

## Analog TDS Sensor Module

SKU:AB202



This product contains product introduction, wiring diagram, source code, etc., see below for details!

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Both MCU and STM32 of this product can be used and output 0-2.3V analog voltage. The following formula is the relationship between TDS and voltage output. KValue is the calibration coefficient (standard value/measured value), about 1.8 of our manufacturer)

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$$\text{TdsValue} = (133.42 * \text{compensationVolatge} * \text{compensationVolatge} * \text{compensationVolatge} - 255.86 * \text{compensationVolatge} * \text{compensationVolatge} + 857.39 * \text{compensationVolatge}) * 0.5 * \text{kValue}$$

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Product Introduction

This device can be used for general household water quality measurement,

Generally, the TDS of tap water is within 100 (about 90 in Shenzhen), and the TDS of purified

water is within 10.

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The arduino compatible TDS sensor is used to measure the TDS value of water. The TDS value can reflect the cleanliness of the water and can be applied to water quality detection in the fields of domestic water and hydroponics.

TDS (Total Dissolved Solids), Chinese name: Total Dissolved Solids, also known as Total Dissolved Solids, indicating how many milligrams of dissolved solids are dissolved in 1 liter of water. Generally speaking, the higher the TDS value, the more dissolved substances contained in the water, and the less clean the water will be. Therefore, the size of the TDS value can be used as one of the basis for reflecting the cleanliness of the water.

#### 【使用范围标准】



#### ▶ TDS硬度标准:

##### 水硬度GH值和TDS值之间的一般换算比例

0-89ppm ≈ 强软水0-4dh	230-339ppm ≈ 中度硬水13-18dh
90-159ppm ≈ 软水5-8dh	340-534ppm ≈ 硬水19-30dh
160-229ppm ≈ 适度硬水9-12dh	大于535ppm ≈ 强硬水30dh以上

中国生活饮用水标准：≤1000us, 500ppm

- (1) 饮用水：≤1000us(500ppm)
- (2) 纯净水：100us(50ppm)
- (3) 蒸馏水、纯酒精电导率=0

饮用水pH值标准为：6.5-8.5



The commonly used TDS testing equipment is a TDS pen. Although it is cheap and easy to use, it cannot transmit data to the control system for long-term online monitoring and water quality analysis. Using a special instrument, although it can transmit data and has high accuracy, it is very expensive. For this reason, we have specially introduced this arduino-compatible TDS sensor. After connecting to the arduino controller, it can be used to measure the TDS value of water.

This product is specially designed for arduino, plug and play, simple and convenient to use. Wide voltage power supply of 3.3~5.5V and analog signal output of 0~2.3V make this product compatible with 5V and 3.3V control systems, and can be easily connected to existing control systems for use. The excitation source for measurement uses AC signals, which can effectively prevent probe polarization, extend the life of the probe, and increase the stability of the output signal. The TDS probe is a waterproof probe that can be immersed in water for long-term measurement.

This product can be applied to water quality testing in domestic water, hydroponics and other

fields. With this sensor, you can easily DIY a TDS detector, easily detect the cleanliness of the water, and check your water quality. To

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Notice:

The TDS probe cannot be used in water above 55° C.

The TDS probe should not be placed too close to the edge of the container, otherwise it will affect the display.

The TDS probe head and wire are waterproof and can be immersed in water, but the connection interface and the signal transfer board are not waterproof, please pay attention to use.

Product Features

1. Wide voltage operation: 3.3~5.5V
2. 0~2.3V analog signal output, compatible with 5V and 3.3V control systems
3. The excitation source is an AC signal, which effectively prevents probe polarization
4. Waterproof probe, can be immersed in water for long-term measurement
5. Arduino compatible, simple connection, plug and play, no soldering required

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Technical specifications

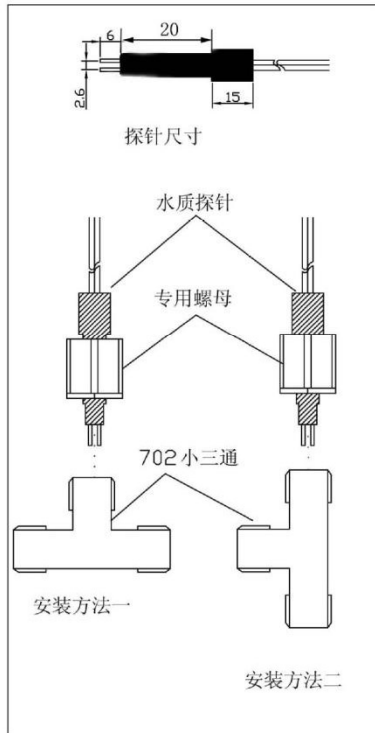
Signal transfer board:

- Input voltage: 3.3~5.5V
- Output signal: 0~2.3V
- Working current: 3~6mA
- TDS measurement range: 0~1000ppm
- TDS measurement accuracy:  $\pm 10\%$  F.S. (25°C)
- Size: 42\*32mm
- Module interface: XH2.54-3P
- Electrode interface: XH2.54-2P

TDS probe:

- Number of probes: 2
- Overall length: 83cm
- Connection interface: XH2.54-2P
- Color: white
- Other: Waterproof probe

## 水质探针使用说明



使用说明:

- 1、本探针为RO净水器净水检测专用，使用时须与702三通组合并安装在RO膜的净水出口，用以检验实时的净水电导率信号，该信号经运算放大及A/D转换后即可得到相应的PPM值。
- 2、可按左图两种方法安装，检测结果都相同。
- 3、安装时必须使用我厂配套的螺母，并一定要上紧，以防止发生漏水问题。
- 4、探针的其它参数见下表:

两极间绝缘电阻	$\geq 50M$	(未接触水时)
检测介质温度	$\leq 70$ 度	
推荐工作电压	$\leq 5V$ (此电压指加在探针两端的电压)	
推荐工作电流	$\leq 50\mu A$ (电流越小, 探针寿命越长)	
备注	具体电压电流参数由电路设计者灵活掌握	



板子上面印的有字  
红色为+，黑色为-，黄色信号线