



# **TDS Water Quality detection module**

**(Model: ZW-TDS103)**

# **Manual**

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**Zhengzhou Winsen Electronic Technology Co., Ltd**

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Zhengzhou Winsen Electronics Technology CO., LTD

# ZW-TDS103 TDS Water Quality Detection Module

## Profile

ZW-TDS103 TDS water quality detection module is a universal module that uses TTL output, which can be used to detect the content of total dissolved solids (TDS) in water, and have good selectivity and stability.



## Characteristics

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

## Main application

It is widely used in the detection of laboratory research, water purifier, lake water and other fields.

## Technical parameter

Stable 1

Working Voltage	3.3-5V(DC)	Working current	10mA
Measuring range	0-2000 $\mu$ s/cm	Accuracy	$\pm 5\%$
Detecting temperature range	0-100 $^{\circ}$ C	Size	21X39mm
Output mode	TTL	Output linearity	linearity
Response time	$\leq 20$ S	Lifespan	3years

## Pin definition

VCC	Power 3.3-5V
GND	Power (Negative)
TXD	External microcontroller (USB to TTL) RXD
RXD	External microcontroller (USB to TTL) TXD

## Communication Protocol

### 1. Communication settings

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

### 2. Command

Setting the Module Output Frequency (Default 1HZ output) :

B0	B1	B2
0x55	0x01-0x04 0x01: Module Output Frequency 0.5HZ 0x02: Module Output Frequency 1HZ 0x03: Module Output Frequency 2HZ 0x04: Module Output Frequency 5HZ	0x0D

Modify the output frequency of the module: send 0x 55 02 0D to set the output data frequency to 2HZ.

### 3. Data returned from module

Active return of output data

B0	B1	B2	B3	B4	B5	B6
0x55	Temp. higher 8 bits	Temp. lower 8 bits	TDS higher 8 bits	TDS lower 8 bits	Checksum Higher 8 bits	Checksum lower 8 bits

Example command

B0	B1	B2	B3	B4	B5	B6
0x55	0x01	0x09	0x02	0x8C	0x00	0xed

Temp. calculation= $0x01*256+0x09=1*256+9=26.5^{\circ}\text{C}$

TDS calculation= $0x02*256+0x8C=652\mu\text{s/cm}$

### Precautions

1. The module should avoid contact with organic solvents, coatings, agents and oils.
2. Do not apply modules to systems involving personal safety.
3. Do not use the module to be installed in a strong air convection environment.
4. The module cannot be subjected to excessive impact or vibration. If you cannot generate sway during use,

the value returned will not be accurate.

5. Please power the module in strict accordance with the power supply voltage of the module, and the voltage exceeds 12V will cause the module to be irreversible damage.

6. Do not place the module in a strong air convection environment.

7. Do not place the module for a long time in high concentration organic gases.

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