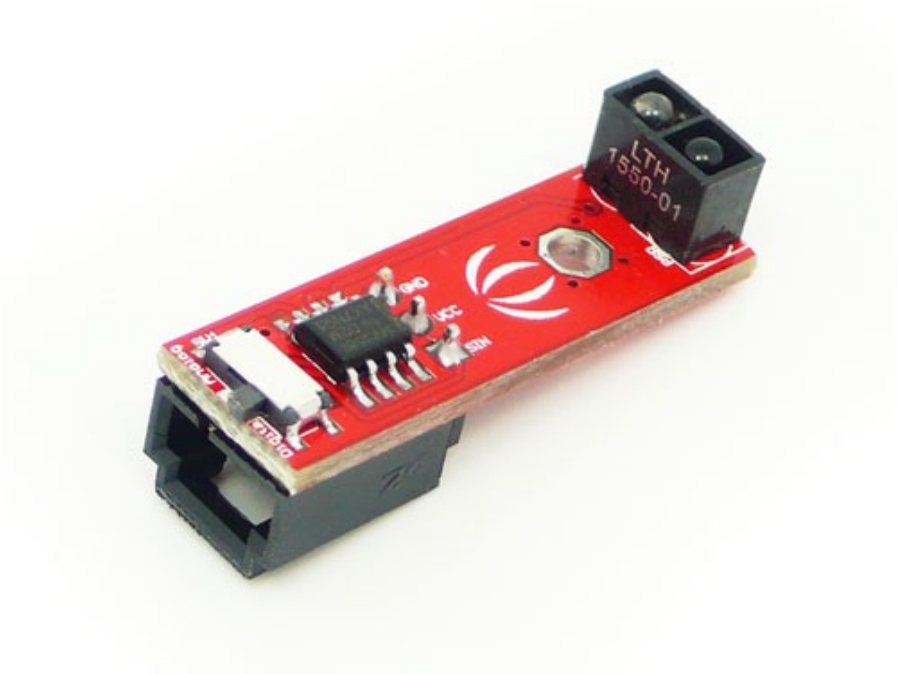
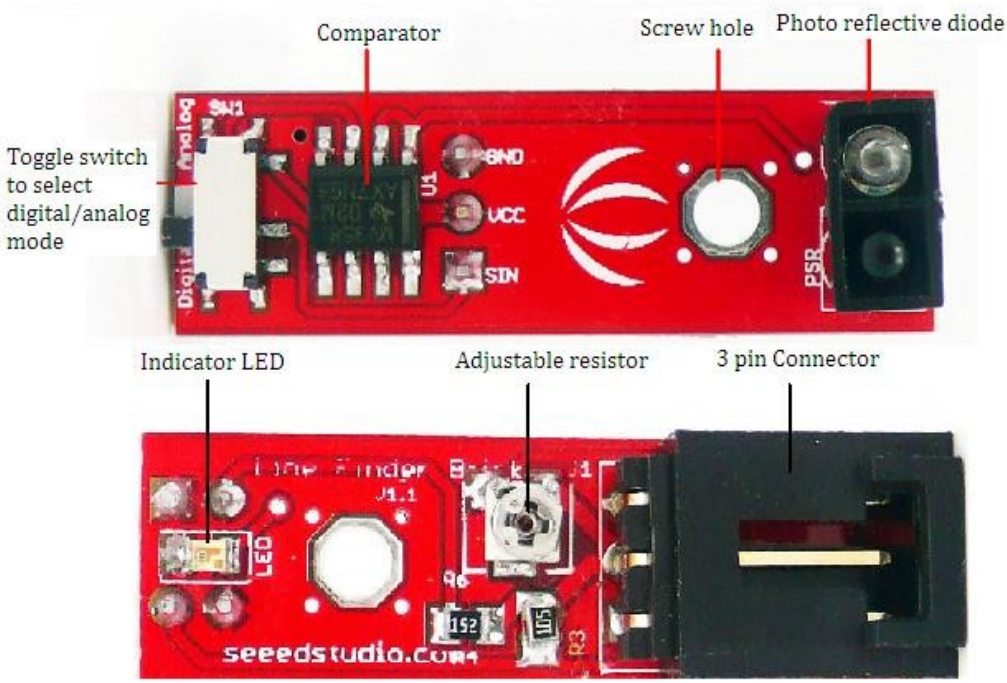
SEED TECHNOLOGY INC (SEEEDUINO)
Electronic brick - Line Finder
Model: ELB144D2P

Introduction

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





Structure overview

Comparator: MV358
MV358 is used as voltage comparator.
>>Datasheet:
http://www.xyk-ic.com/product-details.asp?id=16858

Photo reflective diode: RS-06WD
RS-06WD is designed to detect surface color.
>>Datasheet:
http://www.waitrony.com/eng/

Features

- Electronic brick compatible interface
- Small size
- 5V DC power supply
- Indicator LED
- Analog/ digital output
- Distance adjustable
- 3mm screw hole for mounting

Application Ideas

- Application1
- Application2
- Application3

Cautions

The warnings and wrong operations possible cause dangerous.

Schematic

It is the schematic, the circuit about Eagle resource like .pdf should linked here in order to avoid memory exhausted.
File:Lindfinder eagle files.zip

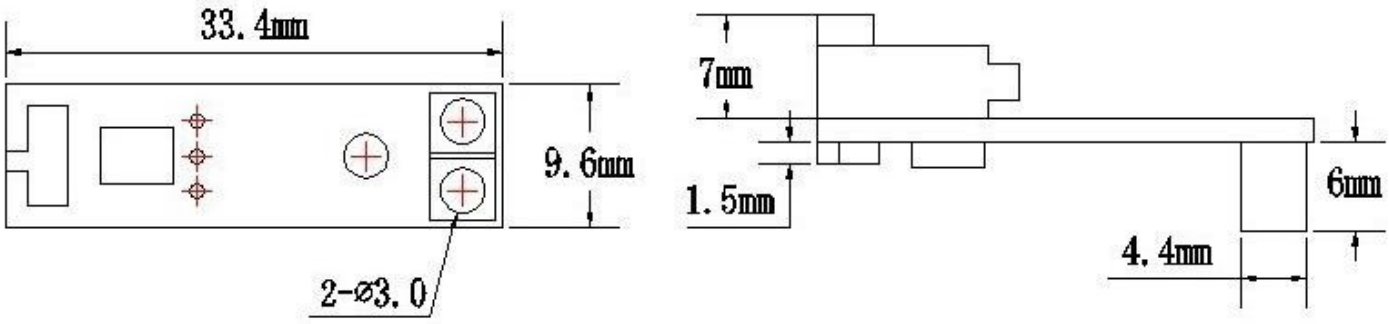
Specification

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)
Analog output mode	0-4.6V
Connector	3 pin Buckled Electronic Brick interface
IO structure	2 power pins and 1 signal pin
Connectivity	Compatible with Arduino
Dimension	11mm*34mm*1.6mm
ROHS	YES

Pin definition and Rating

Mechanic Dimensions



Usage

Hardware Installation

1. Digital output mode

In this mode, 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. The default reference voltage is 3.3V.

2. Analog output mode

In this mode, the brick will return an analog voltage value, which depends on the surface color. In analog mode using adjustable resistor cannot affect the detection range; it can only affect the LED trigger voltage. Since the LED is just for reference, you could turn it off by adjusting the trigger voltage.

Programming

Includes important code snippet. Demo code like :

```
Demo code
{

}
```

Example

The projects and application examples.

Bill of Materials (BOM) /parts list

All the components used to produce the product.

FAQ

Please list your question here:

Support

If you have questions or other better design ideas, you can go to our forum or wish to discuss.

Version Tracker

Revision	Descriptions	Release
v0.9b	Initial public release	Aug 11, 2010

Bug Tracker

Bug Tracker is the place you can publish any bugs you think you might have found during use. Please write down what you have to say, your answers will help us improve our products.

Additional Idea

The Additional Idea is the place to write your project ideas about this product, or other usages you've found. Or you can write them on Projects page.

Resources

- Demo code
- Eagle files .

See Also

- Grove - Line Finder v0.9b

Licensing