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February 20, 2020

TS-300B | High Quality Arduino Turbidity Sensor

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February
20th, 2020



TS-300B | High Quality Arduino Turbidity Sensor

TS-300B is a High Quality Turbidity Sensor with analog and digital interface for Arduino. This is the low cost Arduino Turbidity Sensor DIY Projects.

The turbidity of water refers to the degree of turbidity caused by suspended matter such as sediment, clay,

+ Analog output mode Projects ▾ Learning Zone Services ▾ About Us Contact Us Q

]

Arduino

Code [Digital output mode]

Conclusion

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Industrial grade turbidimeters are expensive and not costly in electronics design; therefore, we have chosen a turbidity sensor that is widely used in household appliances washing machines and dishwashers.

Turbidity Sensor working Principle

The sensor uses the optical principle to comprehensively determine the turbidity by the transmittance and scattering rate in the solution. Inside the sensor is an infrared pair tube. When light passes through a certain amount of water, the amount of light transmitted



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transmitted. The light receiving end converts the transmitted light intensity into a corresponding current magnitude, and the transmitted light is large, and the current is large, and the transmitted light is small, and the current is small.

The turbidity sensor module converts the current signal output by the sensor into a voltage signal, and performs AD conversion data processing by the single chip microcomputer.



Function

The Where to Buy? module has an analog and digital



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module



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Delivery [Select microcontr
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methods] the level
change.

Determine
whether
the
turbidity of
the water
exceeds
the
standard,
thus
alerting or
linking
other
equipment.

The
module is
low in
price,
convenient
to use, high
in
measureme
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the degree

of water

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pollution of

washing

machines,

dishwasher

s, etc.; it

can also be

used for

industrial

site

control,

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sewage

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and other

occasions

requiring

turbidity

detection

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control.

Specific ations

- Operating voltage





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(NTU):

0±30

- Infrared

Emitting

Diode:

940nm

m

(Peak
emission
wavelength)

- Phototransistor:

880nm

m

(Peak
emission
wavelength)

Applications





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- Dishwashers

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- industrial

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- Water quality

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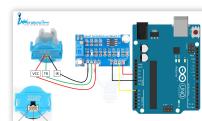
to use

Cost

- Digital
and
analog
output

Mode

Pinou t



Board
Pin
No

1

2

3

4





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Diagram

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To interface with **TS-300B** sensor with Arduino, you need to connect to its 3-pin by using jumper wire to arduino board as given in below table.



Pin No	S
1	* A0 pin of sensor is connected to Arduino analog input pin :
2	Analog output voltage 0~4.5V [
3	Analog output mode] **D0 pin of



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input pin :

Digital

output

High or

Low [

Digital

output

mode] An

Arduino

code is

available to

test the

module in

both cases.

The above

schematic

of the

turbidity

sensor is

applicable

to Arduino

Uno

connection

. In the

same way,

you can

connect

this TS-

300B

module to





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Schematics

Arduino

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Nano.

Arduino Code [Analog output mode]

```
1 void setup() {  
2   Serial.begin(9600)  
3 }  
4 void loop() {  
5   int sensorValue =  
6   float voltage = s  
7   Serial.println(vo  
8   delay(500);  
9 }
```

Arduino Code [Digital output mode]

Select a specific
turbidity contrast
solution and adjust the
potentiometer knob to
the position where the
D1 indicator light is just





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the sensor module is connected to the I/O port of the MCU for output signal judgment or connected to an external drive circuit to drive other devices.

```
1 int ledPin = 13;
2 int sensor_in = 2
3 void setup(){
4   pinMode(ledPin, 0
5   pinMode(sensor_in
6 }
7 void loop(){
8   if(digitalRead(se
9   digitalWrite(ledP
10 }
11 else{
12   digitalWrite(ledP
13 }
14 }
```

Conclusion

This is a super cool water quality sensor module that





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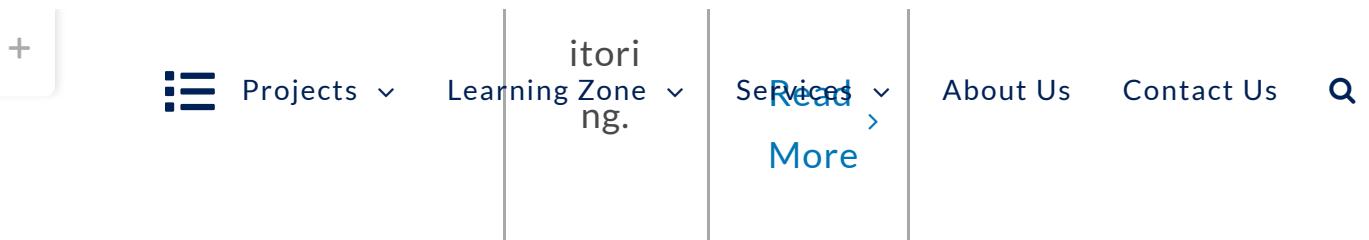
using
Arduino without
spending too
much
budget..

*sometimes it
can be tricky
while
detecting the
Forward
gesture.

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