

Keyes

Keyes Hall Water Flow Sensor



1. Product Parameters

Output signal: output NPN pulse signals by default

Model number: YF-B5

Interface size: 6' (G3 / 4)

Operating voltage: DC 5~18V

Internal/external diameter: 17.9/25.8mm

Screw teeth length: 11mm

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Material: Zinc alloy shell \ with heat-shrinkable tubing

Water pressure resistance: 1.75MPa

Output pulse high level: >DC4.7V (Input voltage DC 5V)

Output pulse duty cycle: 50% \pm 10%

Insulation resistance: >100M Ω

Flow range: [within 1 ~ 40L\MIN] \pm 3%

Sealing: seal each hole, no leakage or deformation under 1.7MPa water pressure

within 1 minute

Flow pulse characteristics: (6.6 * Q) Q = Min \pm 3%

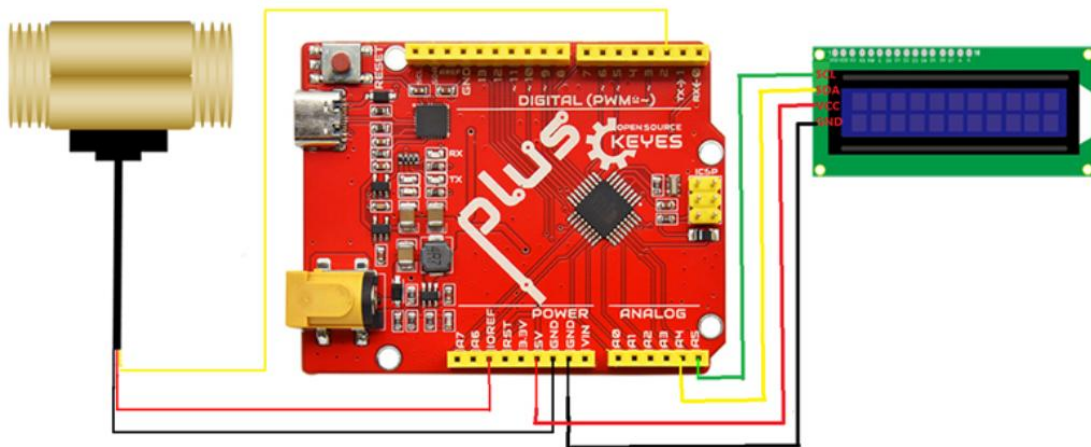
Output 390 pulses per minute

Note: During using, the direction of the water flow should be the same with the arrow on the sensor, otherwise it will not work properly.

2.Wiring Diagram

uno control board	Water flow sensor	LCD1602
5V	VCC(red)	VCC
GND	GND(black)	GND
SDA		SDA
SCL		SCL
2	Signal(yellow)	

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3.Test Code (Software Version: arduino-1.8.12)

```
volatile int flow_frequency; // Measures flow sensor pulses
// Calculated litres/hour
float vol = 0.0, l_minute;
unsigned char flowsensor = 2; // Sensor Input
unsigned long currentTime;
unsigned long cloopTime;
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
LiquidCrystal_I2C lcd(0x27, 16, 2);

void flow () // Interrupt function
{
    flow_frequency++;
}

void setup()
{
    pinMode(flowsensor, INPUT);
    digitalWrite(flowsensor, HIGH);
    Serial.begin(9600);
    Wire.begin();
    lcd.init();
    lcd.backlight();
}
```

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```
lcd.clear();
attachInterrupt(0, flow, RISING); // Setup Interrupt
lcd.setCursor(0,0);
lcd.print("Water Flow Meter");
lcd.setCursor(0,1);
lcd.print("Circuit Digest");
currentTime = millis();
cloopTime = currentTime;
}

void loop ()
{
  currentTime = millis();
  // Every second, calculate and print litres/hour
  if(currentTime >= (cloopTime + 1000))
  {
    cloopTime = currentTime; // Updates cloopTime
    if(flow_frequency != 0)
    {
      // Pulse frequency (Hz) = 7.5Q, Q is flow rate in L/min.
      l_minute = (flow_frequency / 6.6); // (Pulse frequency x 60 min) / 7.5Q = flowrate in L/hour
      lcd.clear();
      lcd.setCursor(0,0);
      lcd.print("Rate: ");
      lcd.print(l_minute);
      lcd.print(" L/M");
      l_minute = l_minute/60;
      lcd.setCursor(0,1);
      vol = vol +l_minute;
      lcd.print("Vol:");
      lcd.print(vol);
      lcd.print(" L");
      flow_frequency = 0; // Reset Counter
      Serial.print(l_minute, DEC); // Print litres/hour
      Serial.println(" L/Sec");
    }
    else
    {
      lcd.clear();
      lcd.setCursor(0,0);
      lcd.print("Rate: ");
      lcd.print( flow_frequency );
      lcd.print(" L/M");
    }
  }
}
```

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```
lcd.setCursor(0, 1);  
lcd.print("Vol:");  
lcd.print(vol);  
lcd.print(" L");  
}  
}  
}
```

4.Test Result

After wiring up and uploading the code, put it in flowing water and power on. Then, the water flow rate and volume are displayed on the LCD, as shown below.

