

EVILUSIONS

Programmable Relay Board – 2 Channel



Here is a board that allows you to program the on and off operation of two 10-amp rated on-board relays. The relays can be programmed to operate completely independent of each other and the program can last up to 4 minutes in length. The program, once entered, can be started by pressing a Play switch or connecting to a dry contact switch closure for remote triggering. Also, you can place the board in Loop Mode that will cause the program to repeat continuously.

Details:

As mentioned above, this board allows you to program the on and off operation of two 10-amp rated on-board relays. The relays can be programmed to operate completely independent of each other and programs can last up to 4 minutes in length. Other features include:

- A Loop feature that replays the program over and over
- Loop mode.
- Indicator lights showing which relay is being programmed.
- Relay actuates while program is being entered.
- Relays have indicator LEDs that show when relay is actuated.
- Ability to remotely trigger program
- Relays have normally open and normally closed contacts.
- Program remains in memory even with power removed.

Operation:

There are 4 pushbuttons on the board that allow the programming and playback of the 2 relays (see diagram below). From left to right, they are Channel 1 Start / Stop Record, Channel 2 Start / Stop Record, Key, and Playback. To program the first relay, momentarily press the Channel 1 Record / Stop pushbutton. You will see a yellow LED light for that relay indicating that the program is being recorded. Press the Key pushbutton to actuate the relay. The relay on/off cycles that you program can be of any number and length up to the 4 minute program time. When pressing the Key pushbutton, you will see the red LED associated with the relay light up when the relay is actuated as well as hear the relay click. When you are done recording that channel, press the programming pushbutton for that relay again and the yellow LED for that relay will go out. If you exceed the 4 minute time period, the board will automatically terminate the program and turn off the yellow LED. To program the second relay, press the Channel 2 Start / Stop Record pushbutton. The second yellow LED will light indicating that the program is being recorded. This will also start the replay of the program sequence that was recorded for the first relay. This allows you to synchronize the second relay program to the first relay program. When done programming the second relay, press the second programming button again and the 2nd

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yellow LED will go out indicating that the storage of the program has stopped. If the length of the second program is shorter than the length of the first program, then the first relay program will continue to play until it finishes. Once both programs have been stored, you can play everything back by pressing the Play pushbutton – a green Play LED will light while the program is playing. Alternatively, you can hook a dry contact closure to the terminal block located next to the Play pushbutton and every time it is activated, the board will play back the program. If you want to continuously loop the stored program, short the Loop Jumper. In this mode, it will continually replay the program over and over until the Loop Jumper is removed or the power is turned off.

You can re-record a program on either channel by simply repeating the programming process for that channel – it will overwrite whatever was previously recorded on that channel. To completely erase a program for a channel, just press the programming pushbutton for that channel, let it record for a second or two (without pressing the Key pushbutton). Press the program button again to stop programming and the channel is now empty. Essentially, what you have done is record a 1-2 second program of nothing. This has no effect on the programs stored in the other channel.

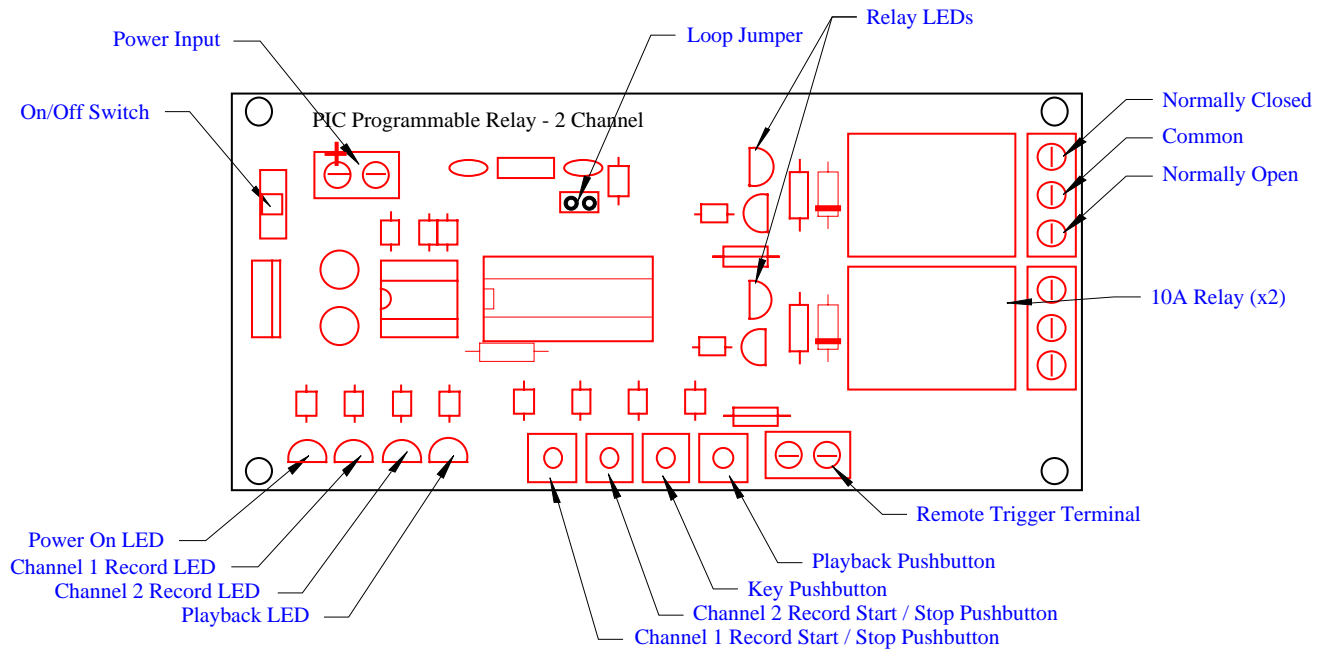
The board has a voltage regulator that allows you to power it with DC voltages of between 7.5 V and 24V.

Here is an example of how this can be used. Channel one is programmed to actuate a pneumatic cylinder which raises a ghoulish head. Once the head is up, channel two can flash a light several times or actuate another device like an air cannon or you can use it to trigger our Digital Sound Recorder Board that will play back a loud monster's scream on a nearby speaker. If the ghoulish head is equipped with a servo to operate the mouth, attach our Sound to Servo Board to the Digital Sound Recorder Board and to the servo in the mouth and you now have quite a scary display – all from one trigger event!

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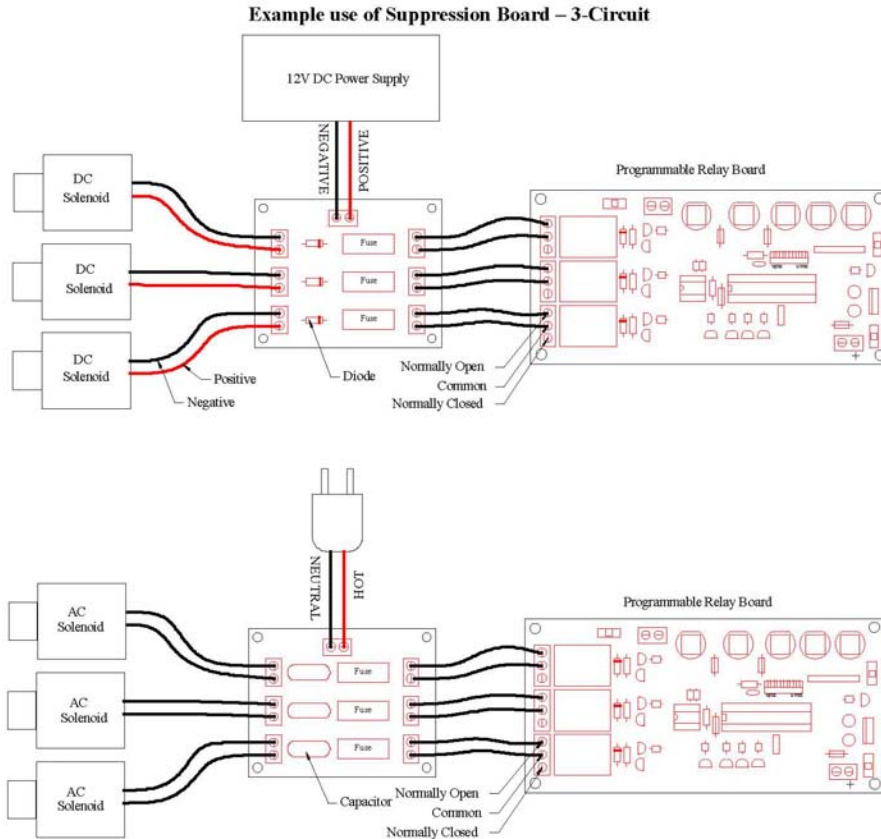
Board Layout:

Below is a diagram showing component placement.



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Anytime you use a relay to control a solenoid valve, you need to suppress the kick back voltage to protect your relay board. We recommend using one of our suppression boards as shown in the diagram below.



Specifications:

- Input Power: 7.5 – 24 VDC
- Current Draw: 330 mA (while not powering any other devices)
- Board Dimensions: 2.1 x 4.5 inches

Disclaimer:

In no circumstances should these circuit boards be used in critical situations where failure could mean injury, death or property damage.

Please check out our other circuit board designs at www.evilusions.com

For more information, e-mail Brian at:

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