Grove - Dry-Reed Relay User Manual

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Wiki: http://www.seeedstudio.com/wiki/Grove_-_Dry-Reed_Relay

Bazaar: http://www.seeedstudio.com/depot/Grove-DryReed-Relay-p-1412.html

Document Revision History

Revision	Date	Author	Description
1.0	Sep 22, 2015	Jiankai.li	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 Grove-Dry-Reed Relay is a relay module which works through magnetizing the vibration reed via the current in the coils. Compared to electromagnetic relays, the contacts completely sealed is the biggest feature of the Dry-Reed Relay. Besides, it features simplicity in construct, compactness, fast speed and long life, which make it widely applied in many fields such as microelectronic detection, Automatic Control etc.

2. Feature

- Grove Interface
- High Speed
- Good stability
- Long contact life
- Contact fully sealed

3. Specification

Item	Min	Typical	Max	Unit
Voltage	4.8	5.0	5.2	VDC
Coil Resistance	225	250	275	Ω
Pick-Up Voltage		3.75		VDC
Switching Current(Max)		0.5		A
Switching Voltage(Max)		120 VAC/60VDC		-
Carrying Current(Max)		1.0		A
Operate Time(Max)		1.0		mS
Release Time(Max)		0.5		mS
Mechanical Life(at no load)		1×108 operations		-
Ambient Temperature	-30	/	70	˚C

4. Usage

4.1 With Arduino

The Dry-Reed Relay can support up to 60VDC 1A load. You can use it to control resistance load, **but it is not applicable to inductive load(such as Motor)**.

the usage if this Dry-reed relay is quite alike that of common relays.

- Connect electric light to Grove - Dry-Reed Relay and power for electric light.
- Connect Grove - Dry-Reed Relay to port D2 of Grove - Base Shield and plug it into Arduino/Seeeduino.
- Upload the below code. Please click here if you do not know how to upload.

```
int Relay = 2;

// the setup routine runs once when you press reset:
void setup() {
  // initialize the digital pin as an output.
  pinMode(Relay, OUTPUT);
}


// the loop routine runs over and over again forever:
void loop() {
  digitalWrite(Relay, HIGH);   //the Relay close(HIGH is the voltage level)
  delay(5000);                 // wait for five seconds
  digitalWrite(Relay, LOW);    //the Relay normally open by making the voltage LOW
  delay(5000);                 // wait for five seconds
}
```

- The electric light will light up for seconds, then off for seconds, repeatedly. For the special applications, you may need to write the code by yourself.

4.2 With Raspberry Pi

1.You should have got a raspberry pi and a grovepi or grovepi+.

2.You should have completed configuring the development enviroment, otherwise follow here.

3.Connection.

- Plug the sensor to grovepi socket D4 by using a grove cable.

4.Navigate to the demos' directory:

```
cd yourpath/GrovePi/Software/Python/
```

- To see the code

```
nano grove_relay.py    # "Ctrl+x" to exit #
import time
import grovepi

# Connect the Grove Relay to digital port D4
# SIG,NC,VCC,GND
relay = 4

grovepi.pinMode(relay,"OUTPUT")

while True:
    try:
        # switch on for 5 seconds
        grovepi.digitalWrite(relay,1)
        print "on"
        time.sleep(5)

        # switch off for 5 seconds
        grovepi.digitalWrite(relay,0)
        print "off"
        time.sleep(5)

    except KeyboardInterrupt:
        grovepi.digitalWrite(relay,0)
        break
    except IOError:
        print "Error"
```

5.Run the demo.

```
sudo python grove_relay.py
```

5. Resource

- [Grove - Dry-Reed Relay Eagle File](#)

- [Dry-Reed Relay Datasheet](#)