



Chlorine Detection Module

(Model: ZW-RC1101)

Manual

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Zhengzhou Winsen Electronic Technology Co., Ltd

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Zhengzhou Winsen Electronics Technology CO., LT

ZW-RC1101 Chlorine Detection Module

Profile

ZW-RC1101 Chlorine Detection Module is a general purpose module that detects the concentration of residual chloride in the solution to be tested by electrochemical principles, with good selectivity, stability. Using digital signal output for easy use. The ZW-RCL101 is a universal module that is closely combined with a well-known electrochemical detection technique and excellent circuit design.



Characteristics

Low power, high precision, linear output, convenient calibration and good stability.

Main application

It is widely used in laboratory research, tap water plants, medical wastewater treatment, swimming pools and other fields.

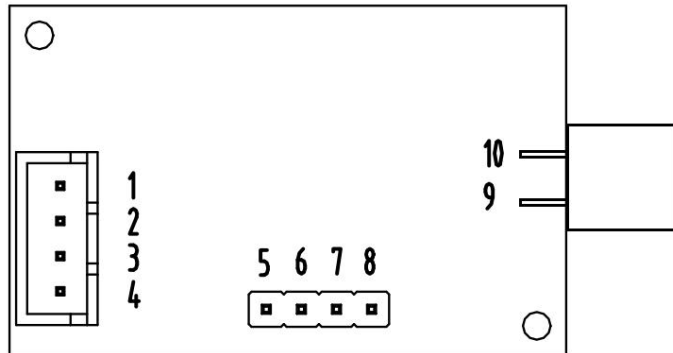
Technical parameter

Stable 1

Working Voltage	12V(DC)	Working current	<5mA
Consumption	<25mW	Measuring range	0-140~20 mg/L
Detecting temperature range	0-60°C	Resolution	0.01 mg/L
Output	RS485 (5V level)	Size	59.5×25mm
Response time	≤90S	Output linearity	linearity
Temperature range	0~60°C	Lifespan	3years

Pin definition**Stable 2**

PIN1	VCC
PIN2	GND
PIN3	A
PIN4	B
PIN5	GND
PIN6	RXD (3V level)
PIN7	TXD (3V level)
PIN8	+5V
PIN9	Sensor +
PIN10	Sensor -

**Picture 2: Sensor Module Pins****Communication Protocol****1.Communication settings**

Baud rate	9600
Data byte	8
Stop byte	1
Check byte	none

1. Command

Host computer sending format:

	Type	Instructions	Note
Integer	16 byte	Indicates that high and low bytes are not reversed	For example :0x 0032 turn into the decimal number is 50
Floating point number	ABCD	Represents analyze in order	For example: 41 DB 72 37Z turn into a floating point number is 27.4

Function code description:

03	Read a single or more registers
06	Write a single registers
16	Write more registers

Read the current concentration value sending format:

	Module Address	FC	Start address		Number of registers		CRC16	
			High byte	Low byte	High byte	Low byte	Low byte	High byte
Device 1	0X01	0X03	0X00	0X40	0X00	0X02	0X95	0XCB
Device 2	0X02	0X03	0X00	0X40	0X00	0X02	0X95	0XF8

Write the device address sending format:

	Device ID address	FC	Register initial address		Write Equipment address (The HEX integer)		CRC16	
			High byte	Low byte	High byte	Low byte	Low byte	High byte
Device 1	0X01	0X06	0X00	0X14	0X00	0X01	0X08	0X0E
Device 2	0X01	0X06	0X00	0X14	0X00	0X02	0X48	0X0F

The calibration of the sensor:

	Device ID address	FC	Register address		Write calibration point concentration value (The HEX integer)		CRC16	
			High byte	Low byte	High byte	Low byte	Low byte	High byte
0mg/L	0X01	0X06	0X00	0X44	0X00	0X00	0XC9	0XDF
1mg/L	0X01	0X06	0X00	0X46	0X00	0X01	0X08	0X1F
5mg/L	0X01	0X06	0X00	0X48	0X00	0X05	0X09	0XDC

2. Check and calculation

/******

Name: crc16 verification

Function: crc16 verification

Enter: (byte pointer)*ptr, (data lenth) len

Retun: (double byte)crc

*****/

```
uint16_t getCRC16_485(volatile unsigned char* ptr, unsigned char len)
```

```
{
    unsigned char i;
    uint16_t crc = 0xFFFF;
    while (len--)
    {
        crc ^= *ptr;
        for (i = 0; i < 8; i++)
        {
            if (crc & 1)
```

```
    {  
        crc >>= 1;  
        crc ^= 0xA001;  
    }  
    else  
    {  
        crc >>= 1;  
    }  
    }  
    ptr++;  
}  
return(crc);  
}
```

Precautions

1. The module shall avoid contact with organic solvents, coatings, agents and oils.
2. Do not apply the module to systems involving personal safety.
3. Do not install the module in a strong air convection environment.
4. The module shall not withstand excessive impact or vibration, and can not shake during use, otherwise the value returned will be inaccurate.
5. Please supply the module in strict accordance with the power supply voltage of the module. The voltage exceeding 12V will lead to irreversible damage to the module.
6. Do not place the module in a strong air convection environment.
7. Do not place the module in a high concentration of organic gas for a long time.

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