RB-See-192

Seeedstudio Grove Line Finder

Introduction

Line finder Grove is designed for line following robotic. It consists two parts - an IR emitting LED and an IR sensitive phototransistor. It can output digital signal to a microcontroller so the robot can reliably follow a black line on a white background, or vice versa.

Features

- Grove compatible interface
- Small size
- 5V DC power supply
- Indicator LED
- Digital output
- Distance adjustable

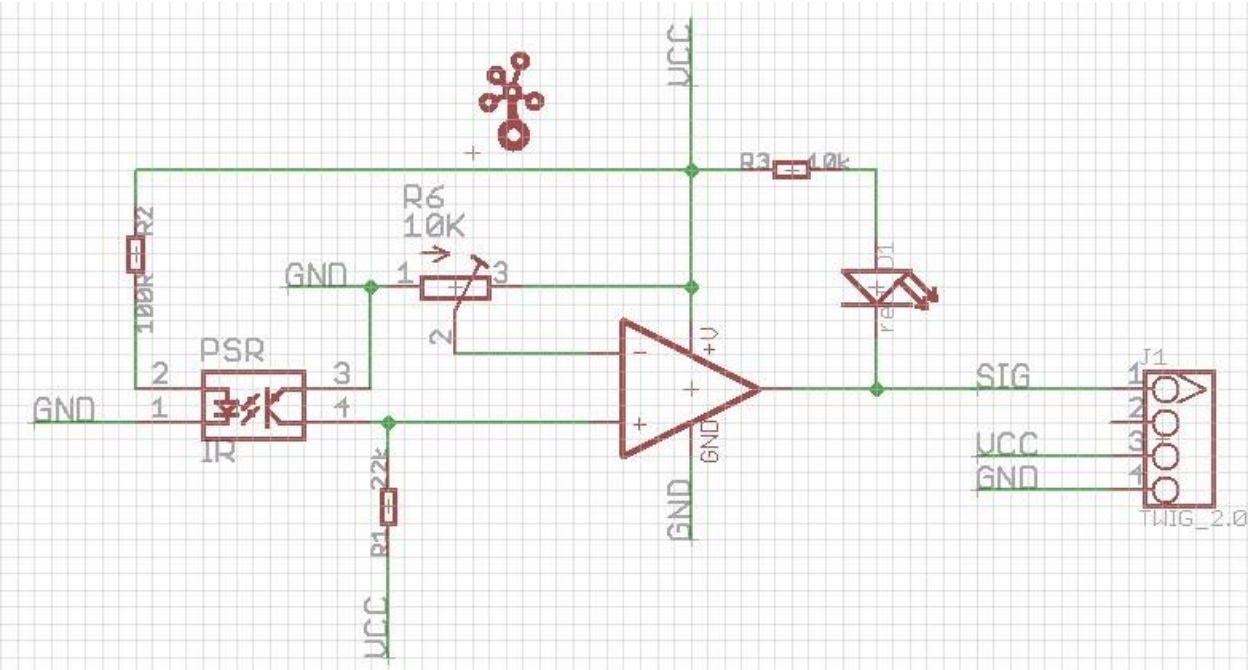
Application Ideas

- Tracking line
- Robotic

Cautions

The warnings and wrong operations possible cause dangerous.

Schematic



Specification

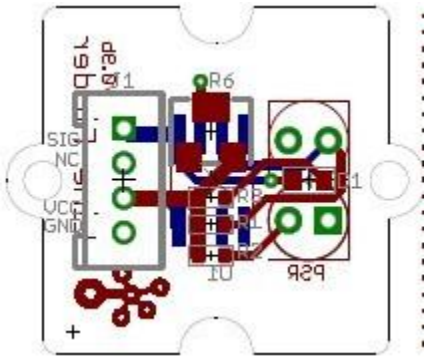
Key Specification

Indicator LED	Red (lighten shows black line detected, ignore it in analog mode)
Power supply	5V DC
Digital output mode	TTL (High when black is detected, Low when white is detected)
Connector	4 pin Buckled Grove interface
Connectivity	Compatible with Arduino
Dimension	20mm*20mm
ROHS	YES

Pin definition and Rating

Pad Type	Pin Status	Description
GND	Input	Ground port
SIG	Output	TTL
NC	NC	NC
VCC	Input	3.3V - 5V

Mechanic Dimensions



Usage

Hardware Installation

The brick will return HIGH when black line is detected, and LOW when white line is detected. Using the adjustable resistor the detection range can be changed from 1.5cm to 5cm. If the sensor can't tell between black and white surfaces, you can also use the adjustable resistor to set a suitable reference voltage.

Programming

Includes important code snippet. Demo code like :

Demo code

```
{


//-----------------------------------------------------------
//Name: Line finder digital mode
//Function: detect black line or white line
//Parameter:   When digital signal is HIGH, black line
//             When digital signal is LOW, white line
//-----------------------------------------------------------
int signalPin =  3;    // connected to digital pin 3
void setup()   {
  pinMode(signalPin, INPUT); // initialize the digital pin as an output:
  Serial.begin(9600);  // initialize serial communications at 9600 bps:
}
// the loop() method runs over and over again,
// as long as the Arduino has power
void loop()
{
  if(HIGH == digitalRead(signalPin))
    Serial.println("black");
    else  Serial.println("white");  // display the color
            //delay(1000);                // wait for a second
}


}
```