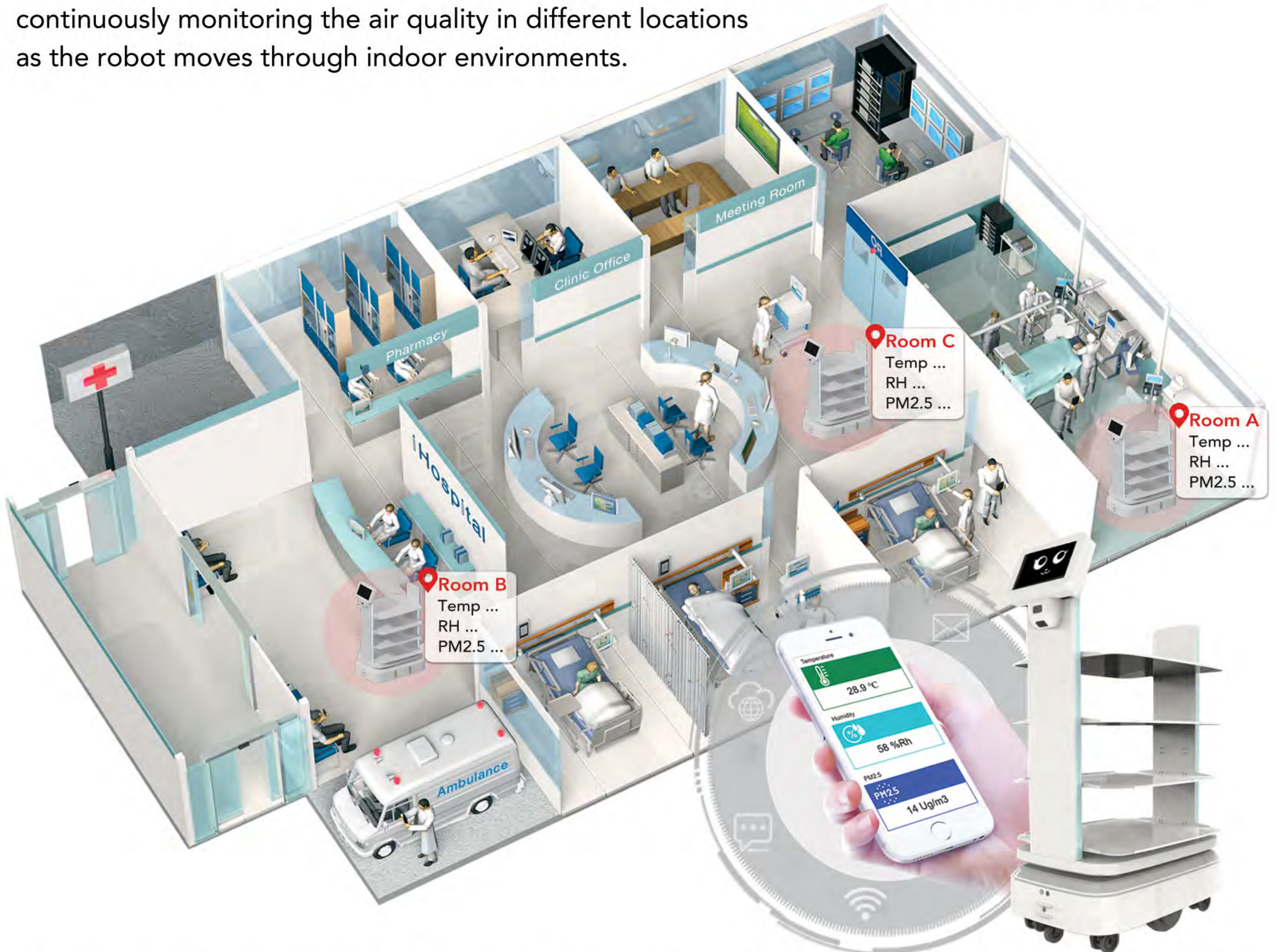


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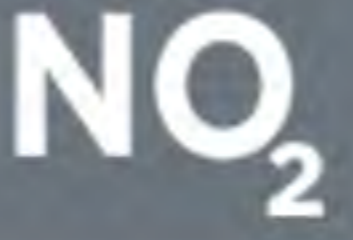
Mobile IAQ with Delivery Robot

Integrating IAQ sensor with delivery robots involves combining two technologies to address both air quality monitoring and autonomous delivery. The IAQ sensor is attached to the delivery robot, continuously monitoring the air quality in different locations as the robot moves through indoor environments.



Combining IAQ monitoring with delivery robots offers a dual-purpose solution, addressing both air quality concerns and the need for delivery systems. It enhances the value of robotic systems by providing additional functionalities beyond just delivery and also help ensure the indoor environments meet certain air quality standards.

Key Parameters that All-in-One IAQ Sensor Measures:

 Temperature	 Humidity	 Particulate Matter (PM) 1.0
 Carbon Monoxide	 Carbon Dioxide	 Particulate Matter (PM) 2.5
 Volatile Organic Compounds	 Ozone	 Particulate Matter (PM) 10
 Formaldehyde	 Nitrogen Dioxide	



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IAQ Sensor Specification

Model	ZPHS01B	
Target Gas	CO ₂ . PM2.5. CH ₂ O. O ₃ . CO. TVOC. NO ₂ . Temperature. Humidity	
Working voltage	5V (DC)	
Average Current	< 300 mA	
Peak Current	< 500 mA	
Physical interface	XH2.54-4P	
Interface level	3V(compatible with 3.3V)	
Output signal	UART (TTL)	
PM2.5	Range	0~1000 µg/m ³
	Particle size range	0.3-10µm(PM1.0, PM2.5, PM10)
	Accuracy	± 15 ug/m ³ (when concentration is ≤ 100ug/m ³); ± 15% (when concentration is >100ug/m ³)
	Response time	T ₉₀ < 45s
	Sampling method	Fan extraction
	MTTF	Continuous uninterrupted > 10000h
CO ₂	Range	0~5000 ppm
	Accuracy	± (50ppm+5% of reading value)
	Warm-up time	3min
	Response time	T ₉₀ < 120s
	Sampling method	Diffuse
	Lifespan	> 5 years
CH ₂ O	range	0~6.250 mg/m ³
	accuracy	± 0.03 mg/m ³ (when concentration is ≤ 0.2mg/m ³); ± 20% reading value (when concentration is >0.2mg/m ³)
	Warm-up	≤ 3min
	Response time	≤ 60s
	Recovery time	≤ 60s
	Sampling method	Diffuse
	Life span	5 years (18~25°C in clean air)
TVOC	Range	0~3 grades
	Warm-up	≤ 3min
	Response time	≤ 20s
	Recovery time	≤ 60s
	Sampling method	Diffuse
	Sensitivity attenuation	≤ 1% /year



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IAQ Sensor Specification

O ₃	Range	0~10 ppm
	Resolution	0.01 ppm
	Accuracy	± 0.1ppm, when the concentration is ≤1ppm; ±20% full range, when the concentration is over 1ppm;
	Warm-up	≤3min
	Response time	≤90s
	Recovery time	≤90s
	Sampling method	Diffuse
	Life span	2 years(18~25 °C in clean air)
	CO	Range
Resolution		0.1 ppm
Accuracy		± 10% reading value
Warm-up		≤30s
Response time		≤30s
Recovery time		≤30s
Sampling method		Diffuse
Life span		3~5 years (in air)
NO ₂	Range	0.1~10 ppm
	Resolution	0.05ppm
	Warm-up	≤3min
	Response time	≤120s
	Recovery time	≤90s
Tempera ture	Range	-20~65 °C
	Accuracy	± 0.5 °C (0-65 °C)
Humidity	Range	0~100%RH
	Accuracy	± 3%RH
Working temperature		-10~50 °C
Working humidity		15~80% RH (no condensing)
Storage temperature(recommend)		0~25 °C
Storage humidity (recommend)		0~80% RH
Dimensions		135 x 50 x 26.2mm (L x W x H)

Ordering Information

AN-IAQ: All-in-One IAQ Sensor supports multi-gas - CO₂, PM2.5, CH₂O, O₃, CO, TVOC, NO₂, Temperature, Humidity