Grove - Encoder

Release date： 9/22/2015

Version： 1.0

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

Bazaar: http://www.seeedstudio.com/depot/Grove-Encoder-p-1352.html

Document Revision History

Revision	Date	Author	Description
1.0	Sep 21, 2015	Victor.He	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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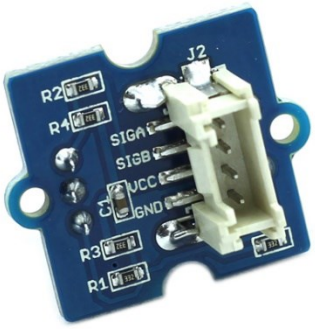
1. Introduction

This module is an incremental rotary encoder. It encodes the rotation signal from the axis and output the signal by electronic pulse. The Grove – Encoder is one of the Grove series and has a standard Grove interface.

When you need to add a rotary knob to your project, for example a volume knob for a speaker, a selection panel or a digital input, this will be your first choice.



2. Features

- Incremental encoder
- Grove Interface.
- 360 degree rotary

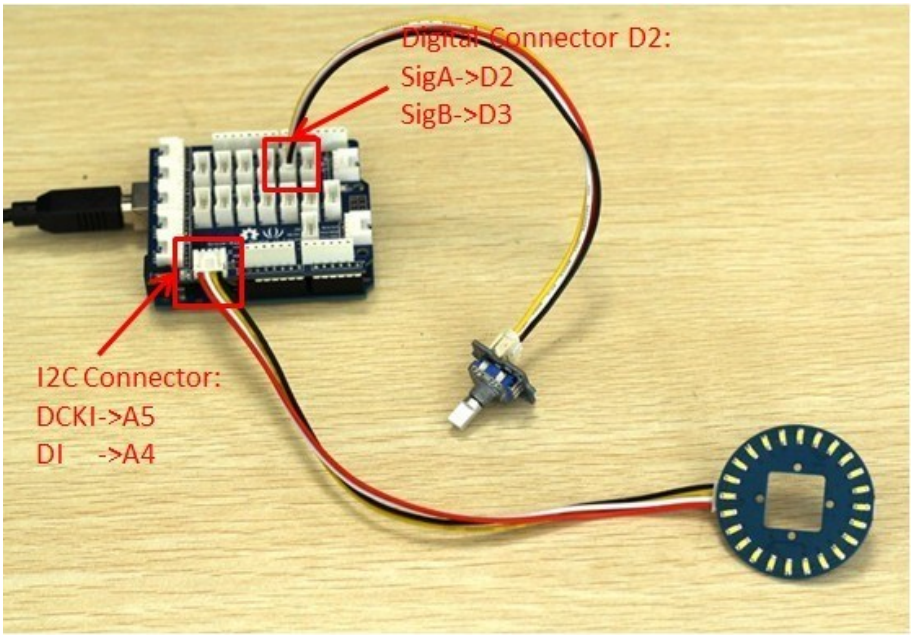
3. Specifications

Item	Min	Typical	Max	Unit
Voltage	4.5	5	5.5	VDC
Current	10	20	30	mA
Dimension	20x 20		mm	
Net Weight	12		Gram	

4. Usage

This Grove-Encoder is very easy to use with the Encoder Lib designed by seeedstudio. Simply connect this module to the D2 connector of Base Shield and you can start using. The following is a introduction of how to make a Circular LED bar (the idea came from seeedstudio wish) .

- This Circular LED bar consists of an Encoder and a Grove-CircularLED module. Connect the two modules to Base shield as the following picture:

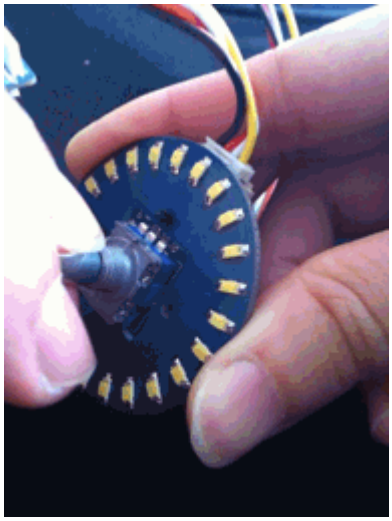


- In the project, the TimeOne Lib and Encoder Lib and CircularLED Library are needed. Download all the librarys and install them to your Arduino IDE.
- Restart the Arduino IDE and open the example by the path :File->Examples->Encoder->EncodeCircuiBar.

```
#include <CircularLED.h>
#include <Encoder.h>
#include <TimerOne.h>
CircularLED circularLED;
unsigned int LED[24];
int index_LED;
void setup()
{
    encoder.Timer_init();
}
```

```
void loop()
{
    if (encoder.rotate_flag ==1)
    {
        if (encoder.direct==1)
        {
            index_LED++;
            if (index_LED>23)
            index_LED=24;
            SenttocircularBar(index_LED);
        }
        else
        {
            index_LED--;
            if(index_LED<0)
            index_LED=0;
            SenttocircularBar(index_LED);
        }
        encoder.rotate_flag =0;
    }
}
void SenttocircularBar(int index)
{
    for (int i=0;i<24;i++)
    {
        if (i<index)
        {
            LED[i]=0xff;
        }
        else
        LED[i]=0;
    }
    circularLED.CircularLEDWrite(LED);
}
```

Upload it to your Arduino/Seeeduino, please refer to here to learn how to upload sketches. You can see:



Note: It is able to generate another signal when it’s being pressed down. However due to the limitation of the number of Grove signal cable, the module is made without output of this signal.

5. Resources

Encoder Spec

Demo in Arduino forum

TimeOne Lib

Encoder Lib

Grove-Encoder Eagle files

6. Support

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