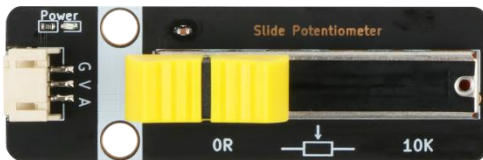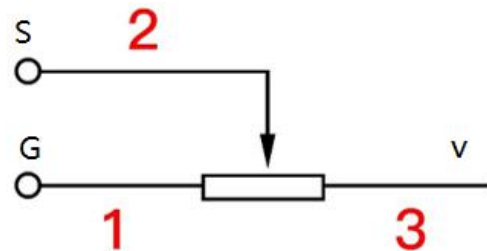# Experiment of Sliding Potentiometer

Module Introduction

Sliding potentiometer is an important component in the circuit. It can change its resistance by moving the position of the slide, so as to change the current or voltage in the circuit. As shown in the figure on the right below, the resistance value at both ends of the potentiometer (or fine-tuning resistor, etc.) is fixed at both ends, and the resistance value of the middle pin to any one end pin is variable, and the yellow small piece is equivalent to No. 2 pin. When sliding the yellow block, the resistance between pin 2 and pin 1 and pin 3 is changing. When the voltage is applied to pins 1 and 3 of the sliding potentiometer, we only need to measure the voltage of pin 2 to know the position of the slide bar in the potentiometer.

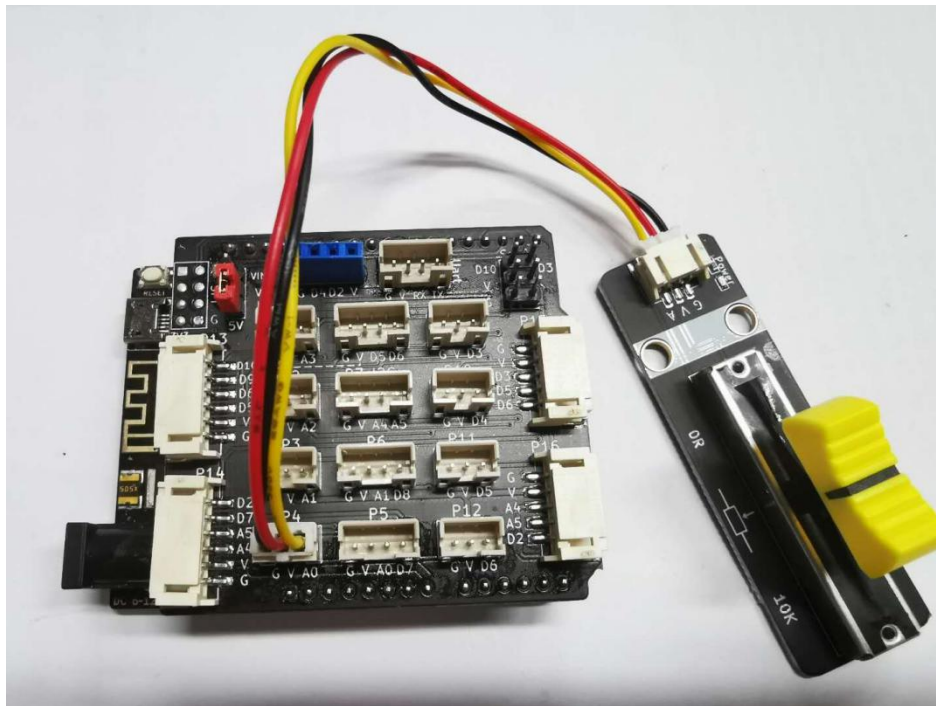Physical Picture   Brief Figure

Purpose of the Experiment

Skillfully use sliding potentiometer, and understand its role.

Device List

- BLE-UNO Main Board: 1
- Expansion Board : 1
- USB Data Wire: 1
- Sliding Potentiometer: 1
- 3PIN Wire Jumper: 1

Physical Wiring Diagram

Arduino Program Code

```
float i=0,data;   //Define variables
Int r=0;
int analogPin = A0;   //Define  analog pin
void setup()
{
  pinMode(analogPin, INPUT); //set input
  Serial.begin(9600);   //   set bpm
}

void loop() {
    data=analogRead(analogPin);   //   Get the analog value
    i=data/1023;
    r=(1-i)*100;   //Get the position of the slider
    Serial.print("Slider position(0~100): ");
    Serial.println(r);
    delay(200);
}
```

MagicBlock Program

Mixly Program
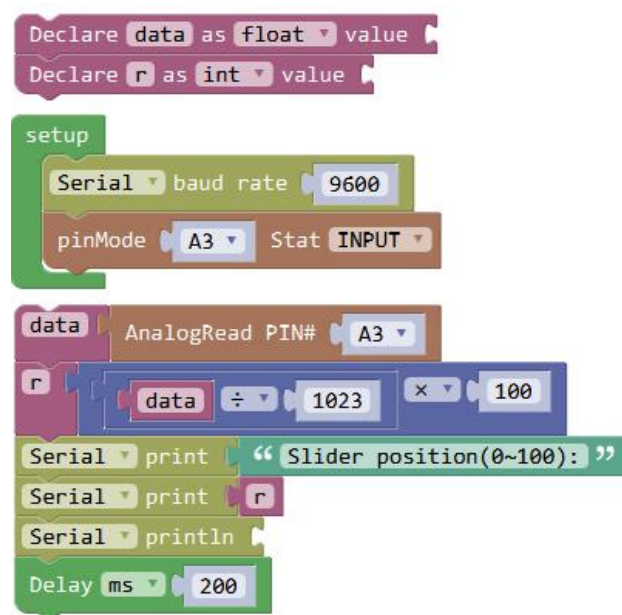
Experimental Conclusion

Sliding potentiometer is to change the size of the resistance, with different sliding position. The resistance will continue to increase and decrease, to achieve the effect of voltage division; through the analysis of the resistance value printed out by the serial port, the purpose is achieved.