

## Relay Module

### DESCRIPTION:

A relay is an electrically operated device. It has a control system and (also called input circuit or input contactor) and controlled system (also called output circuit or output contactor). It is frequently used in automatic control circuit. To put it simply, it is an automatic switch to controlling a high-current circuit with a low-current signal.

The advantages of a relay lie in its lower inertia of the moving, stability, long-term reliability and small volume. It is widely adopted in devices of power protection, automation technology, sport, remote control, reconnaissance and communication, as well as in devices of electromechanics and power electronics. Generally speaking, a relay contains an induction part which can reflect input variable like current, voltage, power, resistance, frequency, temperature, pressure, speed and light etc. It also contains an actuator module (output) which can energize or de-energize the connection of controlled circuit. There is an intermediary part between input part and output part that is used to coupling and isolate input current, as well as actuate the output. When the rated value of input (voltage, current and temperature etc.) is above the critical value, the controlled output circuit of relay will be energized or de-energized.

NB: input into a relay can be divided into two categories: electrical quantities (including current, voltage, frequency, power etc.) and non- electrical quantities(including temperature, pressure, speed, etc.)



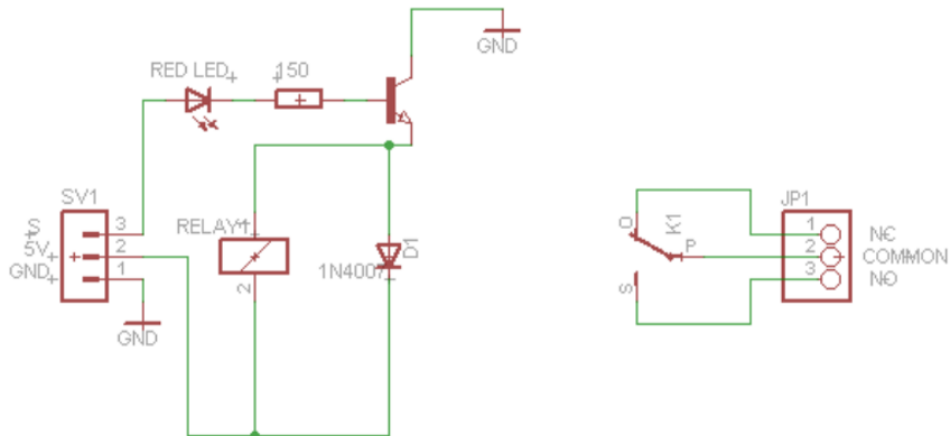
## specifications:

- Number of I/O Channels: 1
- Input Voltage: 5V DC
- Type: Digital
- Control signal: TTL level
- Max allowable output Voltage: 50V AC/75V DC
- Indication LED for Relay's Status

## PIN CONFIGURATION:

- 1、 “-” : GND
- 2、 Middle Pin : “+5V”
- 3、 “S” : Digital Signal
- 4、 NC : Normally closed
- 5、 NO : normally open
- 6、 Common : common

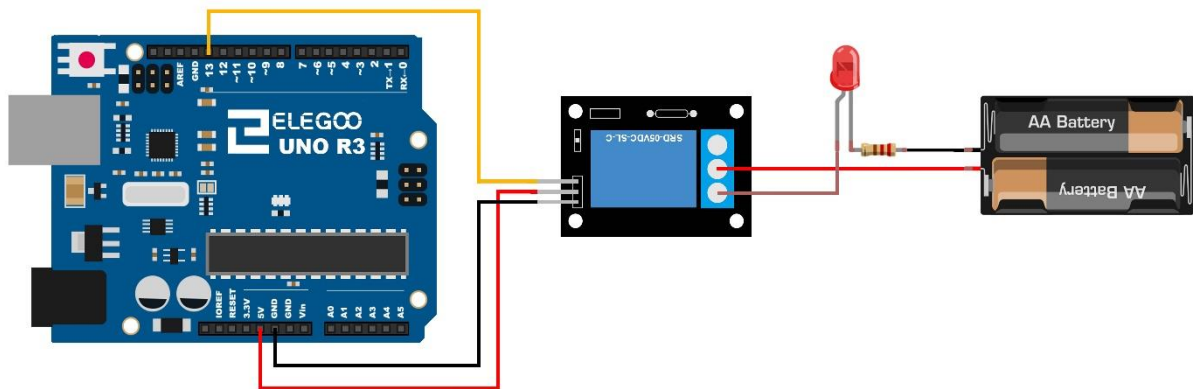
## Schematic:



## Example:

This example controls a LED(or other high power load) via the Relay module.

Physical connection as below:



## Code:

```
int relay = 13;
// the setup routine runs once when you press reset:
void setup() {
  pinMode(led, OUTPUT);
}
// the loop routine runs over and over again forever:
void loop() {
  digitalWrite(relay, HIGH);    // turn the relay on (HIGH is the voltage level)
  delay(1000); // wait for a second
  digitalWrite(led, LOW);      // turn the relay off by making the voltage LOW
  delay(1000); // wait for a second
}
```