



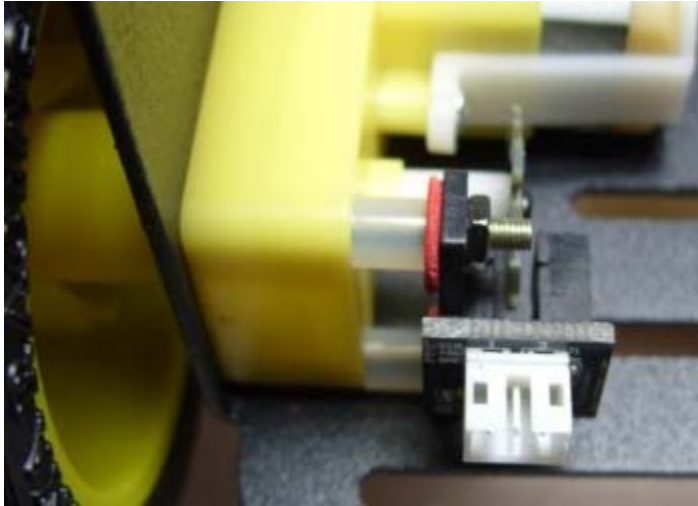
**THE DATASHEET OF  
SEN0038**





## Wheel Encoders for DFRobot 3PA and 4WD Rovers (SKU:SEN0038)

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### Introduction

This encoders are designed for DFRobot 3PA and AWD Rovers. It can give you the rotation degree of the wheels. Encoder uses non-contact method to convert the angular displacement signals. Best fit with Micro DC Geared Motor.

It includes encoders, plastic tube, paper-mediated gasket etc.

### Specification

Voltage:+5V  
Current:<20mA  
Resolution:20 PPR  
Weight:20g

## Sample Code

```
// #
// # Editor      : Lauren from DFRobot
// # Date        : 17.01.2012

// # Product name: Wheel Encoders for DFRobot 3PA and 4WD Rovers
// # Product SKU : SEN0038

// # Description:
// # The sketch for using the encoder on the DFRobot Mobile platform

// # Connection for Uno or other 328-based:
// #           left wheel encoder  -> Digital pin 2
// #           right wheel encoder -> Digital pin 3
// # Note: If your controller is not 328-based, please check https://www.arduino.cc/en/Reference/AttachInterrupt for proper digital pins.

#define LEFT 0
#define RIGHT 1

long coder[2] = {
  0,0};
int lastSpeed[2] = {
  0,0};

void setup(){

  Serial.begin(9600);           //init the Serial port to print the data

  attachInterrupt(LEFT, LwheelSpeed, CHANGE); //init the interrupt mode for the digital pin 2
  attachInterrupt(RIGHT, RwheelSpeed, CHANGE); //init the interrupt mode for the digital pin 3
```

```

}

void loop(){

    static unsigned long timer = 0;                //print manager timer

    if(millis() - timer > 100){
        Serial.print("Coder value: ");
        Serial.print(coder[LEFT]);
        Serial.print("[Left Wheel] ");
        Serial.print(coder[RIGHT]);
        Serial.println("[Right Wheel]");

        lastSpeed[LEFT] = coder[LEFT];    //record the latest speed value
        lastSpeed[RIGHT] = coder[RIGHT];
        coder[LEFT] = 0;                   //clear the data buffer
        coder[RIGHT] = 0;
        timer = millis();
    }

}

void LwheelSpeed()
{
    coder[LEFT] ++; //count the left wheel encoder interrupts
}

void RwheelSpeed()
{
    coder[RIGHT] ++; //count the right wheel encoder interrupts
}

```

}

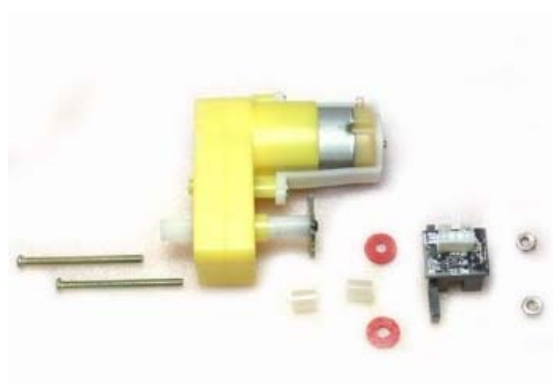
## Assembly Guide



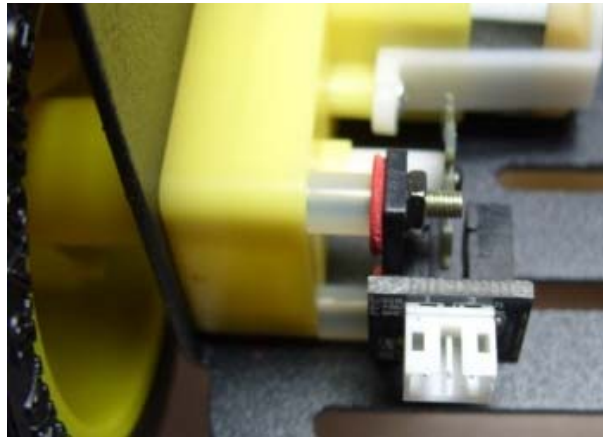
Step1:



Step2:



Step3:



## FAQ

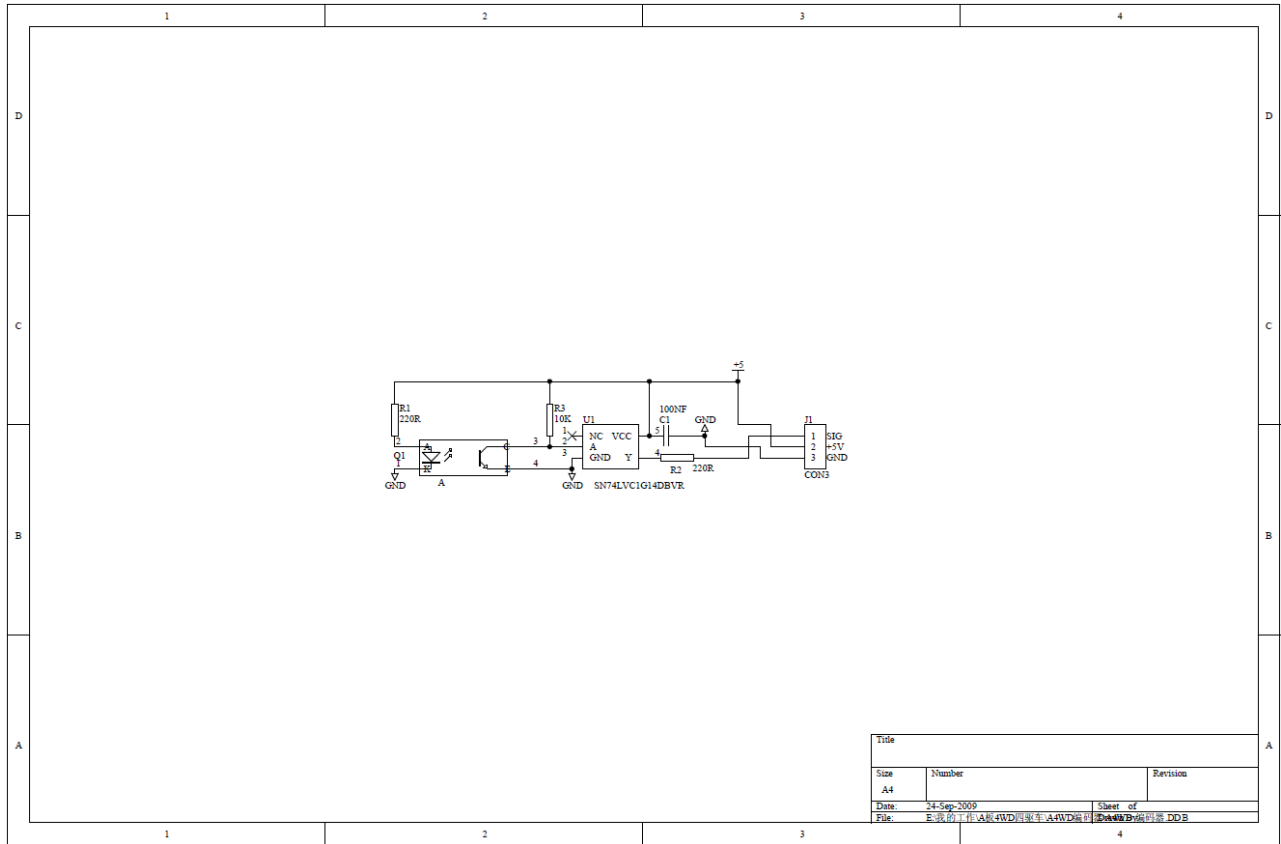
### Serial monitor

**Q.** The feedback value is full that the Serial monitor is always printing value around 25903 and 25344, no matter of the motor running or not.

**A.** The first parameter in the interrupt function ' attachInterrupt ' means the interrupt number that is just number 0 and 1, not the interrupt pin number.[read more](#)

A screenshot of a serial monitor window titled "COM5". The window displays a series of 15 lines of text, each representing a line of data received from the serial port. The text on each line is: "Coder value: 25903[Left Wheel] 25344[Right Wheel]". The values are constant across all lines. At the bottom of the window, there is a status bar showing "Artesyn11", "Evk JL & CR", and "9600 baud".

# Encoder Schematics



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