名称：弯曲度传感器flex4.5和flex2.2

资料：弯曲度传感器模块资料

可以读取一个电阻参数，通过和0度和90度的电阻值比较，得到角度

问题：读取的角度非常不准，可能是0度和90度电阻值需要校准

弯曲度传感器代码（共三种，在电阻的标准上有变化）

1.

const int FLEX\_PIN = A0; // 电压采集接口

const float VCC =5.0; // 模块供电电压，ADC参考电压为V

const float R\_DIV =100000.0; // 分压电阻为100KΩ

const float STRAIGHT\_RESISTANCE =14100.0; // 平直时的电阻值

const float BEND\_RESISTANCE =23500.0; // 90度弯曲时的电阻值

void setup()

{

Serial.begin(9600);

pinMode(FLEX\_PIN, INPUT);

}

void loop()

{

// Read the ADC, and calculate voltage and resistance from it

int flexADC=analogRead(FLEX\_PIN);

float flexV=flexADC\* VCC / 1024.0;

float flexR= R\_DIV \* (VCC / flexV-1.0);

float angle = map(flexR, STRAIGHT\_RESISTANCE, BEND\_RESISTANCE,0, 90.0);

Serial.println("Bend: "+String(angle) +" degrees");

Serial.println();

delay(5000);

}

2.

const int FLEX\_PIN = A0; // 电压采集接口

const float VCC =5.0; // 模块供电电压，ADC参考电压为V

const float R\_DIV =100000.0; // 分压电阻为100KΩ

const float STRAIGHT\_RESISTANCE =89500.0; // 平直时的电阻值

const float BEND\_RESISTANCE =115000.0; // 90度弯曲时的电阻值

void setup()

{

Serial.begin(9600);

pinMode(FLEX\_PIN, INPUT);

}

void loop()

{

// Read the ADC, and calculate voltage and resistance from it

int flexADC=analogRead(FLEX\_PIN);

float flexV=flexADC\* VCC / 1024.0;

float flexR= R\_DIV \* (VCC / flexV-1.0);

float angle = map(flexR, STRAIGHT\_RESISTANCE, BEND\_RESISTANCE,0, 90.0);

Serial.println("Bend: "+String(angle) +" degrees");

Serial.println();

delay(5000);

}

3.

const int FLEX\_PIN = A0; // 电压采集接口

const float VCC =5.0; // 模块供电电压，ADC参考电压为V

const float R\_DIV =100000.0; // 分压电阻为100KΩ

const float STRAIGHT\_RESISTANCE =92000.0; // 平直时的电阻值

const float BEND\_RESISTANCE =115000.0; // 90度弯曲时的电阻值

void setup()

{

Serial.begin(9600);

pinMode(FLEX\_PIN, INPUT);

}

void loop()

{

// Read the ADC, and calculate voltage and resistance from it

int flexADC=analogRead(FLEX\_PIN);

float flexV=flexADC\* VCC / 1024.0;

float flexR= R\_DIV \* (VCC / flexV-1.0);

float angle = map(flexR, STRAIGHT\_RESISTANCE, BEND\_RESISTANCE,0, 90.0);

Serial.println("Bend: "+String(angle) +" degrees");

Serial.println();

delay(5000);

}