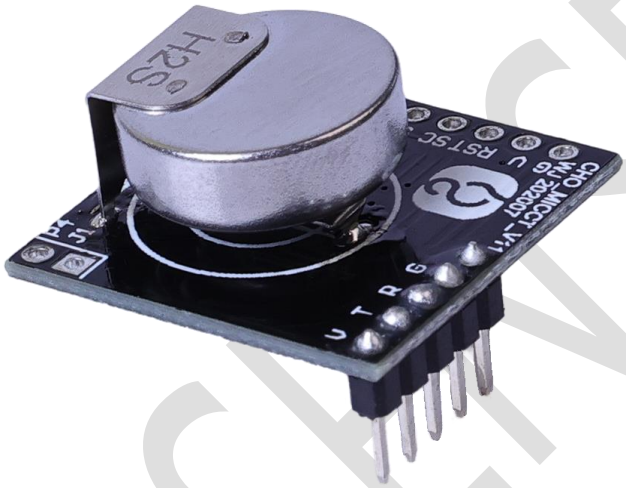
PS0-H_2S-100 Hydrogen Sulphide Module



PROSENSE

ProSense Technologies Co., Ltd.

Brief Introduction

PS0-H_2S-5000 hydrogen sulphide module combines selective H_2S sensor with high accuracy and advanced electronic control technology, converting H_2S concentration into PPM directly. PS0-H_2S-5000 selective H_2S module with high accuracy is specified developed for solid state Li battery where long-service life and ability to work under high temperature is necessary. PS0-H_2S-5000 selective H_2S module is pre-calibrated in the factory and can be integrated into your system directly.

Typical Applications

Industrial H_2S Detection

Portable devices

Li battery factory

Li battery warehouse

Electrical vehicle

… …

Key Features

High precision& sensitivity

Fast response

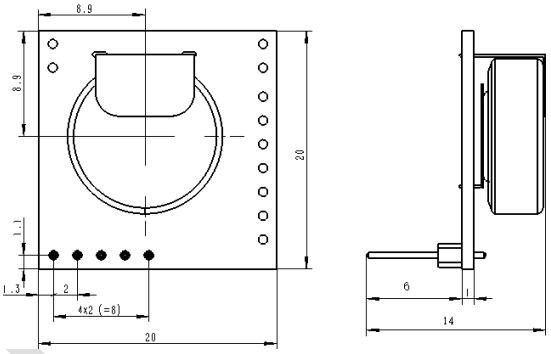
Selective detection

Anti-poisoning

Long service life

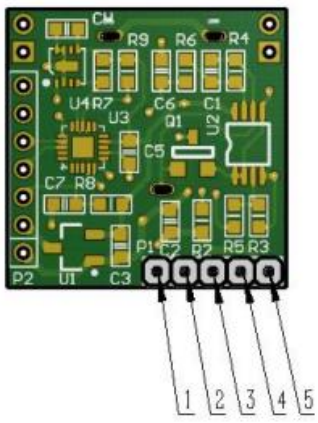
Excellent repeatability and stability

Diagram



Definition of Pins

PIN	DEFINITION
Pin1	NC
Pin2	GND
Pin3	RXD (0～3.3V)
Pin4	TXD(0～3.3V)
Pin5	Vin(5V)



Technical Specification

MODEL	PS0-H_2S-100
Detection Principle	Micro fuel cell
Detectable Gas	H_2S
Detection Range	0-5000ppm
Overload	6000ppm
Input Voltage	4.5-6V
Response Time (T90)	<90S
Resolution	1ppm
Detection Limit	20ppm
Repeatability	3%
Operating temperature range	-40℃～70℃
Operating Humidity Range	10%－90%RH（non-condense）
Lifetime	2 years in air
Warranty Period	12 months
Weight	6g

Communication Protocol

➢ **General Settings**

Module makes use of serial communication.
Communication configuration parameters are:

Baud rate	9600
Data bits	8 bits
Stop bit	1 bit
Parity bit	None

➢ **Communication Command**

There are two communication types: active upload type and Q&A type. The default type is active upload and it sends gas concentration once every second. Commands are as follow:

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0	1	2	3	4	5	6	7	8
Start	Gas	Unit ppm	No decimal byte	Concentration (High byte)	Concentration (low byte)	Full range (high byte)	Full range (low byte)	Check sum
0xFF	H2S=0x17	Ppm=0x04	0x00	0xXX	0xXX	0xXX	0xXX	0xXX

Gas concentration = concentration (high byte)*256 + concentration (low byte)

Switch to Q&A mode：

0	1	2	3	4	5	6	7	8
Start	Reserved	Switch command	Q&A	Reserved	Reserved	Reserved	Reserved	Checksum
0xFF	0x01	0x78	0x41	0x00	0x00	0x00	0x00	0x46

Switch to active upload mode：

0	1	2	3	4	5	6	7	8
Start	Reserved	Switch command	Active upload	Reserved	Reserved	Reserved	Reserved	Checksum
0xFF	0x01	0x78	0x40	0x00	0x00	0x00	0x00	0x47

To read gas concentration：

0	1	2	3	4	5	6	7	8
Start	Reserved	Command	Reserved	Reserved	Reserved	Reserved	Reserved	Checksum
0xFF	0x01	0x86	0x00	0x00	0x00	0x00	0x00	0x79

To return:

0	1	2	3	4	5	6	7	8
Start	Command	Reserved	Reserved	Reserved	Reserved	Concentration (High byte) （ppm）	Concentration (low byte) （ppm）	Checksum
0xFF	0x86	0x00	0x00	0x00	0x00	0xXX	0xXX	0xXX

Gas concentration = concentration (high byte)*256 + concentration (low byte)

Checksum calibration

```
/*****************************************************************************
*Function name：unsigned char FucCheckSum(uchar *i,ucharln)
*Function description：checksum calibration[Take Not(Byte1+Byte2+…Byte7) +1]
*Note：Take Not(Byte1+Byte2+…ByteX (X>2)
*****************************************************************************/
unsigned char FucCheckSum(unsigned char *i, unsigned char ln)
{
    unsigned char j, tempq=0;
    i+=1;
```

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```
    for(j=0; j<(ln-2); j++)
    {
        tempq+=*i;
        i++;
    }
    tempq=(~tempq)+1;
    return(tempq);
}
```

Notes

- Avoid changing or moving sensor on the module.
- Avoid moving or changing electronic elements on PCB.
- Avoid exposure to organic vapour, organic solvent、high gas concentration. Protect from excessive vibration and shock.

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