

4 Channel 12V Relay Module

1. Introduction

This is a 4-Channel Relay interface board that allows you to control various appliances, and other equipment's with large current. It can be controlled directly by Micro-controller (Arduino, Raspberry Pi, 8051, AVR, PIC, DSP, ARM, ARM, MSP430, TTL logic).

Specifications:

- 4-Channel Relay interface board, and each one needs 15-20mA Driver Current
- Controlled by 12V input Voltage
- Equipped with high-current relay, AC250V 10A ; DC30V 10A
- Standard interface that can be controlled directly by microcontroller (Arduino , 8051, AVR, PIC, DSP, ARM, ARM, MSP430, TTL logic active low)
- Opto-isolated inputs
- Indication LED's for Relay output status.

2. Pin-out Instruction

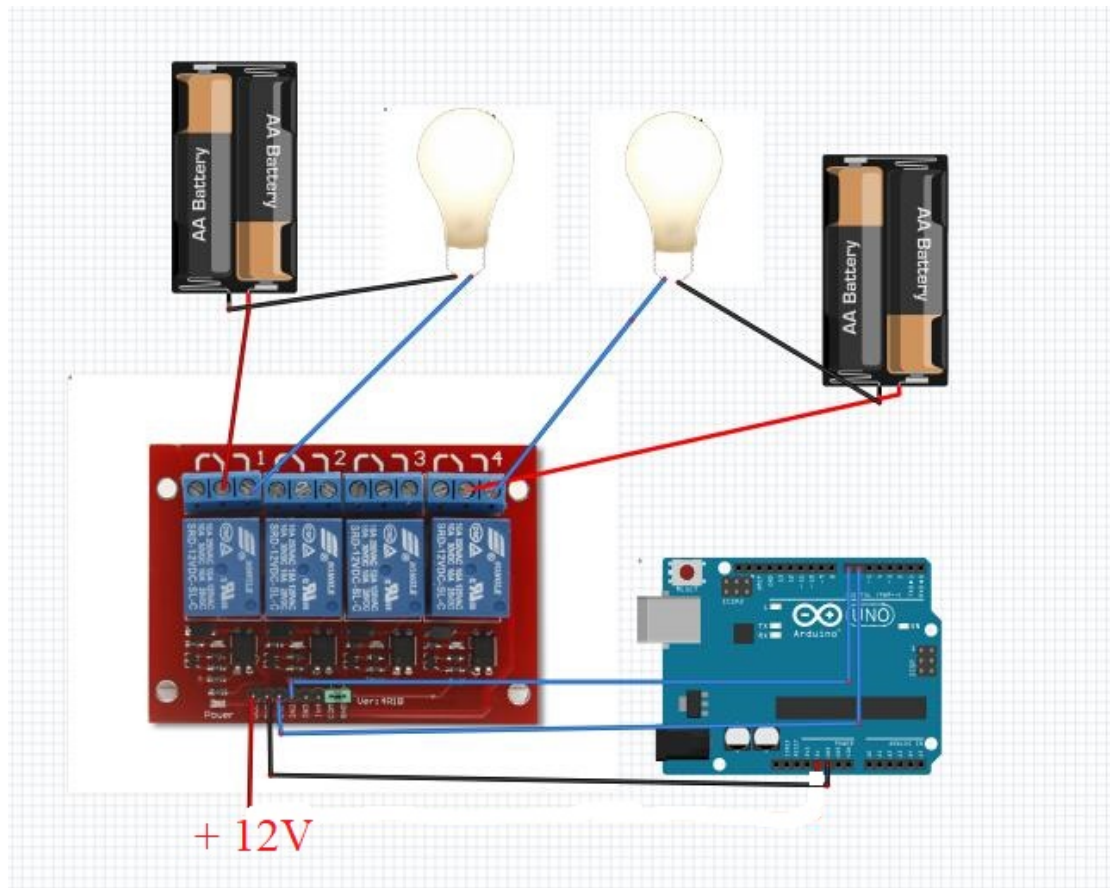
Pin Name	Description
"Vcc"	Power(5V DC)
"GND"	Gnd
"in1"	Singal pin, connected with Arduino and control Relay 1
"in2"	Singal pin, connected with Arduino and control Relay 2
"in3"	Singal pin, connected with Arduino and control Relay 3
"in4"	Singal pin, connected with Arduino and control Relay 4
"COM"	Common pin, which usually directly connect with the" Gnd" unless you want to change the TTL mode(default the HIGH level activate)
"NO"	Normally Open Connection
"NC"	Normally Closed Connection
"C"(middle pin)	Common Connection, Which connected with the power for the load.

Note: the last pin "COM" "NC" "C" are not indicated on the Board, Because there are no enough place for these. But we indicates the by a simple graphic for each Relay terminal or this can be determined by measuring the resistance between nodes(COM and NC/NO).

3. Example

This example controls two Lights via No.1 Relay and No.4 Relay.

Physical connection as below:



The example code as below:

```
*****Code begin*****
```

```
#define RELAY1 6
```

```
#define RELAY4 7
```

```
void setup()
```

```
{
```

```
// Initialise the Arduino data pins for OUTPUT
```

```
pinMode(RELAY1, OUTPUT);
```

```
pinMode(RELAY4, OUTPUT);
```

```
}
```

```
void loop()
```

```
{
```

```
digitalWrite(RELAY1,LOW); // Turns ON Relays 1
```

```
delay(2000); // Wait 2 seconds
```

```
digitalWrite(RELAY1,HIGH); // Turns RelayOff
```

```
digitalWrite(RELAY4,LOW);           // Turns ON Relays 4
delay(2000);                         // Wait 2 seconds
digitalWrite(RELAY4,HIGH);          // Turns Relay Off
}
*****Code End*****
```