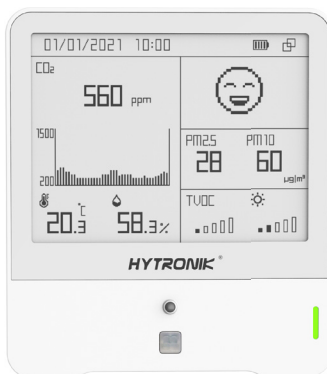


Indoor Ambience Monitoring Sensor

Featuring **LoRaWAN**[®]



◆ Introduction

HAQ02/LW 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	HAQ02/LW
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
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 (CO₂)	
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
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	—
Range ³	—
Accuracy	—
Resolution	—
Working Life	—
Ozone (O₃)²	
Operating Principle	—
Range	—
Accuracy	—
Resolution	—
Working Life	—
Display & Configuration	
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

	2. 5V/1A by Type-C Port
Battery Life ⁴ (10 min interval, 25°C)	HAQ02/LW: Over 1 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 O₃ sensor is alternative option and both support replacement.
 3. For HCHO at 760 mmHg and 20°C, 1 ppm = 1.25 mg/m³.
 4. The battery life is tested under laboratory conditions and for guideline purposes only.