

# G1/4" Water Flow Sensor

## Introduction

Water flow sensor consists of a plastic valve body, a water rotor, and a hall-effect sensor. When water flows through the rotor, rotor rolls. Its speed changes with different rate of flow. The hall-effect sensor outputs the corresponding pulse Signal.

Model: [TEM01071B](#)



## Specification

Mini. Working Voltage	DC 4.5V
Max. Working Current	15mA(DC 5V)
Working Voltage	5V~24V
Flow Rate Range	0.3~6L/min
Load Capacity	$\leq 10\text{mA(DC 5V)}$
Operating Temperature	$\leq 80^{\circ}\text{C}$
Liquid Temperature	$\leq 120^{\circ}\text{C}$
Operating Humidity	35%~90%RH

Water Pressure	≤2.0MPa
Storage Temperature	-25°C~+80°C
Storage Humidity	25%~95%RH

## Mechanic Dimensions

### Sensor Components

No.	Name	Quantity	Material	Note
1	Valve body	1	PA66+33%glass fiber	
2	Stainless steel bead	1	Stainless steel SUS304	
3	Axis	1	Stainless steel SUS304	
4	Impeller	1	POM	
5	Ring magnet	1	Ferrite	
6	Middle ring	1	PA66+33%glass fiber	
7	O-seal ring	1	Rubber	
8	Electronic seal ring	1	Rubber	
9	Cover	1	PA66+33%glass fiber	
10	Screw	4	Stainless steel SUS304	
11	Cable	1	1007 24AWG	

## Usage Example

Note: This example is abstracted from the forum, which was done by Charles Gantt. Thanks for his contribution.Let's see how it works.

### Reading Water Flow rate with Water Flow Sensor

This is part of a project I have been working on and I thought I would share it here since there have been a few threads on how to read water flow rate in liters per hour using the Water Flow Sensor found in the Seeed Studio Depo. It uses a simple rotating wheel that pulses a hall effect sensor. By reading these pulses and implementing a little math, we can read the liquids flow rate accurate to within 3%. The threads are simple G3/4 so finding barbed ends will not be that hard.

### Hardware Installation

You will need Seeeduino / Arduino ,Water Flow Sensor,10K resistor,a breadboard and some jumper wires.

Wiring up the Water Flow Sensor is pretty simple. There are 3 wires: Black, Red, and Yellow. Black to the Seeeduino's ground pin Red to Seeeduino's 5v pin The yellow wire will need to be connected to a 10k pull up resistor.and then to pin 2 on the Seeeduino.



```

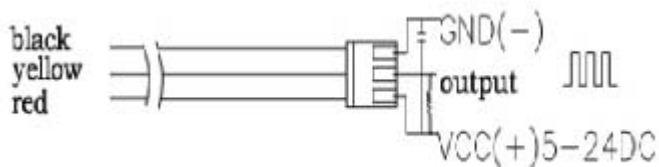
initialised,
  attachInterrupt(0, rpm, RISING); //and the interrupt is attached
}
// the loop() method runs over and over again,
// as long as the Arduino has power
void loop ()
{
  NbTopsFan = 0; //Set NbTops to 0 ready for calculations
  sei(); //Enables interrupts
  delay (1000); //Wait 1 second
  cli(); //Disable interrupts
  Calc = (NbTopsFan * 60 / 73); //(Pulse frequency x 60) / 73Q, = flow rate
in L/hour
  Serial.print (Calc, DEC); //Prints the number calculated above
  Serial.print (" L/hour\r\n"); //Prints "L/hour" and returns a new line
}

```

You can refer our forum for more details about [Reading Water Flow rate with Water Flow Sensor](#).

## Wiring Diagram

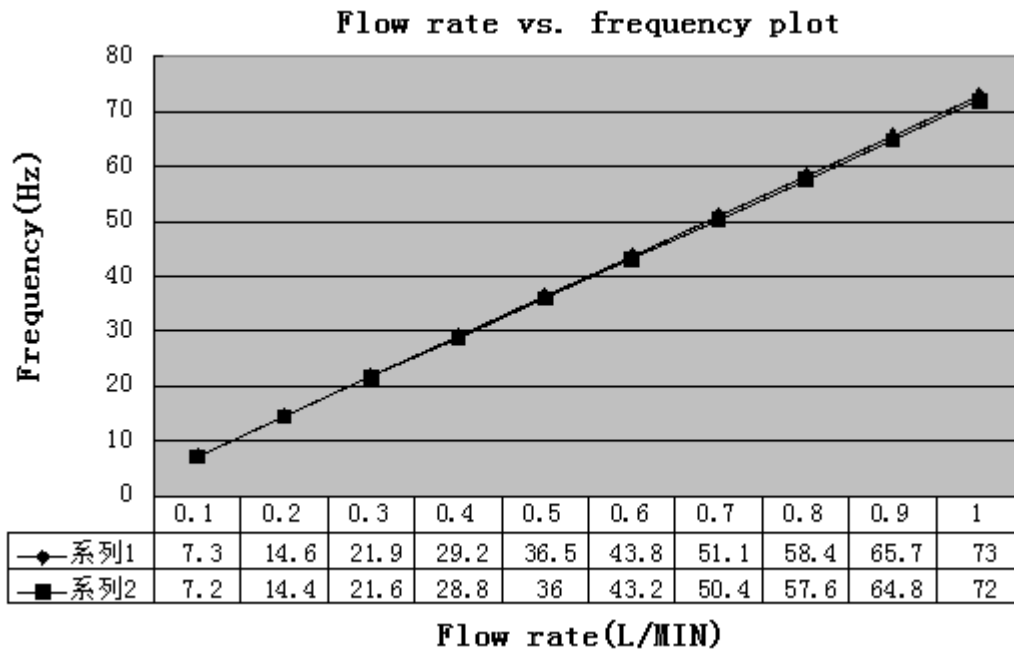
The external diameter of thread the connections use is 1.4mm.



## Output Table

Pulse frequency (Hz) in Horizontal Test= 73Q, Q is flow rate in L/min. (Results in +/- 3% range)

Output pulse high level	Signal voltage >4.5 V( input DC 5 V)
Output pulse low level	Signal voltage <0.5V( input DC 5V)
Precision	3% (Flow rate from 1L/min to 10L/min)
Output signal duty cycle	40%~60%



## FAQ

Here is the [Sensors FAQ](#), people can go here to find questions and answers for this kind of products.

### What materials is water flow sensor made of?

Nylon with fiber, avoiding strong acid and strong base.

### Is the water flow sensor safe for drinking water?

Yeah, it has been used on drinking machine.

## Support

If you have questions or other better design ideas, you can go to our [forum](#) or [wish](#) to discuss.

## Version Tracker

Revision	Descriptions	Release
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v1.0	Initial public release	Feb 14, 2012
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