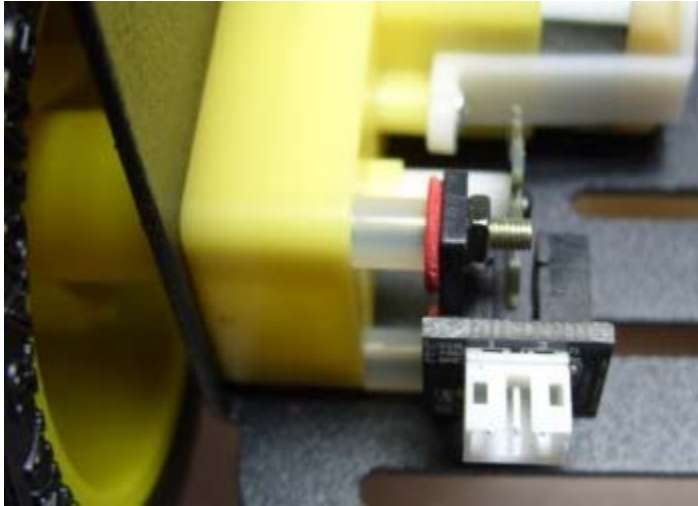




Wheel Encoders for DFRobot 3PA and 4WD Rovers (SKU:SEN0038)



Contents

- [1 Introduction](#)
 - [1.1 Specification](#)
 - [1.2 Sample Code](#)
- [2 Assembly Guide](#)
- [3 FAQ](#)
- [4 Encoder Schematics](#)

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
}

```

}

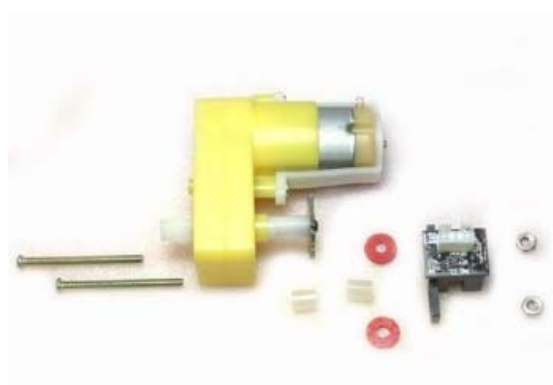
Assembly Guide



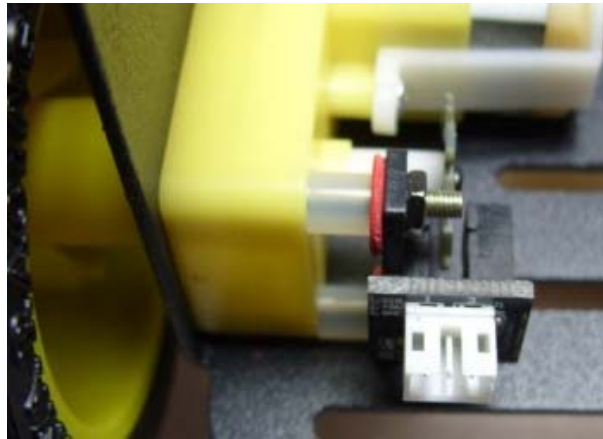
Step1:



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", "Evtk JL & CR", and "9600 baud".

Encoder Schematics

