

Relay Shield V3.0



The Relay Shield utilizes four high quality relays and provides NO/NC interfaces that control the load of high current. Which means it could be a nice solution for controlling devices that couldn't be directly controlled by Arduino's Digital I/Os. Standardized shield form factor enables smoothly connection with the Arduino. The shield also has four dynamic indicators show the on/off state of each relay.

Feature

- Arduino/Seeeduno compatible
- Standardized shape design
- Working status indicators for each relay
- High quality relays
- Provides NO/NC interfaces

Specification

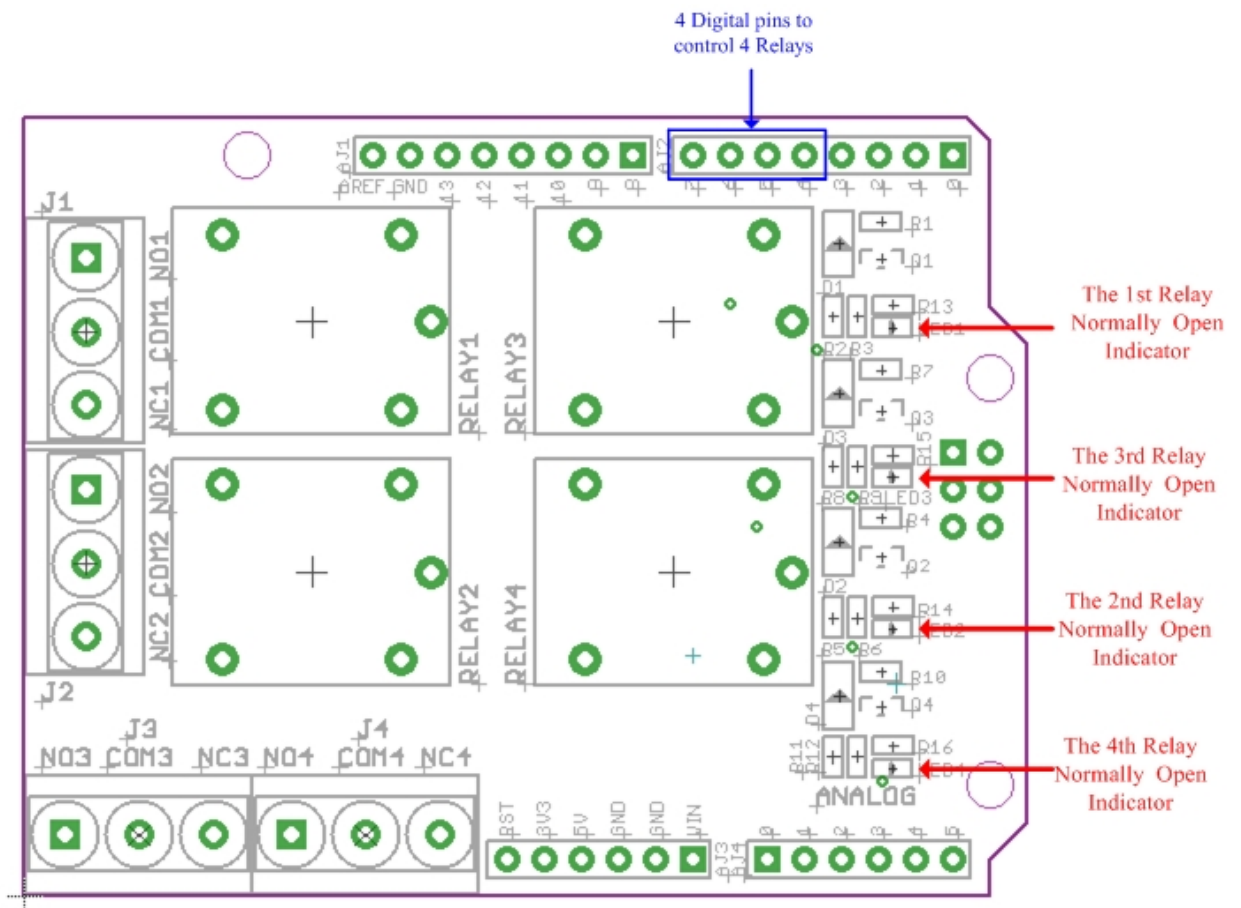
Item	Min	Typical	Max	Unit
Voltage	4.75	5	5.25	VDC
Current	8	/	250	mA
Switching Voltage	/	/	35	VDC
Switching Current	/	/	7	A
Frequency	/	1	/	HZ

Switching Power	/	/	70	W
Relay Life	100,000	/	/	Cycle
ESD contact discharge	±4			KV
ESD air discharge	±8			/
Dimension	68.7X53.5X30.8			mm
Net Weight	55±2			g

Cautions

Place 2 layers of electrical tape on the top of the [Arduino's](#) usb connector. This will prevent the relay shield from making contact. Do not operate voltage more than 35V DC.

Interface Function



J1 Interface:

COM1- Common pin

NC1- Normally Closed. Will be connected with COM1 when RELAY1 pin is set low and disconnected when RELAY1 is high;

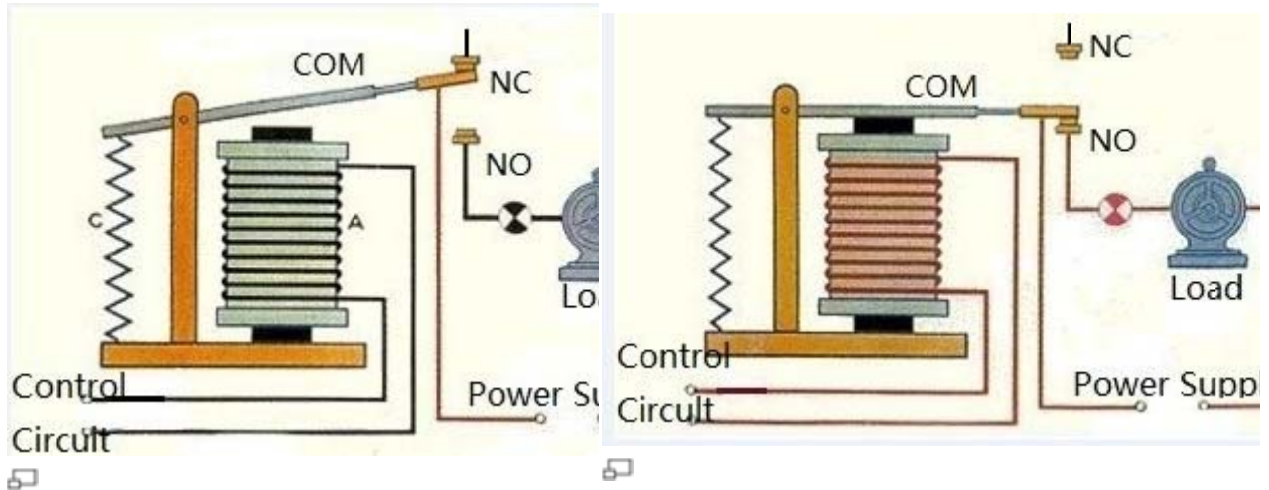
NO1- Normally Open. Will be connected with COM1 when RELAY 1 pin is set high and disconnected when RELAY1 is low;

J2-4 Interface are similar to J1 interface, except that the control ports are RELAY2-RELAY4.

4 Digital Pins to control 4 Relays: RELAY1-RELAY4 pins could be connected directly with Arduino pin number of 7-4, so that four relays could be easily controlled by the Arduino

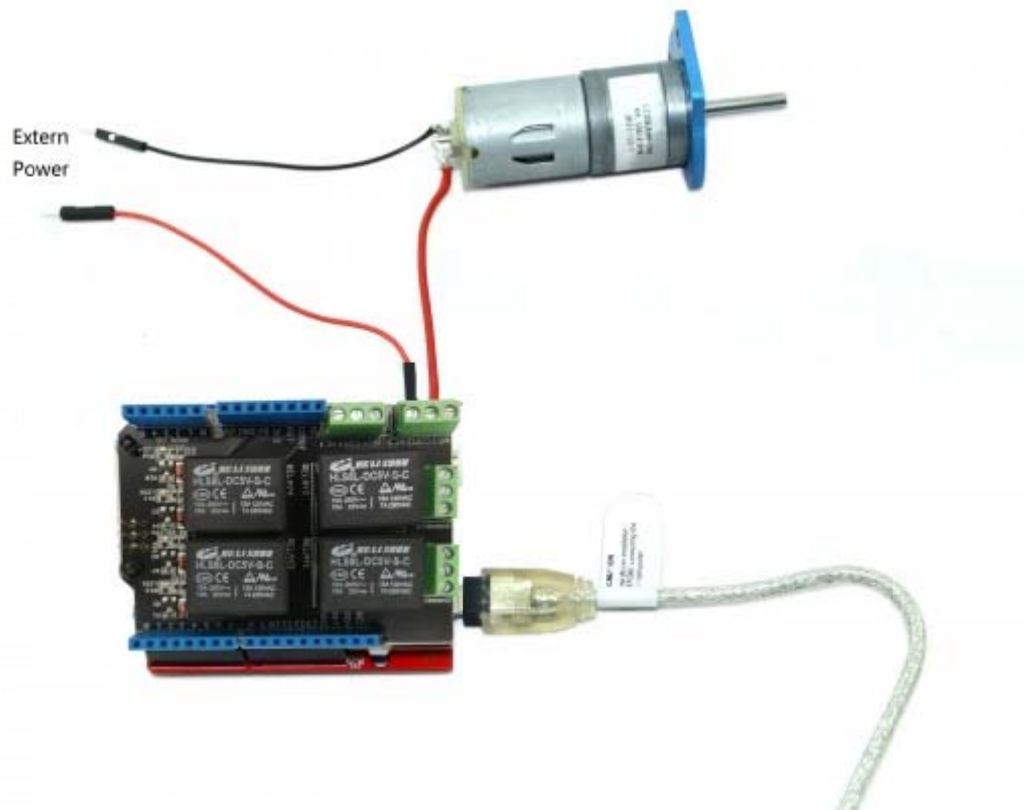
Usage

The relay have some practical application. For example: low-voltage control of high voltage; remote control; anti-hearing alarm, automatic temperature alarm; incubators and so on. Application schematic is shown below:



Here we will show you how to use the Relay Shield to control a DC motor.

1. Stack the Relay Shield onto Arduino. And connect Arduino to PC using a USB cable.
2. Connect the DC Motor and Relay Shield as shown below. Use Relay 3 to control the motor. Hardware installation as shown below.



Note : We use a lithium battery as the power supply for the motor. Users can select other power

sources as well. Of course, a power adapter will be essential when using high-current devices.
3. Restart the Arduino IDE. Copy the following code.

```
int MotorControl = 5;    // Arduino Pin to control the motor

// the setup routine runs once when you press reset:
void setup() {
  // declare pin 5 to be an output:
  pinMode(MotorControl, OUTPUT);
}

// the loop routine runs over and over again forever:
void loop() {
  digitalWrite(MotorControl,HIGH);// NO3 and COM3 Connected;
  delay(1000);
  digitalWrite(MotorControl,LOW);// NO3 and COM3 Disconnected;
  delay(1000);
}
```

When Digital 5 set high, NO3 will be connected with COM3. The motor will work and the 3rd Relay Normally Open Indicator will be lit. Otherwise, Digital 5 set low, NC3 will be connected with COM3. The motor will not work and the 3rd Relay Normally Open Indicator will be off.

Digital 7 --> COM1 , Digital 6 --> COM2 , Digital 5 --> COM3 , Digital 4 --> COM4.