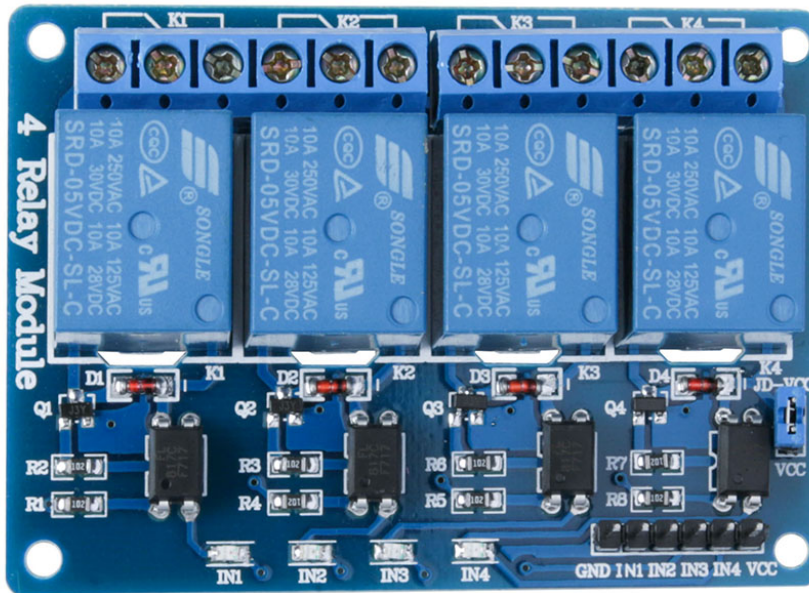


## 4 CHANNEL 5V 10A RELAY MODULE



### Description

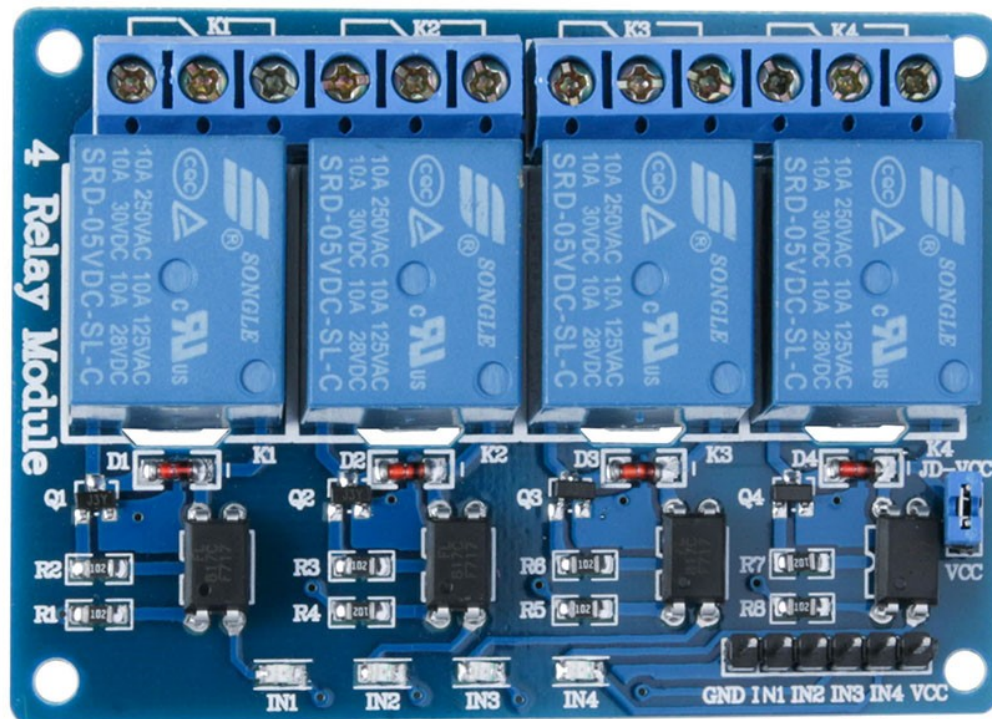
The relay module is an electrically operated switch that allows you to turn on or off a circuit using voltage and/or current much higher than a microcontroller could handle. There is no connection between the low voltage circuit operated by the microcontroller and the high power circuit. The relay protects each circuit from each other.

Each channel in the module has three connections named NC, COM, and NO. The input signal trigger mode is low level effective mode which 'closes' the normally open (NO) switch at low level input.

## Specifications

- On-board EL817 photoelectric coupler with photoelectric isolating anti-interference ability strong
- On-board 5V, 10A / 250VAC, 10A / 30VDC relays
- Relay long life can absorb 100000 times in a row
- Module can be directly and MCU I/O link, with the output signal indicator
- Module with diode current protection, short response time
- PCB Size: 72mm x 51.7mm

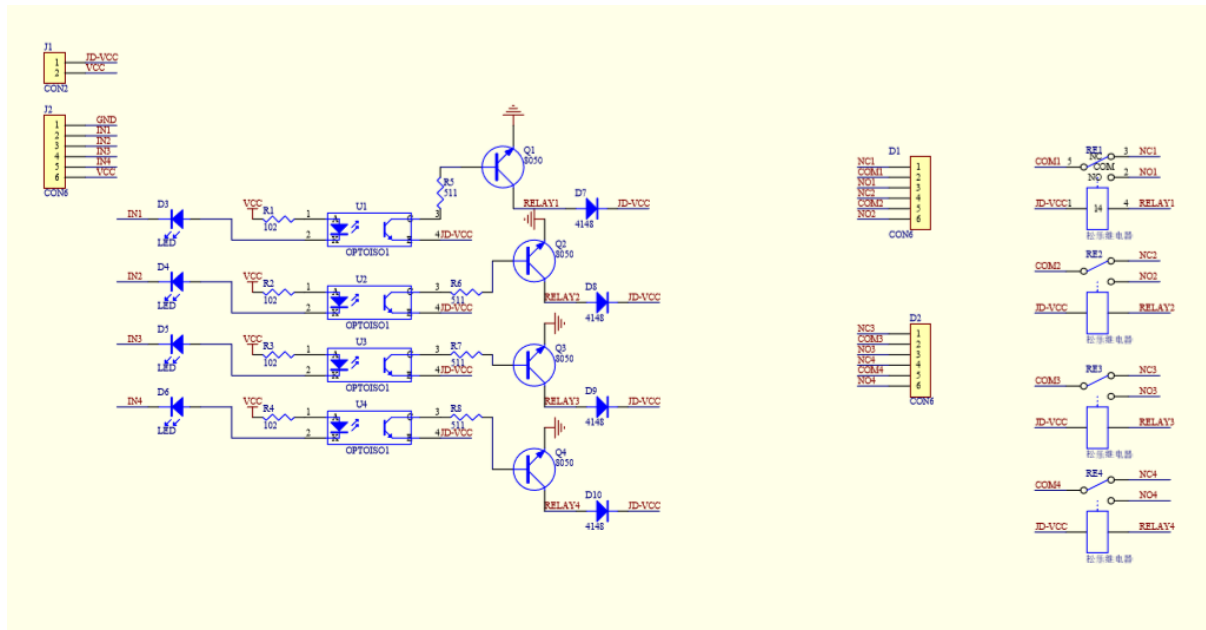
## Pin Configuration



GND: Ground  
 IN1: high/low input  
 IN2: high/low input  
 IN3: high/low input  
 IN4: high/low input  
 VCC: 5V DC



## Schematic Diagram



## Sample Sketch

```
void setup()
{
  pinMode(11,OUTPUT);
  pinMode(10,OUTPUT);
  pinMode(9,OUTPUT);
  pinMode(8,OUTPUT);
}

void loop()
{
  digitalWrite(11,LOW);
  delay(4000);
  digitalWrite(10, LOW);
  delay(4000);
  digitalWrite(9, LOW);
  delay(4000);
  digitalWrite(8, LOW);
  delay(4000);

  digitalWrite(11, HIGH);
  delay(4000);
  digitalWrite(10, HIGH);
  delay(4000);
```

```
digitalWrite(9, HIGH);  
delay(4000);  
digitalWrite(8, HIGH);  
delay(4000);  
}
```

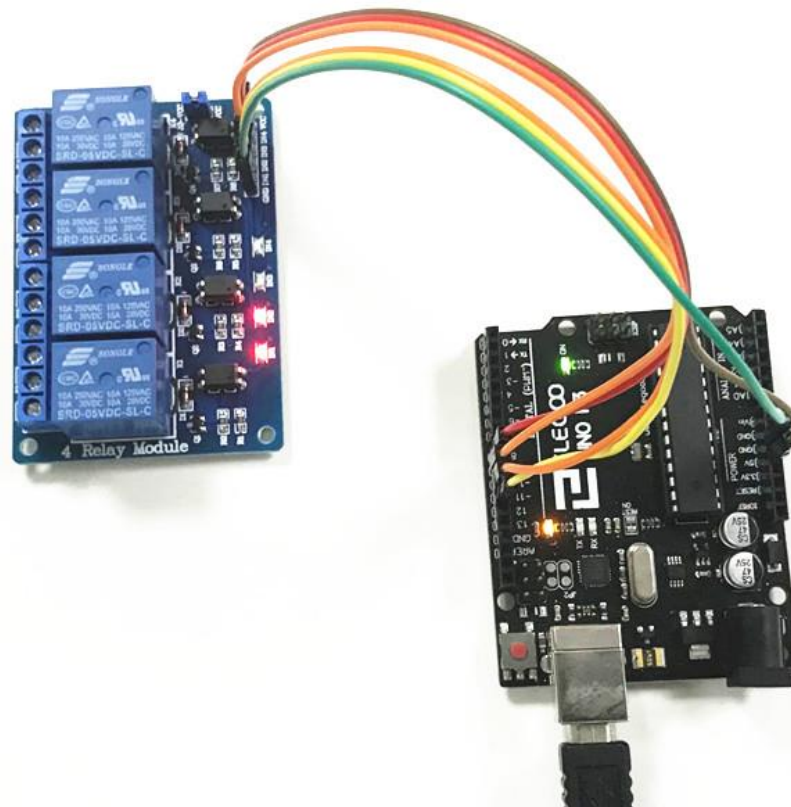
## How to Test

The components to be used are:

- Microcontroller (any compatible arduino)
  - 4 channel 5V 10A relay module
  - Pin connectors
  - USB cable
1. Connect the components based on the figure shown in the wiring diagram using pin connectors. VCC and DJ-VCC pin is connected to the 5V power supply, GND pin is connected to the GND, IN1 and IN2 and IN3 and IN4 pins are connected to the digital I/O pin. Pin number will be based on the actual program code.
  2. After hardware connection, insert the sample sketch into the Arduino IDE.
  3. Using a USB cable, connect the ports from the microcontroller to the computer.
  4. Upload the program.

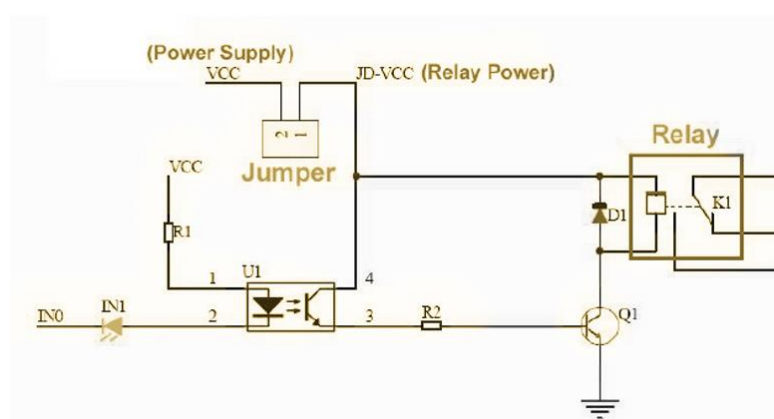
## Testing Results

The figures below shows an alternate switching of the two relays every 4 seconds. A tick sound and a red LED would be observed.



### What does the jumper cap do when it connects to DJ-VCC?

Serves to power the part of the relays with the same Vcc of the opto-isolated part. If you want to separate the power supplies, remove the jumper and connect the external power supply between JD-VCC and GND. You also need to connect the GND pin of the controller board to the GND pin of the relay module.





After removing the jumper cap, you need to power the jd-vcc separately as shown below:

