Analog TDS Sensor/Meter for Arduino

This is an Arduino-compatible TDS Meter Kit for measuring TDS value of the water, to reflect the cleanliness of the water. It can be applied to domestic water, hydroponic and other fields of water quality testing. You may also check Liquid Senser Selection Guide to get better familiar with our liquid senser series.

TDS (Total Dissolved Solids), indicates how many milligrams of dissolved solids are dissolved in 1 liter of water. Generally, the higher the TDS value, the more dissolved substances contained in the water and the less clean the water. Therefore, the value of TDS can be used as one of the basis for reflecting the cleanliness of water.

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.

<table>
<thead>
<tr>
<th>TDS in parts per million (PPM)</th>
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<tr>
<td>0</td>
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<tr>
<td>Ideal drinking water from reverse osmosis, deionization, microfiltration, distillation, etc.</td>
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<tr>
<td>Average tap water</td>
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This product supports 3.3 ~ 5.5V wide voltage input, and 0 ~ 2.3V analog voltage output, which makes it compatible with 5V or 3.3V control systems or boards. The excitation source is AC signal, which can effectively prevent the probe from polarization and prolong the life of the probe, meanwhile can help increase the stability of the
output signal. The TDS probe is waterproof, it can be immersed in water for long time measurement.

This product can be used in water quality application, such as domestic water analysis and hydroponics. With this product, you can easily DIY a TDS detector to reflect the cleanliness of water to protect your health!

Attention:
1. The probe cannot be used in water above 55 degrees centigrade.
2. The probe cannot be left too close to the edge of the container, otherwise it will affect the reading.
3. The head and the cable of the probe are waterproof, but the connector and the signal transmitter board are not waterproof. Please be careful.

Specification

- **signal Transmitter Board**
  - Input Voltage: 3.3 ~ 5.5V
  - Output Voltage: 0 ~ 2.3V
  - Working Current: 3 ~ 6mA
  - TDS Measurement Range: 0 ~ 1000ppm
  - TDS Measurement Accuracy: ± 10% F.S. (25 ℃)
  - Module Size: 42 * 32mm
  - Module Interface: PH2.0-3P
  - Electrode Interface: XH2.54-2P

- **TDS probe**
  - Number of Needle: 2
  - Total Length: 83cm
  - Connection Interface: XH2.54-2P
  - Color: White
  - Other: Waterproof Probe
Note:

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)

\[
\text{tdsValue} = \left(133.42 \times \text{compensationVolatge} \times \text{compensationVolatge} \times \text{compensationVolatge} - 255.86 \times \text{compensationVolatge} + 857.39\right) \times 0.5 \times \text{KValue}
\]