Infrared CO2 Sensor Module

(Model: MH-Z1311A)

User's Manual

(Version 1.4)

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Zhengzhou Winsen Electronics Technology Co., Ltd

ISO9001 Certificated Company

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Zhengzhou Winsen Electronics Technology CO., LTD.

MH-Z1311A NDIR CO2 Module

Profile

MH-Z1311A carbon dioxide gas sensor (hereinafter referred to as the sensor) is a general-purpose, small-scale sensor that uses the principle of non-dispersive infrared (NDIR) to detect CO2 in the air. It has good selectivity, no oxygen dependence, and long life. , Built-in temperature compensation, digital output, easy to use. The sensor is a high-performance sensor made by closely combining mature infrared absorption gas detection technology with precise optical circuit design and sophisticated circuit design.

Applications

*HVAC refrigeration   *Air cleaner device   *Indoor air quality monitoring
*Smart home   *Ventilation system

Main Features

*The air chamber adopts electroplating treatment, waterproof and anti-corrosion
*High sensitivity, low power consumption
*Excellent stability
*Temperature compensation, excellent linear output
*Provide serial port (UART) output mode
*Long lifespan
*Anti-water vapor interference, anti-poisoning

## Main parameters

Model No.	MH-Z1311A
Detection Gas	CO2
Working voltage	5.0±0.1V DC
Average current	150uA (@5V power supply)
Peak current	90mA (@5V power supply, 1s measurement interval)
Interface level	3.3 V (Compatible with 5V)
Detection Range	0~10000ppm(optional)
Output signal	Serial Port (UART) (TTL level 3.3V)
Preheat time	10s
Response Time	$T_{90} < 60$ s
Working temperature	-10 ~ 50 ℃
Working humidity	0 ~ 95% RH (No condensation)
Weight	5 g
Lifespan	> 10 years

Detection range and accuracy

Detection Gas	Formula	Detection Range	Resolution	Accuracy
Carbon Dioxide	CO2	0~2000ppm	1ppm	± (30ppm+3% reading value)(15~35℃)
		0~5000ppm		± (10% reading value)(-10~15℃, 35~50℃)
		0~10000ppm		

Dimensions
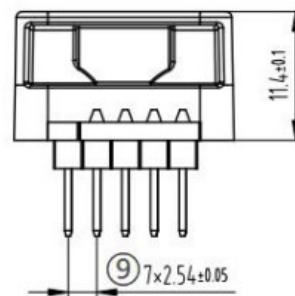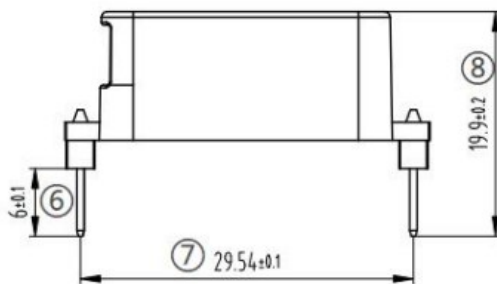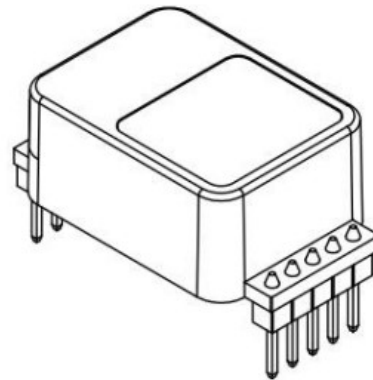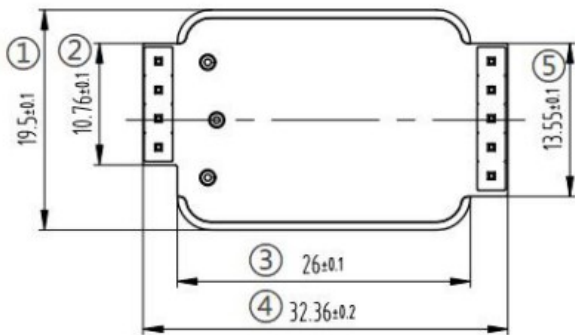
Pins connection type:

Pin	Pin Definition
Pin 1,2,5-7	Reserved
Pin 3	UART（TXD） 0～3.3 V data output
Pin 4	UART（RXD） 0～3.3 V data input
Pin 8	GND
Pin 9	VIN
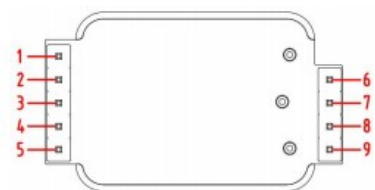
e of the sensor, the optical cavity of the sensor should be
ection.

is space should be well ventilated, especially the air intake

nd avoid direct sunlight or other heat radiation.

ted period is not longer than 6 months.

nent with high dust density.

ower supply voltage must be kept in the range of DC (5.0±

than 150mA. If it is not within this range, the sensor may

the sensor cannot normal work.

ng a command to calibrate the zero point, you must work

environment (400ppm).