AM300 Series

AM307 & AM319

Indoor Ambience Monitoring Sensor

LoRaWAN®

◆ Improving Energy Efficiency and Indoor Comfort

AM300(L) series is a compact indoor ambience monitoring sensor for measurement of temperature, humidity, light, CO2 concentration, HCHO/O3 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 Milesight LoRaWAN® gateway and Milesight IoT Cloud, users can manage all sensor data remotely and visually.

◆ Features

- Integrated with multiple sensors like humidity, temperature, CO2, 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

- Store locally 18, 000 historical records and support retransmission to prevent data loss
- Compliant with standard LoRaWAN® gateways and network servers
- Quick and easy management with Milesight IoT Cloud

◆ Specifications

Model	AM307(L)	AM308(L)	AM319(L)
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 A	OTAA/ABP Class C
Sensors			
Temperature			
Operating Principle	Digital CMOSens® technology (MEMS)		
Range	-20°C~60°C		
Accuracy	± 0.2°C		
Resolution	0.1°C		
Humidity			
Operating Principle	Digital CMOSens® technology (MEMS)		
Range	0% ~ 100% RH		
Accuracy	± 2% RH		
Resolution	0.5% RH		
Motion			
Operating Principle	Passive infrared (PIR)		
Detection Range	80 ° Horizontal, 55 ° Vertical, 5m		
Status	Vacant/Occupied		
Light			
Operating Principle	Photodiode		
Range	0-60000 Lux (Determine as 6 levels, 0-5)		
TVOC			
Operating Principle	MOX (MEMS)		
Range[1]	1.00 ~ 5.00 (IAQ Rating)		
Accuracy	±1		
Resolution	0.01		
Barometric Pressure			
Operating Principle	Piezoresistive absolute pressure sensor (MEMS)		
Range	260 - 1260 hPa		

Accuracy	±0.5 hPa	
Resolution	0.1 hPa	

Carbon Dioxide (CO_2)

Operating Principle	Nondispersive Infrared (NDIR)	Photoacoustic
Range	400 ~ 5000 ppm	400 ~ 2000 ppm
Accuracy	± (30 ppm + 3 % of reading) (0°C~ 50°C, 0% to 85%RH)	± (50 ppm + 5 % of reading) (-10°C~ 60°C)
Resolution	1 ppm	1 ppm

PM2.5 & PM10

Operating Principle	—	Laser Scattering
Range	—	0 ~ 1000 μg/m^3
Accuracy	—	0~100(±10μg/m^3), 100~1000(±10 %) (-10°C~ 60°C)
Resolution	—	1 μg/m^3

Formaldehyde (HCHO)[2]

Operating Principle	—	—	Electrochemical
Range[3]	—	—	0 ~ 1.25 mg/m^3
Accuracy	—	—	±10 %
Resolution	—	—	0.01 mg/m^3
Working Life	—	—	6 Years

Ozone (O_3)[2]

Operating Principle	—	—	Electrochemical
Range	—	—	0 ~ 10 ppm
Accuracy	—	—	±5 % FS
Resolution	—	—	0.01 ppm
Working Life	—	—	2 Years

Display & Configuration

Display	AM307 & AM308 & AM319: 4.2-inch Black & White E-Ink Screen AM307L & AM308L & AM319L: Not Support	
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	1. 4 × 2700 mAh ER14505 Li-SOCl$_2$ Replaceable Batteries	5V/1A by Type-C Port

	2. 5V/1A by Type-C Port		
Battery Life[4] (10 min interval, 25°C)	AM307: Around 3 Years AM307L: Around 4 Years	AM308: Over 1 Year AM308L: Around 1.5 Year	—
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		
Approvals			
Regulatory	CE, FCC, ISED		
Environmental	RoHS		

Note:

1. Reference to IAQ rating guideline (conversion from mg/m3 to ppm by the factor is about 0.5):

IAQ Rating	Air Quality
≤1.99	Very Good
2.00 to 2.99	Good
3.00 to 3.99	Medium (not recommended for exposure > 12 months)
4.00 to 4.99	Poor (not recommended for exposure > 1 months)
≥5.00	Bad (not recommended)

2. HCHO or O_3 sensor is alternative option and both support replacement.

3. For HCHO at 760 mmHg and 20°C, 1 ppm = 1.25 mg/m^3.

4. The battery life is tested under laboratory conditions and for guideline purposes only.

To alert the support team about any issues you are experiencing, please send an email to or create a ticket in our support platform. Please click here: technical@bmetersuk.com

The support team will get back to you as soon as possible.

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