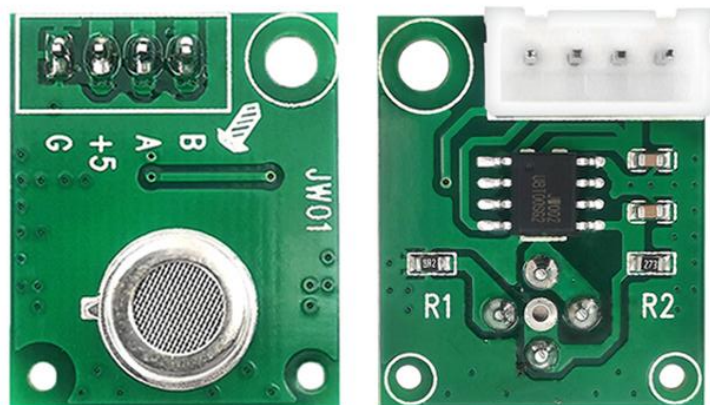


Semiconductor Carbon Dioxide (CO2) Sensor Module

Type : JW01-CO2-V2.2 (UART Output)

Datasheets



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JW01-CO2-V2.2 UART Digital Output Semiconductor carbon dioxide (CO2) sensor module

Features

- *Zero calibration
- *High sensitivity, long life and low power
- *Automatic calibration
- * UART output
- *Accept customization

Application

- *Household CO2 monitoring alarm
- *Smart home appliances
- *Fresh air ventilation system and automatic ventilation fan
- *Air conditioning automatic ventilation and integrated ceiling controller
- *Carbon dioxide tester

Specifications

Module			JW01-CO2-V2.2	
Detection Gas			Carbon dioxide (can be monitored:Ammonia, hydrogen, alcohol, carbon monoxide, methane and other organic volatile gases ; Cigarette, wood, paper burning smoke, lampblack, etc)	
Circuit performance	Interface		XH2.54-4	
	Output		URAT (5V level)	
	Voltage		5.0±0.2VDC (No voltage reverse protection)	
	Rang		350-2000PPM	
Module gas sensing parameter	Operating current	≤ 80mA	Response time	≤ 10 s
	Warm- up time	60 s	Recovery time	≤ 120 s
Environmental parameters	Working Temperature	- 10 --- 40°C	Storage temperature	-20 --- 60°C
	Working Humidity	≤95 %RH	Storage humidity	≤60 %RH
Physics parameters	Sensitivity	0.1 ppm hydrogen	weight	About 15 g
	Size	24×20×15mm (L×W×H)		
Life	Sensitivity attenuation	≤ 1%/year	Service life	5~ 10year

UART Communication

Port name	Interface
Port 1	Connect to the negative pole of the power supply (-)
Port 2	Connect to the positive pole of the power supply (+)
Port 3	A (RX)
Port 4	B (TX)

Communication protocol

Baud rate	9600bps
Data bit	8 bit
Stop bit	1 bit
Check bit	NC

UART Serial data stream format:

B1	B2	B3	B4	B5	B6
Module address	CO2 high	CO2 low	NC	NC	Check sum
2Ch	0XXh	0XXh	03h	0FFh	0XXh

Explain:

The content 2Ch of B1 is the fixed address of the module.

Check sum(**B6**)=unit_8 (B1+B2+B3+B4+B5)

CO2 concentration value (PPM)=(high CO2 concentration (B2) * 256+low CO2 concentration (B3))

When users Non-automatic mode, send the following command. Once sent, the automatic mode will automatically close.

Power on again is required to restore automatic mode

The command is as follows:

0XFF 0x01 0x86

Return data (same format as automatic mode)

B1	B2	B3	B4	B5	B6
Module address	CO2 high	CO2 low	NC	NC	Check sum
2Ch	0XXh	0XXh	03h	0FFh	0XXh

Tip: When the user's microcontroller is also powered by 5V, it can be directly connected to the module. If the single chip is below 5V, Port A can be directly connected, and Port B needs to undergo level conversion. The conversion circuit is shown in the figure (3.3V), and other levels can also refer to this circuit. The above circuit is only for reference use, and customers can decide based on actual applications.◦

Attention:

- *Recommended to Warm-up for at least 5-10 minutes for testing when first powered on.
- *Avoid vibration and falling, and strictly prohibit liquid from entering the interior of the sensor.
- *Do not apply this module to systems involving personal safety.
- *Do not expose the module to high concentrations of organic gases for extended periods of time.
- *Do not install the module in a strong air convection environment for use.