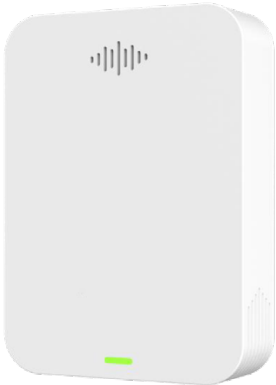




AQSnet10

Wireless Gas Detector

Datasheet



> Overview

This product is a wireless four-in-one gas monitor. The product has built-in high-performance detection elements and uses solid-state electrochemical principles to sensitively detect the gas concentration in the air. Users can select any two gases for monitoring according to the product selection table. At the same time, the product has built-in temperature and humidity probes to effectively sense changes in the surrounding temperature and humidity. When the concentration of the detected gas exceeds the set value, it will trigger a local sound and light alarm and promptly alert the platform.

Based on LoRa® wireless technology, it supports standard LoRaWAN® networking communication and has the characteristics of long communication distance and low power consumption. In addition, the product is battery-powered, with 4 4000 mAh lithium-ion batteries, and the battery life can reach more than 3 years. It supports integration with LoRaWAN® gateways and cloud platforms to achieve remote data monitoring and management. It can be widely used in indoor air environments, large supermarkets, indoor homes, hotels, service areas, waiting halls and other application scenarios.

> Features

- ◆ Built-in high accuracy solid-state electrochemical gas detection sensor with more than 3-year-long life expectancy.
- ◆ Built-in multiple sensors including gas 1, gas 2, temperature and humidity.
- ◆ Equipped with buzzer and LED indicator to indicate threshold alarms.
- ◆ Support D2D protocol to enable ultra-low latency and direct ventilation control without gateways.
- ◆ Damp proof coating inside the device to ensure device working well on various conditions of bathrooms.
- ◆ Built-in batteries to achieve wireless power supply and decrease the installation cost.
- ◆ Built-in NFC for easy configuration.
- ◆ Compatible with standard LoRaWAN® gateways and network servers.

> Specifications

Gas Sensor Specifications

Gas	Please see "Gas List"
Range	Please see "Gas List"
Resolution	Please see "Gas List"
Response Time	Please see "Gas List"
Principle	Solid Polymer Electrochemical Sensing Technology
Accuracy	± 5% (Measurement value)
Linearity	Linear
Long-Term Drift	< 5%/year

Temperature & Relative Humidity Sensor Specification

Parameters	Range	Resolution	Accuracy	Repeatability	Response Time	Long-Term Drift
Temperature	-40 °C to +85 °C	0.01 °C	± 0.2 °C	0.1 °C	< 5s to 30s @ t63%	< 0.02 °C/year
Humidity	0-100% RH	0.01% RH	± 2% RH	0.1% RH	8s @ t63 %	< 0.25% RH/year

Wireless Specification

Protocol	Standard LoRaWAN® protocol, D2D protocol
Frequency	470~510 MHz (Multiple frequency bands are selectable: RU864/IN865/EU868/US915/AU915/KR920/AS923-1&2&3&4)
Tx Power	19 dBm (470) / 16 dBm (868) / 20 dBm (915)
Sensitivity	-137 dBm / 125 kHz SF=12
Mode	OTAA / ABP Class A

Others

Buzzer	1 × Buzzer
LED	1 × Status/Alarm Indicator
Button	1 × Reset/Reboot Button
Configuration	Mobile App via NFC

Physical Characteristics

Power Supply	4 x 4000 mAh ER18505 Li-SOCl ₂ Replaceable Batteries
Battery Life*	> 3 years (10 min interval)
Sensor Life	> 3 years
Operating Temperature	-40 °C to +55 °C
Operating Humidity	0% - 95% (non-condensing)
Ingress Protection	IP30
Material & Color	PC+ABS (Flame Retardant), White
Dimension	120 × 85 × 32.5 mm (4.72 × 3.35 × 1.28 in)
Installation	Wall Mounting

* The above test data are all from laboratory conditions. There may be errors due to changes in the objective environment during actual use.

> Order Information

05-AQSnet10-	A	-	B	-	C	-	D	-	E	-01
	Gas 1		Range 1		Gas 2		Range 1		Working Frequency Band	
	NH ₃		10		H ₂ S		10		CN470	
									EU868	
									US915	
									AS923	

Note:

- ① Range 1 corresponds to the measurement range of gas 1, and range 2 corresponds to the measurement range of gas 2.
- ② Gas types are sorted alphabetically.
- ③ Working frequency band (MHz): China--CN470, Europe--EU868, United States--US915, Asia Pacific--AS923

Example Part Number1 (Single Gas):

05-AQSnet10-NH₃-10-CN470-01
 05-AQSnet10: Wireless Gas Detector
 NH₃: Detects Amonia (NH₃)
 10: Measurement range is 0-10 ppm
 CN470: The operating frequency band for China

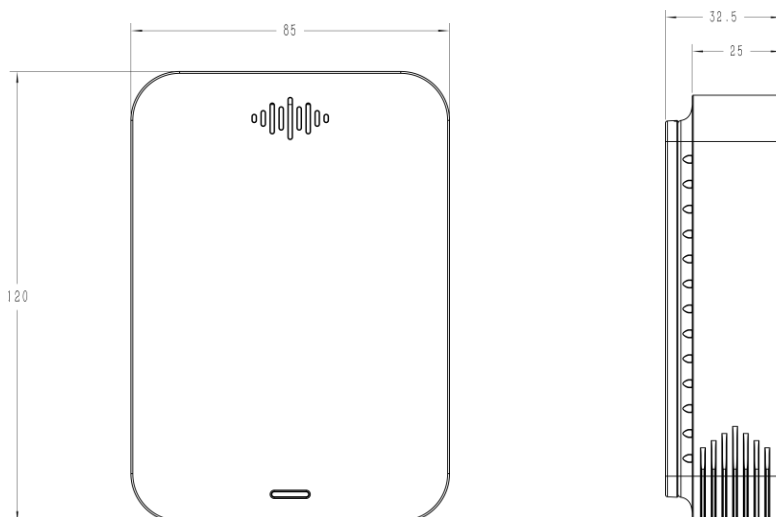
Example Part Number1 (Dual Gas):

05-AQSnet10-H₂S-10-NH₃-10-EU868-01
 05-AQSnet10: Wireless Gas Detector
 H₂S: Detects Hydrogen Sulfide (H₂S)
 10: Measurement range is 0-10 ppm
 NH₃: Detects Amonia (NH₃)
 10: Measurement range is 0-10 ppm
 EU868: The operating frequency band for Europe

> Gas List

No.	Gas	Gas Formula	Range	Resolution	Response Time
1	Hydrogen Sulfide	H ₂ S	0-10 ppm	0.01 ppm	< 3 s (T90 < 30 s)
2	Ammonia	NH ₃	0-10 ppm	0.01 ppm	< 3 s (T90 < 150 s)

> Dimensions (Unit: mm)



Disclaimer

The AQ Sense performance data stated above is based on data obtained under test conditions using the AQ Sense gas distribution system and AQ Sense test software. In the interest of continuous product improvement, AQ Sense reserves the right to change design features and specifications without notice. We are not responsible for any loss, injury or damage caused by this. AQ Sense assumes no responsibility for any indirect loss, injury or damage resulting from the use of this document, the information contained therein or any omissions or errors herein. This document does not constitute an offer to sell. The data it contains are for informational purposes only and cannot be considered a guarantee. Any use of the given data must be evaluated and determined by the user to comply with federal, state and local laws and regulations. All specifications outlined are subject to change without notice.

 Warning

AQ Sense devices are designed for use in a variety of environmental conditions. However, due to the principles and characteristics of sensors and to ensure normal use, users must strictly follow this article during storage, assembly and operation of the device. Although our products are highly reliable, we recommend checking the device's response to the target gas prior to utilization to ensure on-site use. At the end of the products service life, please do not discard any electronics in the domestic waste, instead follow the local governments electronic waste recycling regulations for disposal.



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