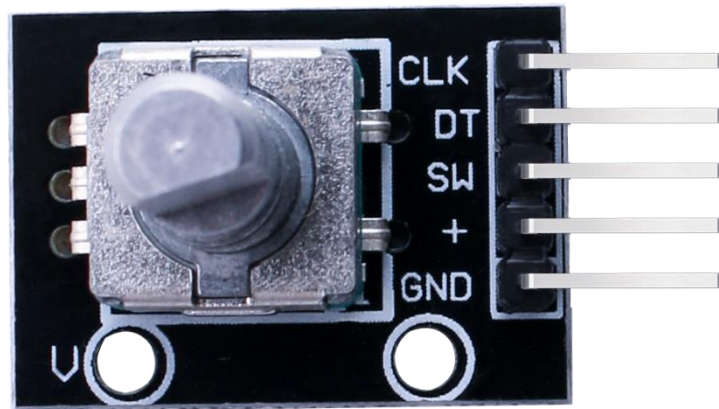


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## Rotary Encode Module

### DESCRIPTION:

Rotary encoder is a rotary input device (as in knob) that provides an indication of how much the knob has been rotated AND what direction it is rotating in. It's a great device for stepper and servo motor control. You could also use it to control devices like digital potentiometers.



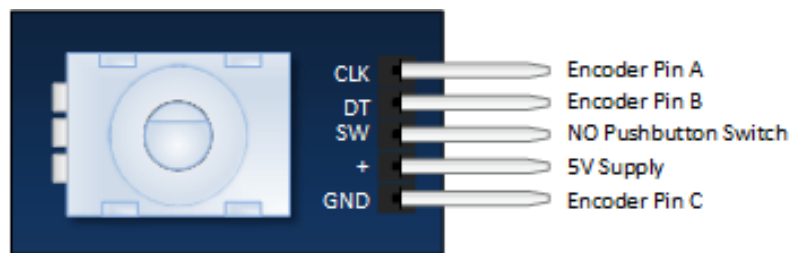
### Specification:

- Operation voltage: 5V
- 5Pinout
- Size: 28.35\*18.55\*26.19mm
- Weight: 6.301g

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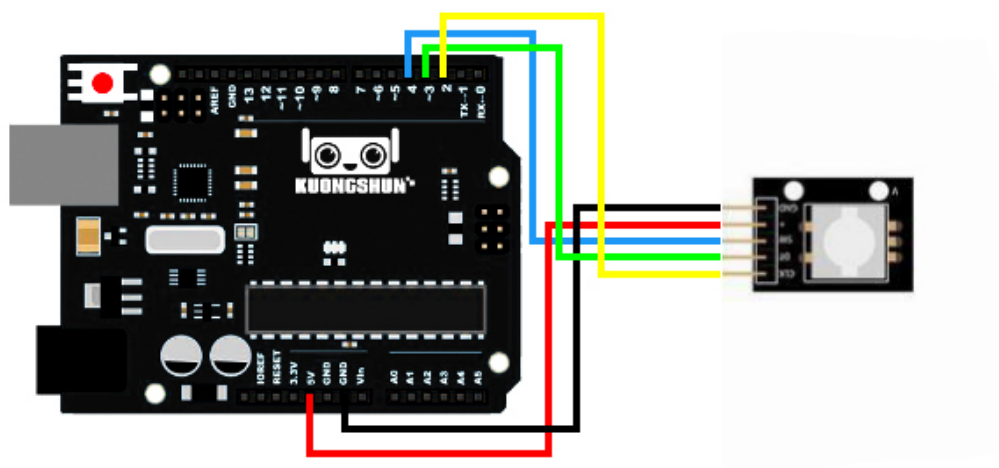
## PIN CONFIGURATION:

- 1、 “CLK”: Encoder A
- 2、 “DT” : Encoder B
- 3、 “SW”:Switch button
- 4、 “+” : Power(+5V DC)
- 5、 “Gnd”: Ground



## Example:

This is a simple sketch that shows how to count the encoder position and how to determine direction of rotation. It has no switch debounce, nor does it use interrupts. A fully developed application might need to incorporate these in order to make it robust.



## Code:

```
int pinA = 3; // Connected to CLK
int pinB = 4; // Connected to DT
```

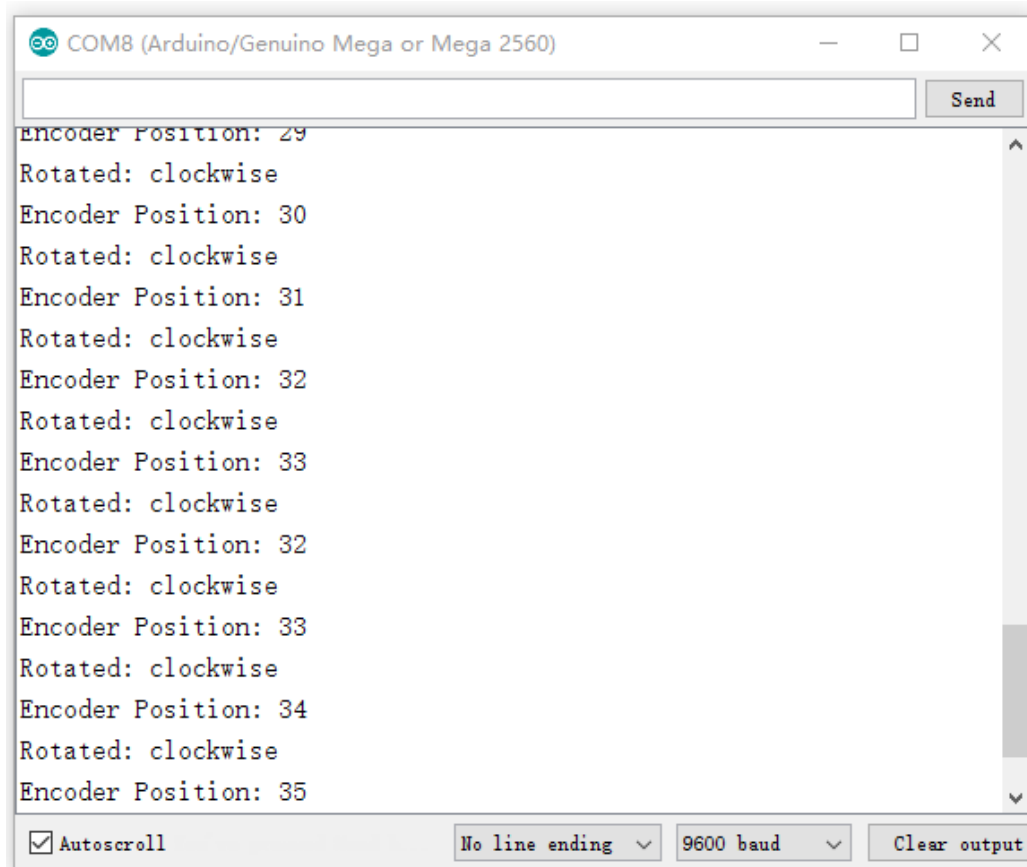
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```
int encoderPosCount = 0;

int pinALast;
int aVal;
boolean bCW;
void setup()
{
  pinMode (pinA,INPUT);
  pinMode (pinB,INPUT);
  /* Read Pin A
  Whatever state it's in will reflect the last position
  */
  pinALast = digitalRead(pinA);
  Serial.begin (9600);
}
void loop() {
  aVal = digitalRead(pinA);
  if (aVal != pinALast)
  {
    // Means the knob is rotating
    if (digitalRead(pinB) != aVal)
    {
      // Means pin A Changed first - We're
      Rotating Clockwise
      encoderPosCount ++;
      bCW = true;
    }
  }
  else {
    // Otherwise B changed first and we're
    moving CCW bCW = false;
    encoderPosCount--;
  }
}
```

```
Serial.print ("Rotated: ");  
if (bCW)  
{  
Serial.println ("clockwise");  
}else  
{  
Serial.println("counterclockwise");  
}  
Serial.print("Encoder Position: ");  
Serial.println(encoderPosCount);  
}  
pinALast = aVal;  
}
```

### Result:



```
COM8 (Arduino/Genuino Mega or Mega 2560)  
Encoder Position: 29  
Rotated: clockwise  
Encoder Position: 30  
Rotated: clockwise  
Encoder Position: 31  
Rotated: clockwise  
Encoder Position: 32  
Rotated: clockwise  
Encoder Position: 33  
Rotated: clockwise  
Encoder Position: 32  
Rotated: clockwise  
Encoder Position: 33  
Rotated: clockwise  
Encoder Position: 34  
Rotated: clockwise  
Encoder Position: 35
```