

# Water Flow Sensor - 1/2" SKU: SEN0217



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#### Introduction

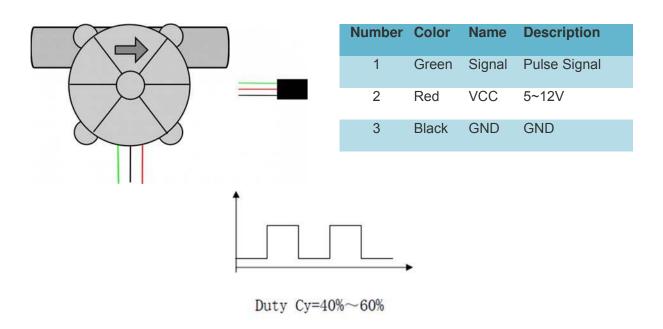
The Water Flow sensor measures the rate of a liquid flowing through it. The YF-S201 water flow sensor consists of a plastic valve body, flow rotor and hall effect sensor. It is usually used at the inlet end to detect the amount of flow. When liquid flows through the sensor, a magnetic rotor will rotate and the rate of rotation will vary with the rate of flow. The hall effect sensor will then output a pulse width signal. Connect it to a microcontroller and you can monitor multiple devices such as your coffee maker, sprinkler or anything else, and control the water flow rate to suit your needs!

- A 20 mm rifled pipe is recommended
- Avoid unit contact with corrosive chemicals
- The unit must be installed vertically, tilted no more than 5 degrees
- Liquid temperature should be less than 120 C to avoid damage to unit

# Specification

- Inner Diameter: 11 mmOutside diameter: 20 mm
- Proof Water Pressure: <1.75 MPa</li>
  Water Flow Range: 1-30 L/min
- Voltage Range: 3.5~12 V
- Operating Current: 15 mA (DC 5V)
   Insulation Resistance: >100 MΩ
- Accuracy: ±5% (2~30L/min)
- The Output Pulse High Level: >4.7 VDC (DC input voltage 5 V)
  The Output Pulse Low Level: <0.5 VDC (DC input voltage 5 V)</li>
- Output Pulse Duty Ratio: 50% ± 10%
- Water-flow Formula: 1L = 450 square waves
- Working Humidity Range: 25% ~ 95% RH (no frost)
- Dimension: 62\*36\*35 mm/2.44\*1.37\*1.37 inches
- Weight: 52g

## **Board Overview**



**Pulse Signal** 

## **Tutorial**

In this Tutorial, we'll measure liquid flow using this sensor.

## Requirements

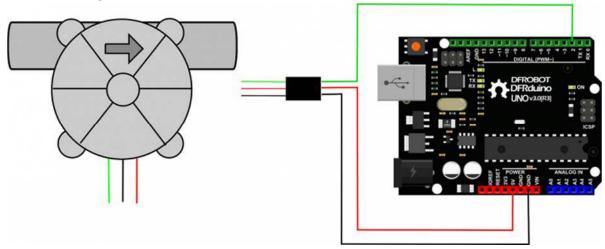
#### Hardware

DFRduino UNO R3 Water flow sensor Jumper Wires

## **Software**

Arduino IDE, Click to Download Arduino IDE from Arduino® https://www.arduino.cc/en/Main/Software

# **Connection Diagram**



## Sample Code

```
6
7 GNU Lesser General Public License.
8 See <a href="http://www.gnu.org/licenses/">http://www.gnu.org/licenses/</a> for details.
9 All above must be included in any redistribution
10 ***********************************
11
12 /********Notice and Trouble shooting*********
13 1.Connection and Diagram can be found here http://www.dfrobot.com/wiki/i
ndex.php?title=Water_Flow_Sensor_-_1/2%E2%80%B3_SKU:_SEN0217#Sample_Code
14 2. This code is tested on Arduino Uno.
16 volatile double waterFlow;
17 void setup() {
18
    Serial.begin(9600); //baudrate
19
    waterFlow = 0;
20
    attachInterrupt(0, pulse, RISING); //DIGITAL Pin 2: Interrupt 0
21 }
22 void loop() {
    Serial.print("waterFlow:");
23
24
    Serial.print(waterFlow);
    Serial.println(" L");
25
26
    delay(500);
27 }
28
29 void pulse() //measure the quantity of square wave
30 {
31
    waterFlow += 1.0 / 450.0;
32 }
```

## FAQ

For any questions, advice or cool ideas to share, please visit the **DFRobot Forum**.