

SKU:SEN0508 (<https://www.dfrobot.com/product-2463.html>)

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Introduction

This non-contact capacitive liquid level sensor uses flexible substrate with light and thin design. With temperature-resistant and waterproof 3M adhesive tape on the back, it can be easily attached on surfaces of any kind of non-conductive container whose thickness is less than 5m. The sensor outputs digital high/low level (low when liquid detected) and adopts 3-pin DuPont connector, which can be widely used in water tank detection, beverage machine, water pipe level detection, scientific experiment test tube level detection and other scenarios.

>

Working Principle: The intelligent liquid level sensor uses the sensing capacitance of water to detect the presence of liquid. When there is no liquid approaching the sensor, the sensor has a certain static capacitance due to the distributed capacitance. When the liquid level slowly rises close to the inductor, the parasitic capacitance of the liquid will be coupled to the static capacitor, causing the final capacitance of the inductor to become larger. The changed capacitance signal is then input to the control IC for signal conversion, which will change. The capacitance is converted into the amount of change of an electrical signal, and then a certain algorithm detects and judges the degree of the change. When the amount of change exceeds a certain threshold, the liquid level is considered to reach the sensing point.

Specification

- Working Voltage: 2.5~5.5VDC
- Working Current: 5V290uA 3V235uA

- Output: low (liquid detected), high level(no liquid detected)
- Detection Distance: 5mm
- Hysteresis: $\pm 0.25\%FS$
- Protection Level: IP62
- Working Temperature: $-30\sim 85^{\circ}C$
- Weight: 2g

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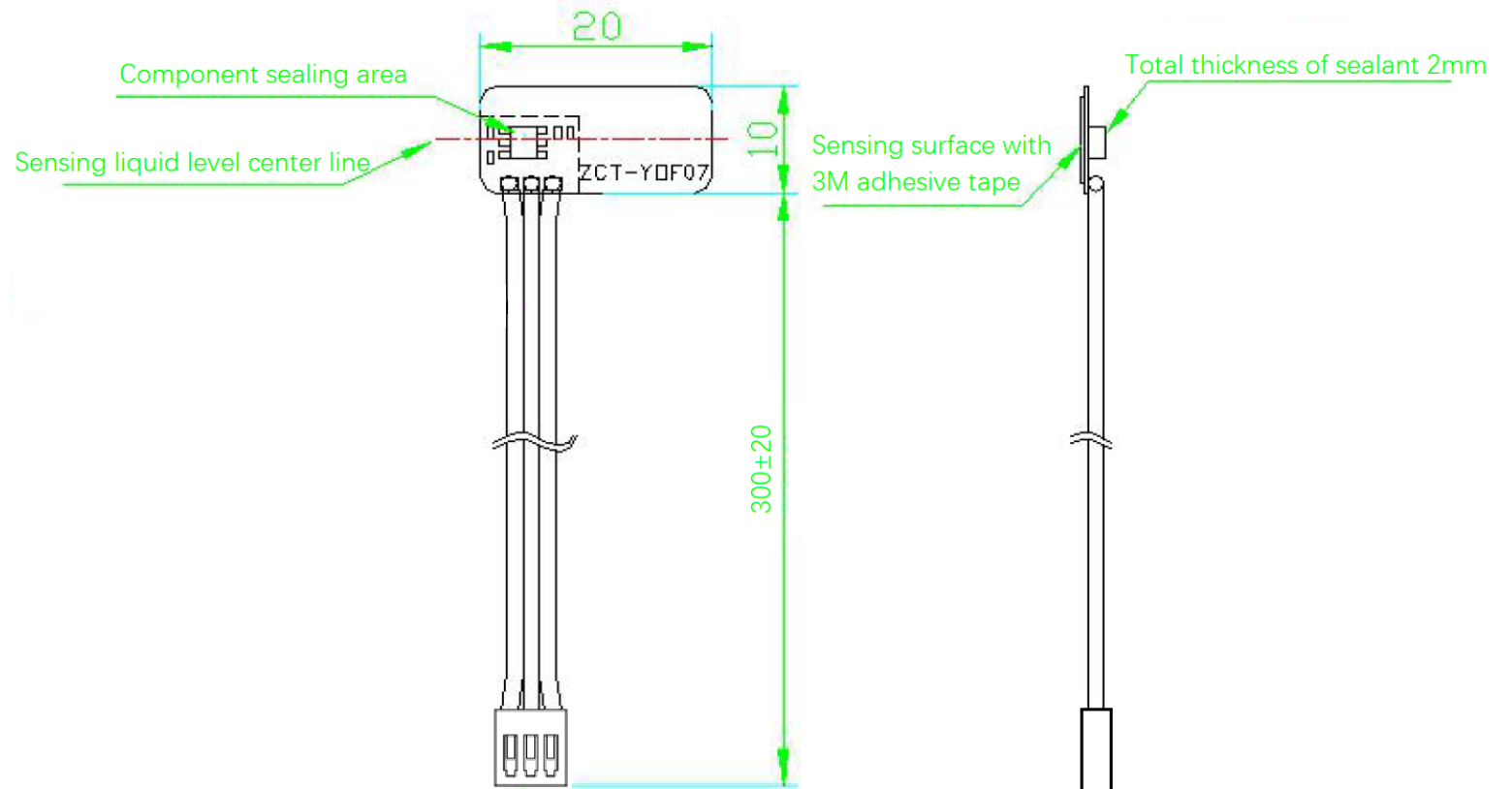
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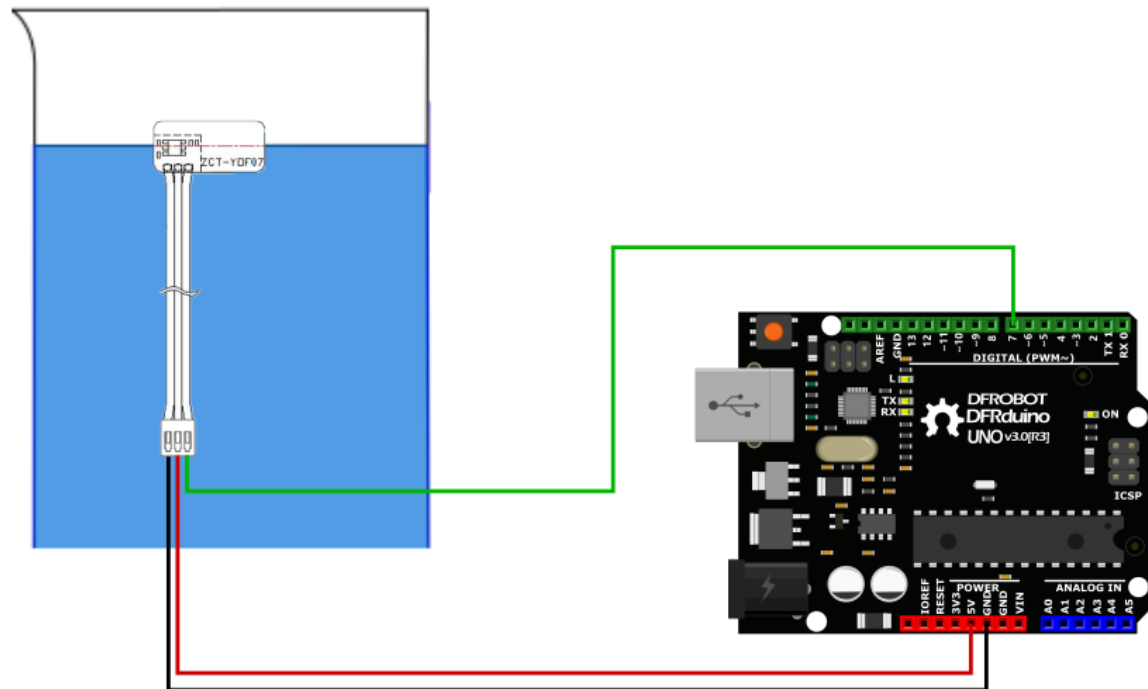
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Connection Diagram



Sample Code

Click to download Arduino IDE (<https://www.arduino.cc/en/Main/Software>)

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```
int ledPin = 13; // LED connected to digital pin 13
int inPin = 7;   // pushbutton connected to digital pin 7
int val = 0;    // variable to store the read value

void setup()
{
  pinMode(ledPin, OUTPUT);    // sets the digital pin 13 as output
  pinMode(inPin, INPUT_PULLUP); // sets the digital pin 7 as input
  digitalWrite(inPin, HIGH);  //Setting software pull-up
}

void loop()
{
  val = digitalRead(inPin); // read the input pin
  digitalWrite(ledPin, val); // sets the LED to the button's value
}
```

Result

If the sensor detects liquid, the onboard LED of UNO will turn off. If no liquid is detected, the onboard LED of UNO will turn on.

FAQ

For any questions, advice or cool ideas to share, please visit the **DFRobot Forum** (<https://www.dfrobot.com/forum/>).

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 **Get Non-contact Flexible Liquid Level Sensor** (<https://www.dfrobot.com/product-2463.html>) from DFRobot Store or **DFRobot Distributor**. (<https://www.dfrobot.com/distributor>)

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