

# Indoor Ambience Monitoring Sensor

Featuring LoRaWAN®

## AM30x(L)

**Milesight**



### ◆ Introduction

AM30x(L) is a compact indoor ambience monitoring sensor for measurement of temperature, humidity, light, CO<sub>2</sub> concentration, 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.

Sensor data is transmitted using LoRaWAN® technology. Combining Milesight LoRaWAN® gateway and Milesight Development Platform solution, users can manage all sensor data remotely.

AM30x(L) can be used in offices, stores, classrooms, hospitals, etc.

### ◆ Features

- Integrated with multiple sensors like humidity, temperature, CO<sub>2</sub>, 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 historical records and support retransmission to prevent data loss

- Compliant with standard LoRaWAN® gateways and network servers
- Quick and easy management with Milesight Development Platform
- Supports Milesight D2D protocol for ultra-low latency and direct control without gateways for AM304L & AM305L Only
- Integrates with Milesight IoT Cloud for AM307 & AM308(L) Only

## ◆ Specifications

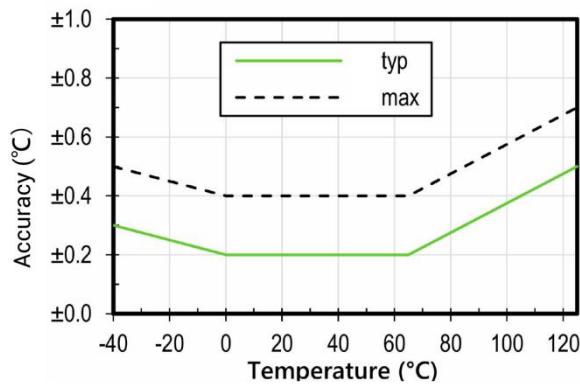
Model	AM304L	AM305L	AM307	AM308(L)
<b>Wireless Transmission</b>				
Technology	LoRaWAN® , Milesight D2D			LoRaWAN®
Antenna		Internal Antenna		
Frequency	CN470/RU864/IN865/EU868/US915/AU915/KR920/AS923-1&2&3&4			
Tx Power	16dBm(868MHz)/22dBm(915MHz)/19dBm(470MHz)			
Sensitivity		-137dBm @300bps		
Work Mode		OTAA/ABP Class A		
<b>Sensors</b>				
<b>Temperature</b>				
Operating Principle		Digital CMOSens® technology (MEMS)		
Range		-20°C~60°C		
Accuracy <sup>[1]</sup>		Typ. ±0.3°C (-20°C ~ 0°C), ± 0.2°C (0°C ~ 60°C)		
Resolution		0.1°C		
<b>Humidity</b>				
Operating Principle		Digital CMOSens® technology (MEMS)		
Range		0% ~ 100% RH		
Accuracy <sup>[2][3]</sup>		Typ. ± 2% RH (25°C)		
Resolution		0.5% RH		
<b>Motion</b>				
Operating Principle		Passive infrared (PIR)		
Detection Range		80 ° Horizontal, 55 ° Vertical, 3m		
Status		Vacant/Trigger		
<b>Light</b>				
Operating Principle		Photodiode		
Range		0-60000 Lux		
Report Mode	Illuminance Value or		Illuminance Level (0-5)	

Illuminance Level (0-5)		
Accuracy	±30% of reading	/
Resolution	1 Lux	/
<b>Carbon Dioxide (CO<sub>2</sub>)</b>		
Operating Principle	Nondispersive Infrared (NDIR)	
Range	400 ~ 5000 ppm	
Accuracy	± (30 ppm + 3 % of reading) (0°C~ 50°C, 0% to 85%RH)	
Resolution	1 ppm	
<b>Barometric Pressure</b>		
Operating Principle	Piezoresistive absolute pressure sensor (MEMS)	
Range	260 - 1260 hPa	
Accuracy	±0.5 hPa	
Resolution	0.1 hPa	
<b>TVOC</b>		
Operating Principle	MOX (MEMS)	
Range <sup>[4]</sup>	1.00 ~ 5.00 (IAQ Rating)	
Accuracy	± 1	
Resolution	0.01	
<b>PM2.5 &amp; PM10</b>		
Operating Principle	Laser Scattering	
Range	0 ~ 1000 µg/m <sup>3</sup>	
Accuracy	0~100(±10µg/m <sup>3</sup> ), 100~500(±10 %) (-10°C~ 60°C)	
Resolution	1 µg/m <sup>3</sup>	
<b>Other Interfaces</b>		
Display	AM307 & AM308: 4.2-inch Black & White E-Ink Screen AM304L & AM305L & AM308L: Not Support	
Button	1 × Power Button + 1 × Reset Button	
LED	1 × Traffic Light Status Indicator	
Buzzer	1 × Buzzer	
USB	1 × Type-C Port for Power Supply or Console	1 × Type-C Port for Power Supply, Configuration or Console

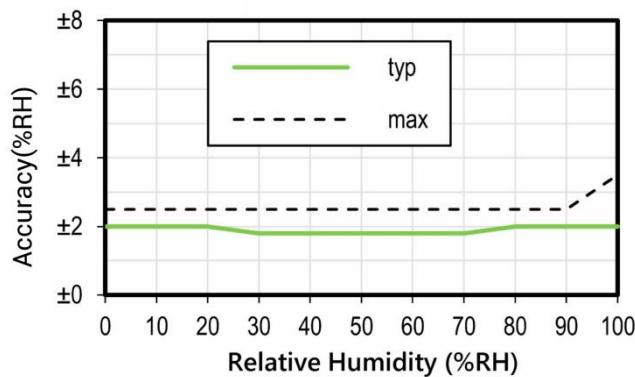
Software						
Configuration	1. Mobile App via NFC 2. Downlink		1. Mobile App via NFC 2. PC software via USB Type-C port 3. Downlink			
Advanced Features	Calibration, Threshold Alarm, Data Storage (4320 entries), Data Retrievability, Data Retransmission, Button Lock, D2D Data Transmission, D2D Controller		Calibration, Threshold Alarm, Data Storage (18,000 entries), Data Retrievability, Data Retransmission, Smart Screen Mode, Button Lock			
Physical Characteristics						
Power Supply	1. 4 × 2700 mAh ER14505 Li-SOCl <sub>2</sub> Replaceable Batteries 2. 5V/1A by Type-C Port					
Battery Life <sup>[5]</sup> (10 min interval, 25°C)	Around 14 Years (SF7, EU868) Around 12.5 Years (SF7, US915) Around 7.5 Years (SF10, EU868) Around 3.9 Years (SF10, US915)	Around 11 Years (SF7, EU868 &US915) Around 6.3 Years (SF10, EU868) Around 3.7 Years (SF10, US915)	Around 3.9 Years (SF7, EU868 &US915) Around 3.1 Years (SF10, EU868) Around 2 Years (SF10, US915)	Around 1.3 Years (SF7, EU868 & US915) Around 1.2 Years (SF10, EU868) Around 1 Year (SF10, US915)		
Operating Temperature	-20°C - 60°C (E-Ink Screen: 0°C - 40°C)					
Relative Humidity	10% - 90% (non-condensing)					
Ingress Protection	IP30					
Housing&Color	PC+ABS (V0), White					
Weight (With Batteries)	181.25g	187.55g	182.5g	222.6g		
Dimension	100.8 × 114 × 22 mm (3.97 × 4.49 × 0.87 in)					
Installation	Wall Mounting via 3M Tape or Screws					
Approvals						
Regulatory	CE, CE (RED), FCC		CE, CE (RED), FCC, ISED			
Environmental	RoHS					

**Note:**

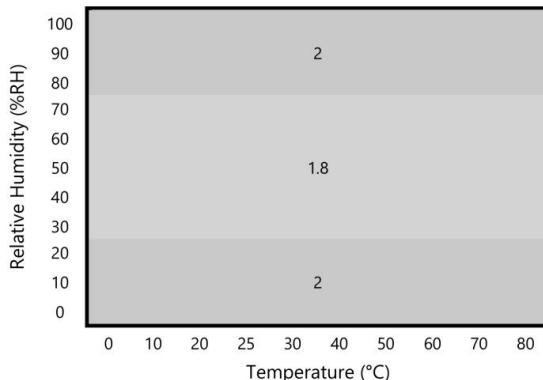
1. Accuracy corresponding to the temperature:



2. Accuracy corresponding to the relative humidity:



3. Typical RH accuracy corresponding to the temperature at 25°C:



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

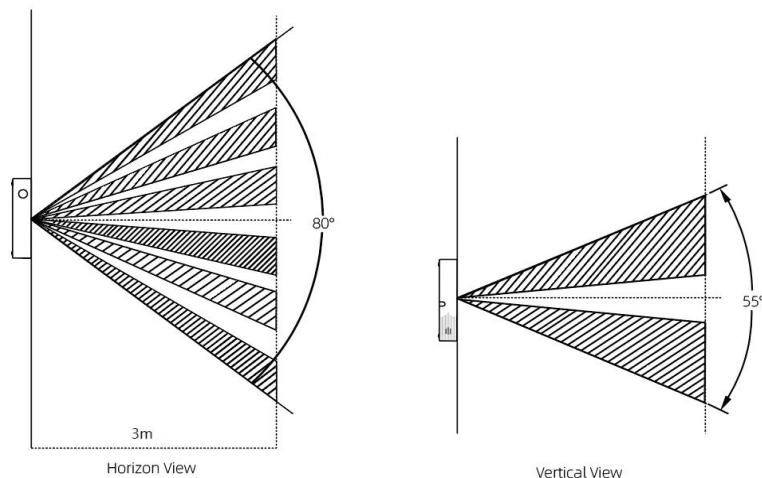
IAQ Rating	Air Quality
$\leq 1.99$	Very Good
2.00 to 2.99	Good
3.00 to 3.99	Medium (not recommended for exposure > 12 months)
4.00 to 4.99	Poor (not recommended for exposure > 1 months)
$\geq 5.00$	Bad (not recommended)

5. The battery life is based on test results under laboratory conditions using the standard battery provided by Milesight. Actual performance may vary depending on battery brand and environmental factors.

## ◆ Ordering Information

Model	Description
AM304L	Temperature, Humidity, Light, Motion
AM305L	Temperature, Humidity, Light, Motion, CO <sub>2</sub>
AM307	Temperature, Humidity, Light, Motion, CO <sub>2</sub> , TVOC, Pressure
AM308 (L)	Temperature, Humidity, Light, Motion, CO <sub>2</sub> , TVOC, Pressure, PM2.5 & PM10

## ◆ PIR Area



## ◆ Dimensions (mm)

