Indoor Ambience Monitoring Sensor

Featuring LoRaWAN®

AM300 Series

◆ Introduction

AM300 series is a compact indoor ambience monitoring sensor for measurement of temperature, humidity, light, CO_2 concentration, $HCHO/O_3$ level, TVOC, barometric pressure, PM2.5, PM10 and motion. The data will be shown on the E-ink screen in real-time, which helps to measure the indoor environment and comfort. AM300 series is widely used for offices, stores, classrooms, hospitals, etc.

Sensor data is transmitted using LoRaWAN® technology. Combining LoRaWAN® gateway and IoT Cloud, users can manage all sensor data remotely and visually.

◆ Features

- Integrated with multiple sensors like humidity, temperature, CO_2, light, barometric pressure, PM2.5, PM10, etc.
- Multiple display modes and clear emoticon to easily understand the comfort levels via screen
- Support batteries or DC power supply
- Equipped with traffic light indicator and buzzer to indicate device status and threshold alarms
- Able to store locally more than 18, 000 records of 512 KB in total
- Compliant with standard LoRaWAN® gateways and network servers
- Quick and easy management with IoT Cloud

◆ Specifications

Model	AM307	AM319
Wireless Transmission		
Technology	LoRaWAN®	
Frequency	CN470/RU864/IN865/EU868/US915/AU915/KR920/AS923-1&2&3&4	
Tx Power	16dBm(868MHz)/22dBm(915MHz)/19dBm(470MHz)	
Sensitivity	-137dBm @300bps	
Work Mode	OTAA/ABP Class A	OTAA/ABP Class C
Sensors		
Temperature		
Range	-40°C - 85°C	
Accuracy	± 1°C	
Resolution	0.1°C	
Humidity		
Range	0% - 100% RH	
Accuracy	± 3%	
Resolution	0.5% RH	
PIR		
Detection Area	80 ° Horizontal, 55 ° Vertical	
Detection Range	5 m	
Status	Vacant/Occupied	
Light		
Range	0-60000 Lux (Determine as 6 levels, 0-5)	
TVOC		
Range	0-500 (IAQ Index)	
Accuracy	±15 %	
Barometric Pressure		
Range	300 - 1100 hPa (-40°C - 85°C)	
Accuracy	±0.6 hPa	
Resolution	0.1 hPa	
Carbon Dioxide (CO_2)		
Range	400 - 5000 ppm	400 - 2000 ppm
Accuracy	± (30 ppm or + 3 % of reading)	± (50 ppm + 5 % of reading)
Resolution	1 ppm	1 ppm

PM2.5 & PM10		
Range	—	0 - 1000 μg/m^3
Accuracy	—	0-100(±10μg/m^3), 100-1000(±10 %)
Resolution	—	1 μg/m^3
Formaldehyde (HCHO)[1]		
Range	—	0 - 6 mg/m^3
Accuracy	—	±10 %
Resolution	—	0.01 mg/m^3
Ozone (O_3)[2]		
Range	—	0 - 10 ppm
Accuracy	—	±5 % FS
Resolution	—	0.01 ppm
Display & Configuration		
Display	4.2-inch Black & White E-Ink Screen	
Button	1 × Power Button + 1 × Reset Button	
LED & Buzzer	1 × Traffic Light Status Indicator + 1 × Buzzer	
Configuration	1. Mobile App via NFC 2. PC software via NFC or USB Type-C port	
Physical Characteristics		
Power Supply	4 × 2700 mAh ER14505 Li-$SOCl_2$ Replaceable Batteries or Type-C Port	5V/1A by Type-C Port
Battery Life[3]	Around 3 Years (10 min interval)	—
Operating Temperature	-20°C - 60°C (E-Ink Screen: 0°C - 40°C)	
Relative Humidity	10% - 90% (non-condensing)	
Ingress Protection	IP30	
Dimension	100.8 × 114 × 22 mm (3.97 × 4.49 × 0.87 in)	
Installation	3M Tape Mounting, Wall Screw Mounting, 86 Box Mounting	

[1] This function is valid in the measurement of either HCHO or O_3.
[2] O_3 electrochemical sensor working life is 2 years and HCHO sensor working life is 5 years; they both support replacement.
[3] Test under laboratory conditions and for guideline purposes only.