

# MIX2810A Electrochemical CO Detection Module

Version No.:1.0

## Features:

- \* Lower power consumption
- \* High sensitivity
- \* Multiple interface output
- \* Long service life

## Application:

- \* Indoor CO detection
- \* Smart home appliance
- \* Gas water heater
- \* Automatic control fan or window

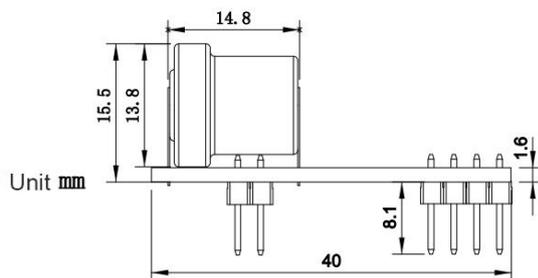
MIX2810A is a general type of electrochemical carbon monoxide detection module. It utilizes electrochemical principle to detect CO in air which makes the module with high selectivity and stability. 2810A is designed as a universal electrochemical gas module, which combines the mature electrochemical detection technology with excellent circuit design together.

Each module has UART interface, which can be calibrated. It is easy to connect with the customer product, which can be applied to the warm wind conditioner ventilation control and indoor air quality detection and so on.

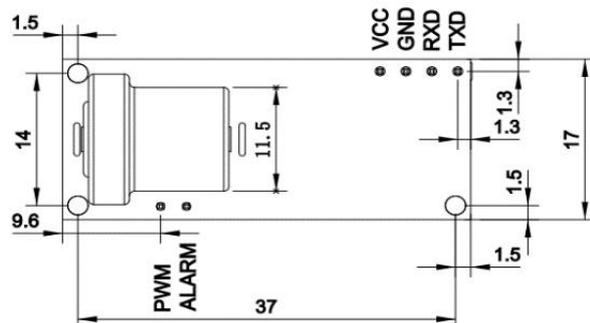


## Dimensions:

Top-view Image:



Top-view Image



**Pin Definition:**

No.	Pin Name	Function
1	VCC	Power input positive electrode (DC 3.5~5.5V)
2	GND	Power input negative electrode
3	RXD	UART data input(TTL, 3.3V electric level)
4	TXD	UART data output(TTL, 3.3V electric level)
5	ALM	Sensor Malfunction alarming. High electric level represents the malfunction.
6	PWM	Pulse Width Output

**Function Discription:**

1. Malfunction judgement of sensor: In each 3 minutes, the module will judge automatically if the sensor has the open or short circuit. Once occurs the malfunction, please set high electric level of ALARM tube pins.( This function will be closed by default.)
2. PWM output frequency is 20Hz, 0ppm is corresponding to the 20% duty cycle; 500ppm is corresponding to 80% duty cycle.
3. Note: User UART TTL not more than 3.3V.

**Specifications:**

Item	Specification
Measurement range	0~500ppm
Resolution	1 ppm
Working Principle	Electrochemistry
Working Voltage	4.5~5.5V DC
Working Current	< 10mA average
Accuracy	± 50ppm(Calibration value)
Preheating Time	30 Seconds
Response Time	T <sub>90</sub> < 30s
Function Judgement Inspection Interval	180 Seconds
Working Conditions	-10~55℃/0-90%RH(no condensation)
Storage Conditions	-10~55℃/0~90%RH(no condensation)
Communication Interface	UART(3.3V electrical level)
Size	40×17×15.5mm(L×W×H)
Anticipated Using Life	3 years

**Cautions:**

- \* The module belongs to an ESD sensitive element, so we recommend that ESD protection equipment be used during usage and assembly the module in the application products.
- \* The accuracy in the specification is factory data. If stored for a long term, only through the re-calibration, the accuracy can be back to the factory data.
- \* Forbid to plug the sensor on the module and change the electric elements on the module.
- \* If place the module in a tiny room, please keep an excellent ventilation, especially to keep the diffusion windows in a good ventilation place.
- \* Keep the module out of the heat source, avoid direct sunlight and other heat radiations.
- \* Forbid touching with the organic solvents( including the silicon adhesive and other adhesives), paintings, pharmacy, oil and high concentration gas.
- \* Please do not place the module into the high density dust.
- \* Please do not apply the module to the system which is related with personal safety.

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