

## Low Profile 2 Channel Solid State Relay for AC Loads

This project offers an extremely compact solution for interfacing 2 high voltage resistive or inductive loads. At a low profile, this is the most compact & versatile optically isolated 2 channel solid state relay system. The circuit consists of 2x Triacs and isolated Triac drivers. The circuit is compatible with TTL input signals and controls 90V-220V AC loads. Sscrew terminal connectors are provided for an easy connection of the AC loads and AC supply input. Interfacing an Arduino/Micro-controller or other circuit is easy using the 4 Pin header connector. A snubber circuit across Triacs is formed using R2, R6, C1, and C2 and is optional for inductive loads. For resistive loads do not populate the snubber circuit. Resistors R3, R4 are for current limiting for internal LED of the isolator. Use jumper J1 for common cathode, otherwise, 2x anode and cathode can be used. Each channel can drive a load up to 100W (220V AC). This circuit can on/off load like Solenoid, AC motor, Fan, Lamp.

## What is Solid State Relay??

A solid-state relay (SSR) is an electronic switching device that switches on or off when an external AC or DC voltage is applied across its control terminals. It serves the same function as an electromechanical relay, but has no moving parts and therefore results in a longer operational lifetime.

Arduino: Arduino example code available as a download to test the board. Connect A1, A2 (Anode) to Arduino D8, D9, and C1, C2 (Cathode) GND.

## Features

- AC Supply 90V to 220V AC
- Load 100W X 2
- Trigger Signal TTL Compatible (3-5V) (Anode and Cathode)
- PCB Dimensions 51.12 x 46.67mm











CAPACITOR (C1, C2) VJ2220Y103KXUSTX2, RESISTOR (R2, R6) CRCW251239R0JNEG



0 7 0 0 5





ВОМ						
SR.	QNTY.	REF.	DESC	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	3	CN1, CN2, CN4	2 PIN SCREW TERMINAL 5.08 MM PITCH	PHOENIX	DIGIKEY	277-1247-ND
2	1	CN3	4 PIN MALE HEADER 2.54MM PITCH	AMPHENOL	DIGIKEY	69190-104HLF
3	1	C1	0.01uF/250V X 2 AC	VISHAY	DIGIKEY	720-1586-1-ND
4	1	J1	JUMPER	PCB JUMPER		
5	2	Q1,Q2	MAC4DHM	LITTILE FUSE INC	DIGIKEY	MAC4DHMT4GOSCT-ND
6	2	R1,R5	360E 5% SMD SIZE 1206	MURATA/YAGEO	DIGIKEY	
7	2	R2,R6	39E 5% SMD SIZE 2512	VISHAY	DIGIKEY	541-39XCT-ND
8	2	R3,R7	470E 5% SMD SIZE 1206	MURATA/YAGEO	DIGIKEY	
9	2	R4,R8	330E 5% SMD SIZE 1206	MURATA/YAGEO	DIGIKEY	
10	2	U1,U2	FOD410	ON SEMI	DIGIKEY	FOD410-ND













