Water Flow Sensor - 1/2″ SKU: SEN0217


Contents

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 mm
- Outside diameter: 20 mm
- Proof Water Pressure: <1.75 MPa
- 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)
- 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
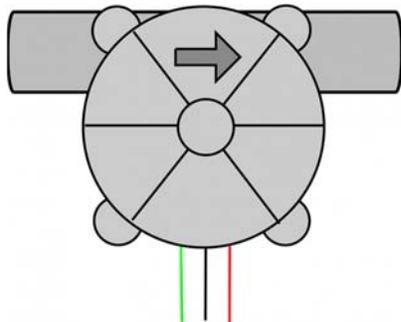
Number	Color	Name	Description
1	Green	Signal	Pulse Signal
2	Red	VCC	5~12V
3	Black	GND	GND
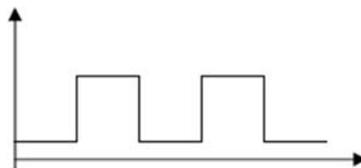
Duty Cy=40%~60%

Pulse Signal

Tutorial

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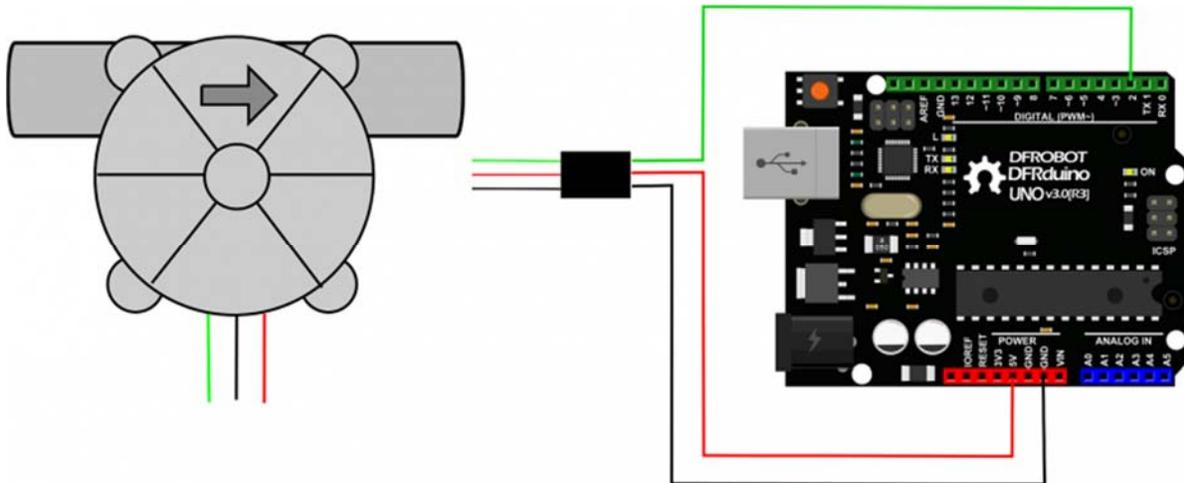
Requirements

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

```
1  /**************************************************
2   This example reads Water flow sensor Sensor.
3
4   Created 2016-3-13
5   By berinie Chen <bernie.chen@dfrobot.com>
```

```
 6

 7   GNU Lesser General Public License.

 8   See <http://www.gnu.org/licenses/> 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.

15   ***************************************************/

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() {

23    Serial.print("waterFlow:");

24    Serial.print(waterFlow);

25    Serial.println("    L");

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**.