



# Grove - Dry-Reed Relay User Manual

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Wiki: [http://www.seeedstudio.com/wiki/Grove - Dry-Reed Relay](http://www.seeedstudio.com/wiki/Grove_-_Dry-Reed_Relay)

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

## Document Revision History

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Revision	Date	Author	Description
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## 1. Introduction

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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

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

### 3. Specification

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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 × 10 <sup>8</sup> operations			-
Ambient Temperature	-30	/	70	°C

## 4. Usage

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### 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

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

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