Grove - Hall Sensor
User Manual

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Wiki: http://www.seeedstudio.com/wiki/Grove_-_Hall_Sensor

Bazaar: http://www.seeedstudio.com/depot/Grove-Hall-Sensor-p-965.html?cPath=25_28

Document Revision History

Revision	Date	Author	Description
1.0	Sep 22, 2015	Loovee	Create file

Contents

Disclaimer

For physical injuries and possessions loss caused by those reasons which are not related to product quality, such as operating without following manual guide, natural disasters or force majeure, we take no responsibility for that.

Under the supervision of Seeed Technology Inc., this manual has been compiled and published which covered the latest product description and specification. The content of this manual is subject to change without notice.

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1. Introduction

The Hall sensor is based on Hall Effect, which is the production of a voltage difference across an electrical conductor, transverse to an electric current in the conductor and a magnetic field perpendicular to the current. There is a continuous-time switch on this Grove. The output of these devices switches low (turns on) when a magnetic field (south polarity) perpendicular to the Hall sensor exceeds the operate point threshold BOP, and it switches high (turn off) when the magnetic field disappears. The twig can be used to measure RPM.

2. Features

- Grove Compatible Interface

- 400ns transition period for rise and fall.

- Continuous-time hall effect sensor

- Reverse battery protection

3. Specification

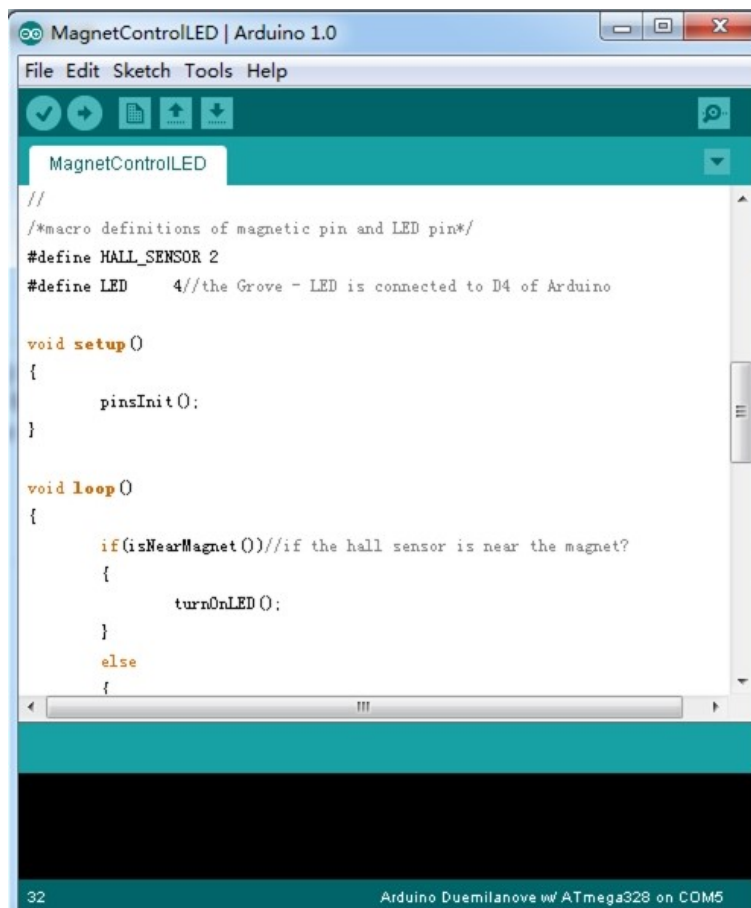| Item	Min	Typical	Max	Unit
Supply Voltage	3.8	5.0	24	V
Supply Current	4.1	-	24	mA
Operating Temperature	-40	-	85	ºC

4. Application Ideas

- RPM meter.

- Simple dc motor.

5. Usage

The Hall Sensor is used by utilizing the external interrupts available on the arduino/seeeduino. In this example we are using interrupt 0, found on digital pin 2. For other interrupts, see the attachInterrupt().

- Connect the Hall Sensor to Digital port 2 of the Grove - Basic Shield using a 4 pin cable and connect Grove-LED to Digital Port 4.

- Then connect Arduino to PC by using a USB cable.

- Download the File: Hall Sensor Code

- Open one of two code. For example Demo **MagnetControlLED**

- Upload the code, please click here if you do not know how to upload.
- When a magnet whose south pole is facing up is approaching to the onboard sensor, the LED will be turned on. Otherwise, the LED will be turned off.

6. Resources

- [Grove-Hall Sensor Eagle File](#)

- [File: Hall Sensor Demo Code](#)

- [A1101 datasheet](#)

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