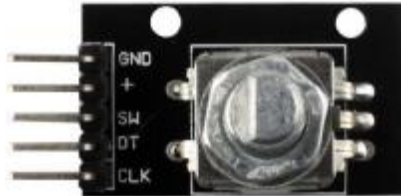# Rotary_encoder Experiment

Overview

This lesson will teach you how to use Rotary Encoder module, which is simple and easy to use.

Specification

Please view "Rotary Encoder.pdf"
Path: \Public_materials\Datasheet\ Rotary Encoder.pdf

Pin definition

UNO R3	Rotary Encoder
GND	GND
5V	"+"
D4	SW
D3	DT
D2	CLK

UNO R3	Two color LED
GND	"-"
D5	
D6	S

Hardware required

Material diagram	Material name	Number
	Rotary Encoder	1
	Two color LED	1
	UNO R3	1
	USB Cable	1
	Male to Female Jumper wires	several

Connection diagram
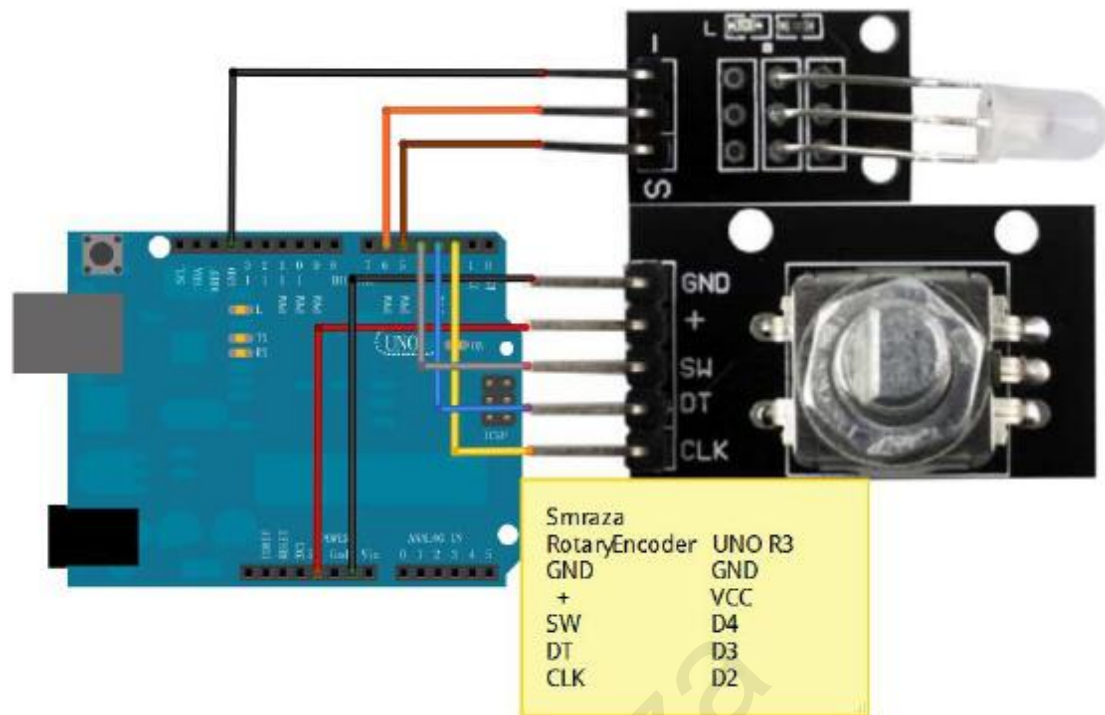
Sample code

Note: sample code under the **Sample code** folder.

```
const int interruptA = 0;        // Interrupt 0
const int interruptB = 1;        // Interrupt 1

int CLK = 2;
int DAT = 3;
int BUTTON = 4;
int LED1 = 5;
int LED2 = 6;
int COUNT = 0;

void setup()
{
    attachInterrupt(interruptA, RoteStateChanged, FALLING);
    // attachInterrupt(interruptB, buttonState, FALLING);
    pinMode(CLK, INPUT);
    digitalWrite(2, HIGH); // Pull High Restance
    pinMode(DAT, INPUT);
    digitalWrite(3, HIGH); // Pull High Restance
    pinMode(BUTTON, INPUT);
    digitalWrite(4, HIGH); // Pull High Restance
    pinMode(LED1, OUTPUT);
```

```
    pinMode(LED2, OUTPUT);
    Serial.begin(9600);
}

void loop()
{
    if (!(digitalRead(BUTTON)))
    {
        COUNT = 0;
        Serial.println("STOP COUNT = 0");
        digitalWrite(LED1, LOW);
        digitalWrite(LED2, LOW);
        delay (2000);
    }
    Serial.println(COUNT);
}

void RoteStateChanged() //When CLK FALLING READ DAT
{
    if (digitalRead(DAT)) // When DAT = HIGH IS FORWARD
    {
        COUNT++;
        digitalWrite(LED1, HIGH);
        digitalWrite(LED2, LOW);
        delay(20);
    }
    else                  // When DAT = LOW IS BackRote
    {
        COUNT--;
        digitalWrite(LED2, HIGH);
        digitalWrite(LED1, LOW);
        delay(20);
    }
}
```

Language reference

Tips : Click on the following name to jump to the web page.
If you fail to open, use the Adobe reader to open this document.
pinMode()
digitalWrite()
digitalRead()
attachInterrupt
Serial

****

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