

Rotary Encoder

Overview



This lesson will teach you how to use Rotary Encoder module, which can calculate the number of interrupts.

Specification





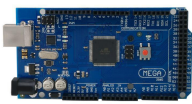
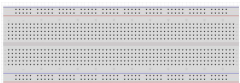

Please view "Rotary Encoder.pdf"

Path: \Public_materials\Datasheet\ Rotary Encoder.pdf

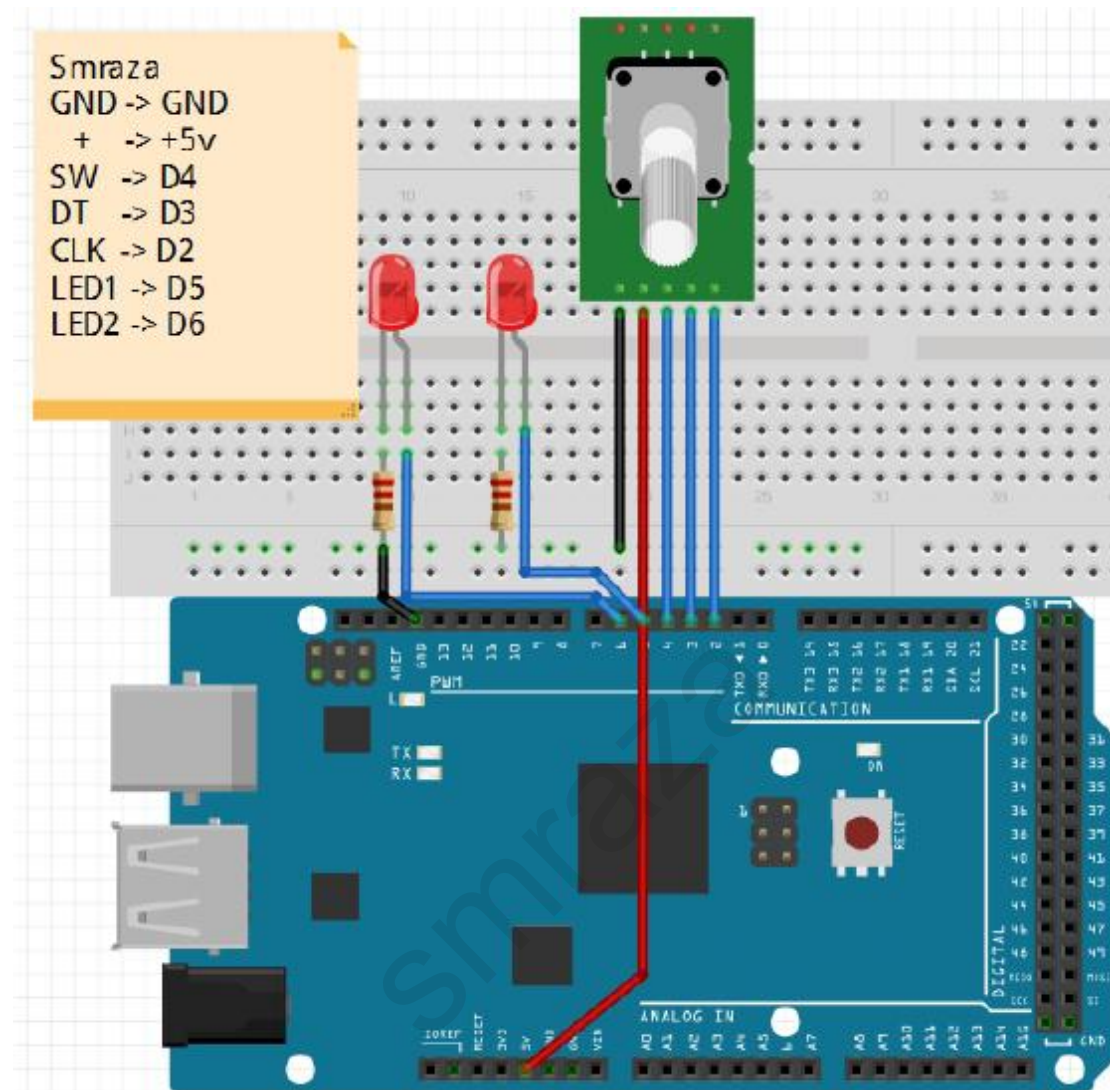
Pin definition

Rotary Encoder	MEGA2560
GND	-> GND
+	-> +5V
SW	-> D4
DT	-> D3
CLK	-> D2

Hardware required

Material diagram	Material name	Number
	Rotary Encoder	1
	LED	2
	10KΩ resistor	2
	USB Cable	1
	MEGA 2560	1
	Breadboard	1
	Jumper wires	Several

Connection diagram



Sample code

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

```
const int interrupt = 0;
int CLK = 2;
int DAT = 3;
int BUTTON = 4;
int LED1 = 5;
int LED2 = 6;
int COUNT = 0;
void setup()
{
    attachInterrupt(interrupt, RoteStateChanged, FALLING);
    pinMode(CLK, INPUT);
    digitalWrite(CLK, HIGH); // Pull High Restance
    pinMode(DAT, INPUT);
    digitalWrite(DAT, HIGH); // Pull High Restance
    pinMode(BUTTON, INPUT);
    digitalWrite(BUTTON, 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(LED1, LOW);
        digitalWrite(LED2, HIGH);
        delay(20);
    }
}

/*Tips: Open the serial port monitor, you will see the total number of Statistics.

```

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.

[attachInterrupt](#)

Application effect

When you rotate the encoder, LED lights will be flashing alternately.

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