

RELAY MODULE

(ARDUINO COMPATIBLE)
PRODUCT CODE: M00270054

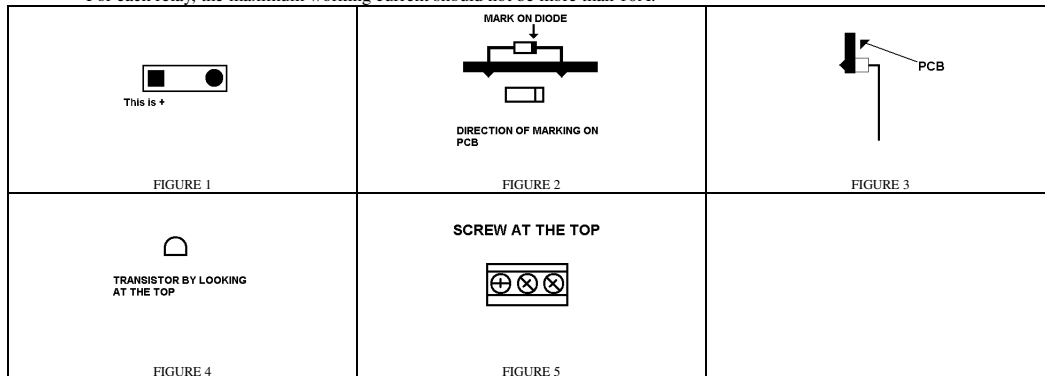
FEATURE:

- SPDT relay
- 3 pins, one for supply voltage, one for ground and one for signal.
- The trigger voltage of relay is 5V.
- The Signal for trigger can be other voltage such as 3V to 10V.
- Assembly is needed.
- Arduino Sketch example is shown.
- Requires 1 Arduino UNO (not included).



READ BEFORE INSTALLATION:

- Put the component on the side of screen printing and solder on the back of PCB without printing.
- On component, longer leg is "+".
- On PCB marking, square pad as Figure 1 is always "+".
- Do not connect this shield into the Arduino when downloading the Sketch.
- For each relay, the maximum working current should not be more than 10A.



DESCRIPTION:

The circuit design is based on the Arduino UNO. Of course, this can be used on any brand of Microcontroller or external circuit if the pin location is matched. If this is not matched, just route this yourself. From the circuit diagram of FIGURE 6, you can see the trigger voltage can be other voltage. When signal trigger the transistor, then transistor trigger the relay. The range of trigger voltage of transistor is very wide and not 5V at relay. When transistor is triggered, the voltage between the two terminals of relay would be around 5V and being triggered.

The function of D1 is let the current go ahead to flow even there is any disconnection of power. The result is that the two terminal of relay would not generate a high voltage when disconnection.

The Sketch has shown you the simple action between signal and relay. This is based on the pin connection on the table of Sketch.

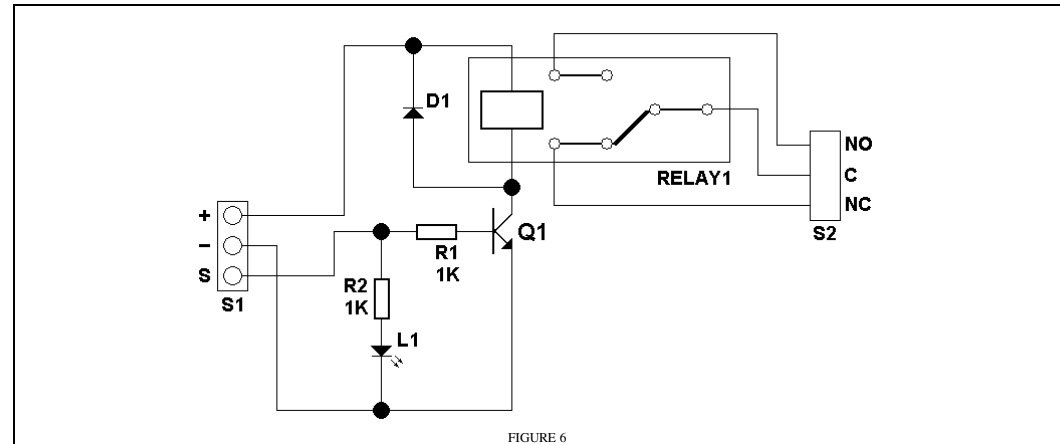
INSTALLATION:

Just install the component to the PCB M00260089 according to below table

ITEM	SYMBOL ON PCB	DESCRIPTION	OUTLOOK	DIRECTION IS IMPORTANT?
1	R1	RESISTOR, 1K ohms	BROWN, BLACK, RED	NO
2	R2	RESISTOR, 1K ohms	BROWN, BLACK, RED	NO
3	D1	DIODE, IN4001	FIGURE 2	FIGURE 2
4	L1	LED	RED	YES
5	RELAY1	RELAY	BIG RECTANGLE BOX WITH FIVE LEGS	YES
6	S1	BREAK AWAY MALE HEADERS	3 PINS	FIGURE 3
7	Q1	TRANSISTOR, NPN	FIGURE 4, MARK WITH 9014	YES
8	S2	RELAY1 OUTPUT	FIGURE 5	NOTE 1

NOTE 1. Metal terminal is facing outside the PCB.

CIRCUIT DIAGRAM:



SKETCH:

The Sketch use the below UNO pin connection as example.

PIN ON MODULE	PIN ON UNO BOARD
+	5V
-	G
S	PIN 4

/* This Sketch shown you how to run the relay. */

```
int S = 4;

void setup() {
  pinMode(S, OUTPUT);
}

void loop() {
  digitalWrite(S, HIGH); /* Short circuit for "C" and "NO" and open circuit for "C" and "NC". */
  delay(1000);
  digitalWrite(S, LOW); /* Short circuit for "C" and "NC" and open circuit for "C" and "NO". */
  delay(1000);
}
```