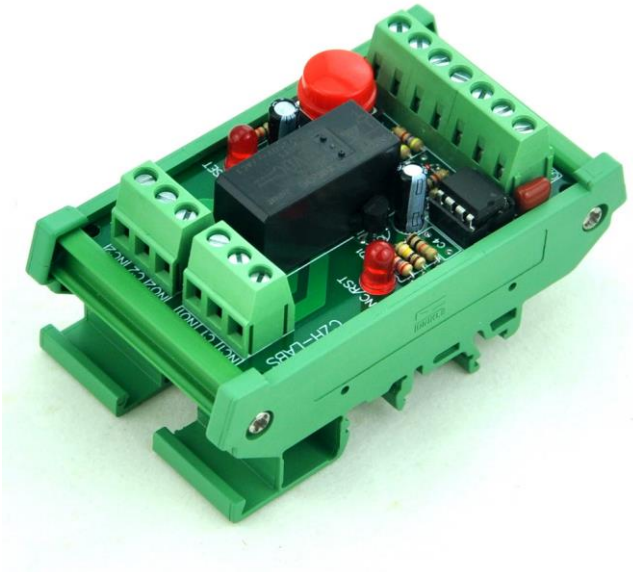
CZH-LABS
Electronics-Salon

Model: D-1022 series

Momentary-Switch / Pulse-Signal Control Latching Relay Module

Version List:

Version	Size W x L x H (mm)	Mount type	Operating voltage		Operating current	Relay	Output switch	
			Min.	Max.			Switch type	Max. Amp / Volt
MD-D1022A/5V	47.4 x 72.5 x 18	Panel mount	4V DC	5.5V DC	90mA, at 5VDC	G5LA-14 5V	SPDT	10A, 250VAC / 24VDC
MD-D1022A/12V			9.5V DC	19V DC	50mA, at 12VDC	JQC-3FF 12V		
MD-D1022A/24V			19V DC	30V DC	30mA, at 24VDC	G5LA-14 24V		
MD-D1022AT/5V	50 x 87 x 42	DIN rail mount	4V DC	5.5V DC	90mA, at 5VDC	G5LA-14 5V		
MD-D1022AT/12V			9.5V DC	19V DC	50mA, at 12VDC	JQC-3FF 12V		
MD-D1022AT/24V			19V DC	30V DC	30mA, at 24VDC	G5LA-14 24V		
MD-D1022B/5V	47.4 x 72.5 x 18	Panel mount	4V DC	5.5V DC	90mA, at 5VDC	RT424005	DPDT	8A, 250VAC / 30VDC
MD-D1022B/12V			9V DC	15.6V DC	50mA, at 12VDC	G2RL 12V		
MD-D1022B/24V			17V DC	30V DC	30mA, at 24VDC	G2RL 24V		
MD-D1022BT/5V	50 x 87 x 42	DIN rail mount	4V DC	5.5V DC	90mA, at 5VDC	RT424005		
MD-D1022BT/12V			9V DC	15.6V DC	50mA, at 12VDC	G2RL 12V		
MD-D1022BT/24V			17V DC	30V DC	30mA, at 24VDC	G2RL 24V		



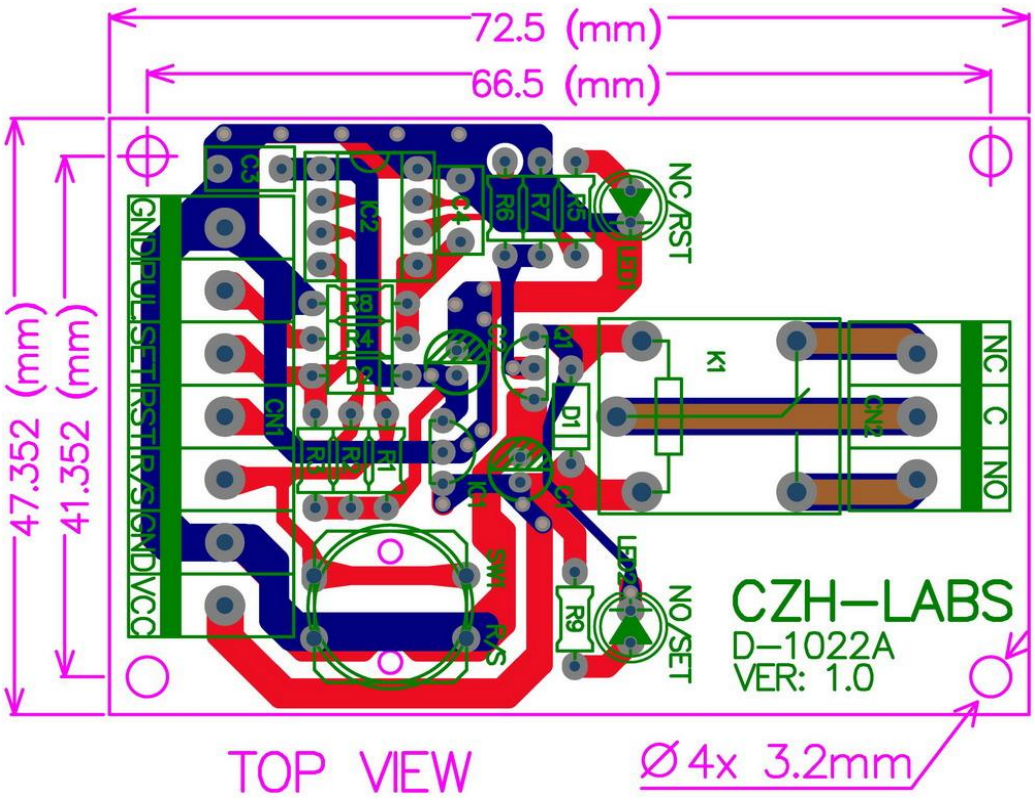
Features：

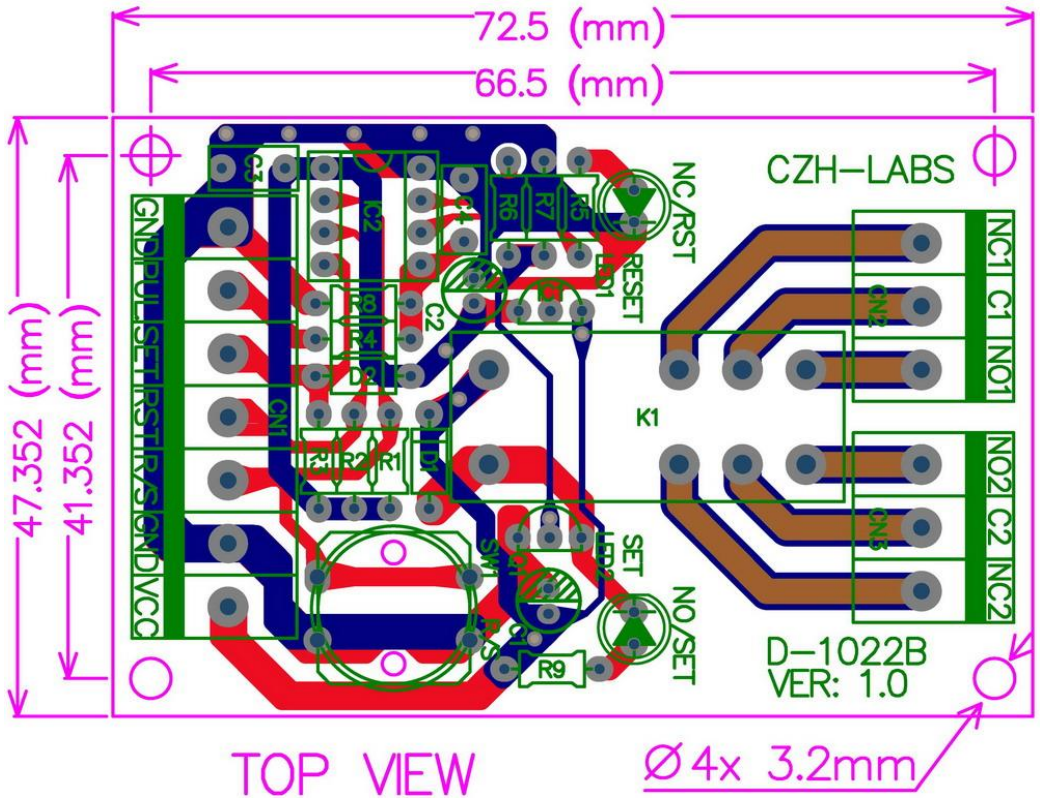
- **Support on board momentary switch, single external momentary switch, double external momentary switches and pulse signal, four control modes.**
- **LED indication for relay set and reset action.**
- **Hongfa, Omron or Tyco SPDT / DPDT power relay.**
- **Power off relay state memory, when the power on again, relay switch will revert to its previous state.**
- **The control program based on Microchip MCU PIC12F675, this is a flash microcontroller, if you are familiar PIC firmware, you can redesign the program.**
- **Panel mount or DIN rail mount types to choose. DIN rail mount version can support width 35 / 32 / 15mm rails.**

Electrical Parameters:

- **Operating voltage / current: See version list.**
- **Relay switch capacity: See version list.**
- **Pulse mode signal level: High 3~5V, Low 0V.**
  Pulse signal must hold time: High level 1mS minimum, Low level 1000mS minimum.
  Pulse rising is valid.

PCB Mount Dimensions and Terminal Block Connect:





Terminal block VCC connect power supply.

Terminal block GND connect power supply ground(neutral, 0V) and input signal ground.

Terminal block PUL : Pulse mode signal input.

Terminal block R/S : Connect switch for single external momentary switch mode.

Terminal block RST : Connect reset switch for double external momentary switch mode.

Terminal block SET : Connect set switch for double external momentary switch mode.

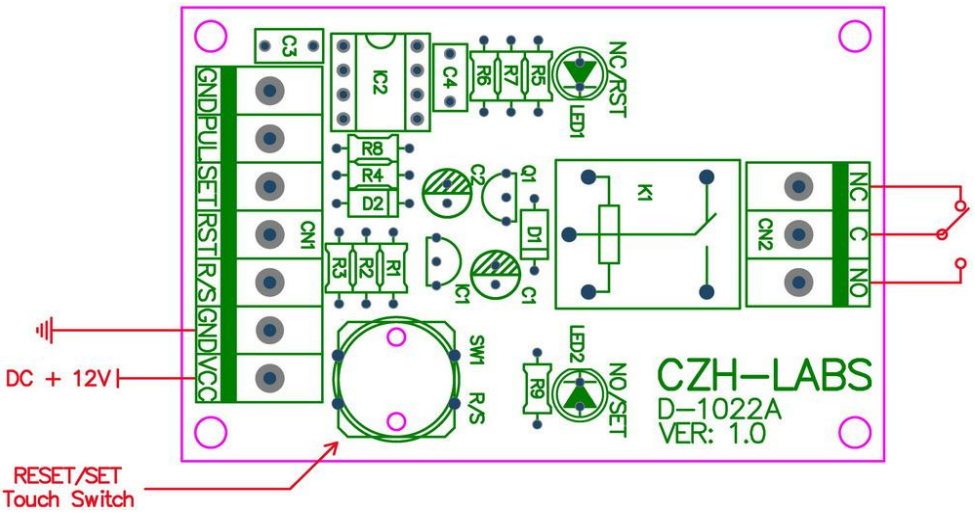
Four Working Control Mode (Suitable SPDT and DPDT versions):

Note 1: When the relay at reset state, set LED off and rst LED on, relay switch C to NC connected and C to NO disconnected. when the relay at set state, set LED on and rst LED off, relay switch C to NC disconnected and C to NO connected.

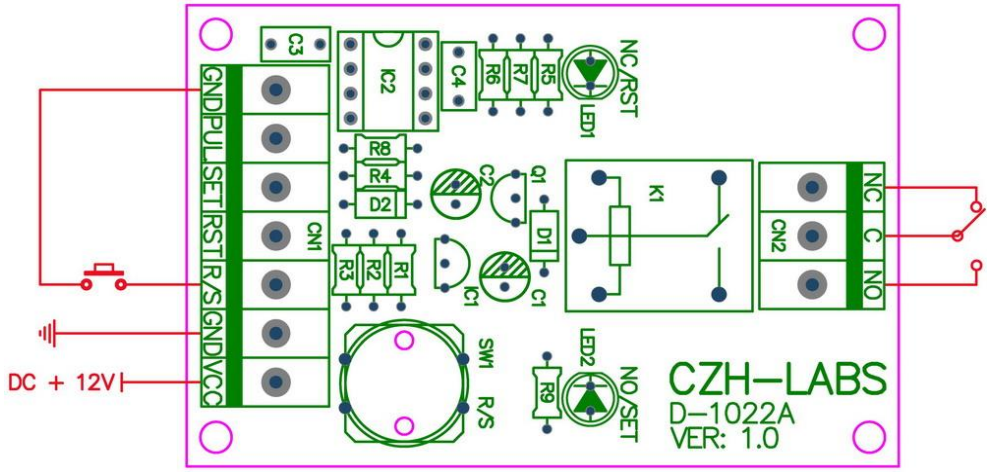
Note 2: The module with power off relay state memory function, when the power on again, relay switch will revert to its previous state. but the VCC power supply off during, output switch in reset state.

1. On Board Momentary Switch Control Mode:

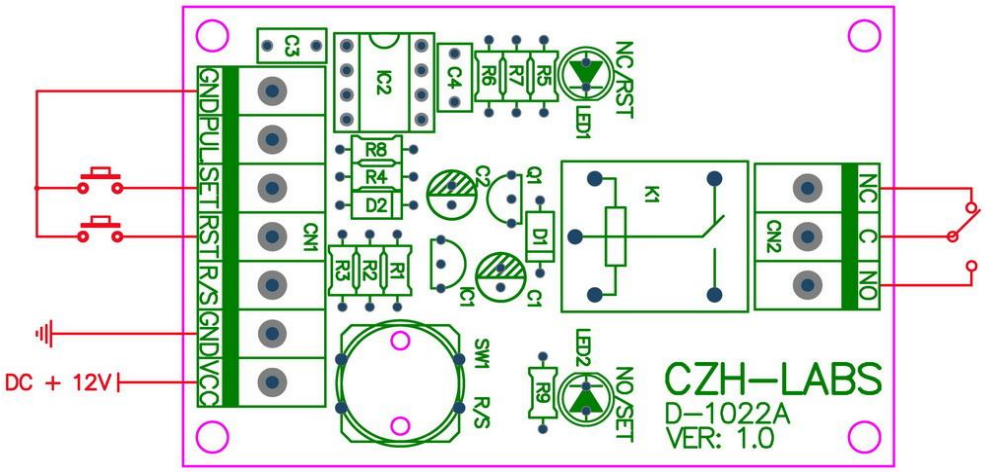
Click the on board red switch, relay state SET / RESET change.



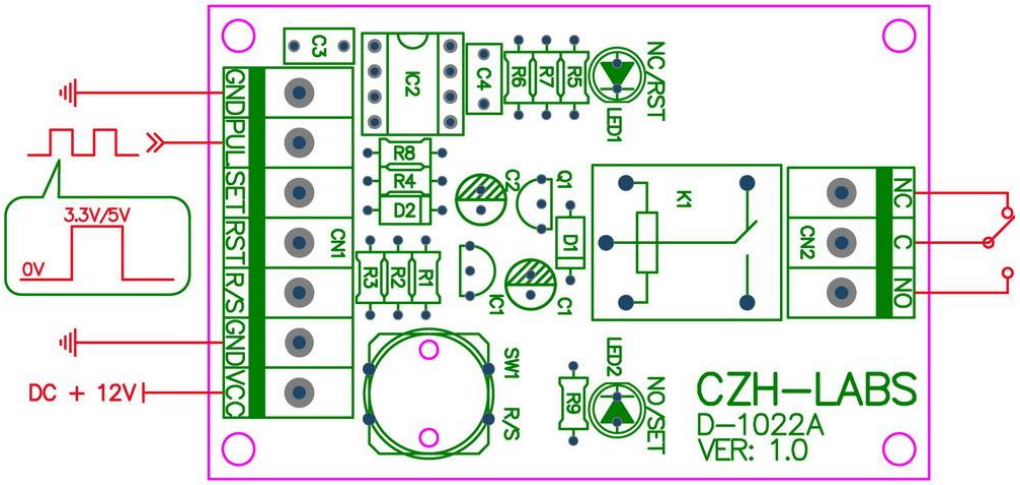
2. **Single External Momentary Switch Control Mode:**
   Click the external switch, relay state SET / RESET change.
   In the mode, on board red switch still usable.



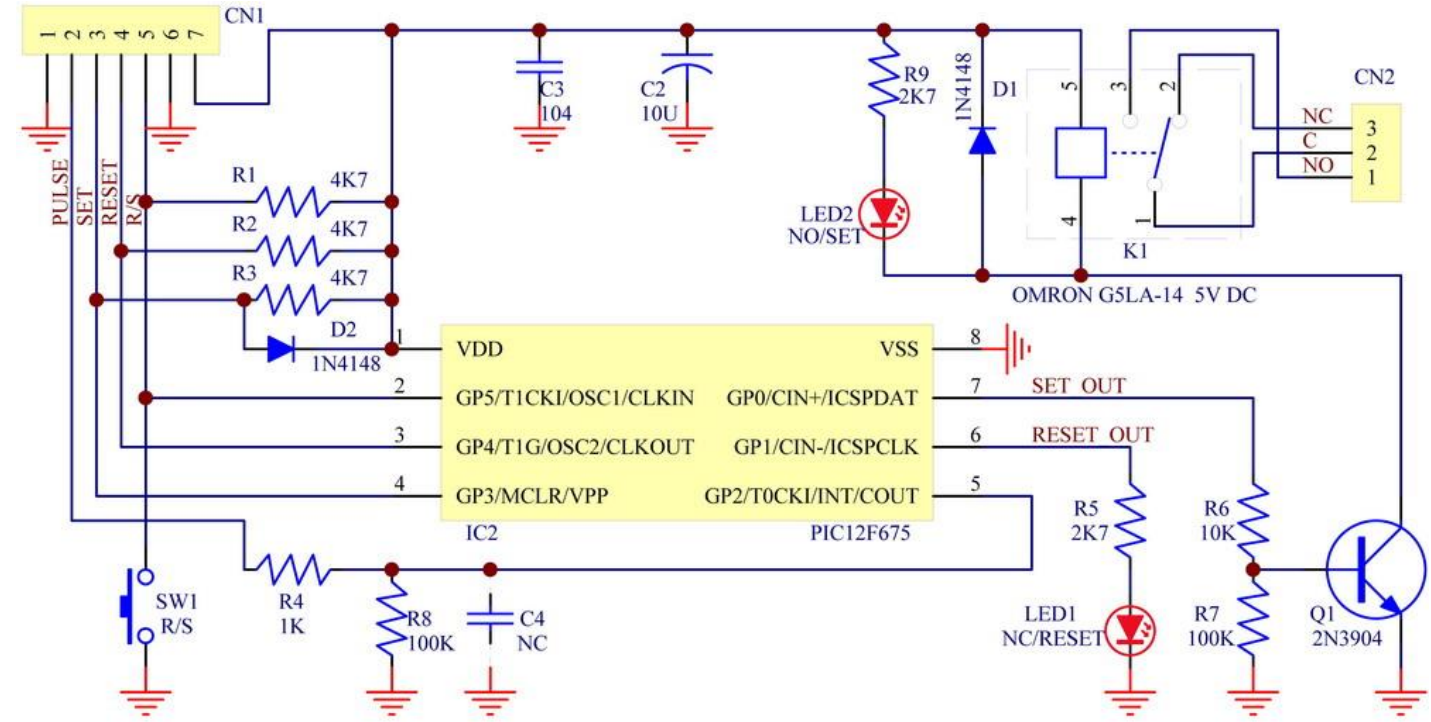
3. **Double External Momentary Switch Control Mode:**
   Click the external RST switch, relay change to (or holding) reset state.
   Click the external SET switch, relay change to (or holding) set state.
   In the mode, on board red switch still usable.

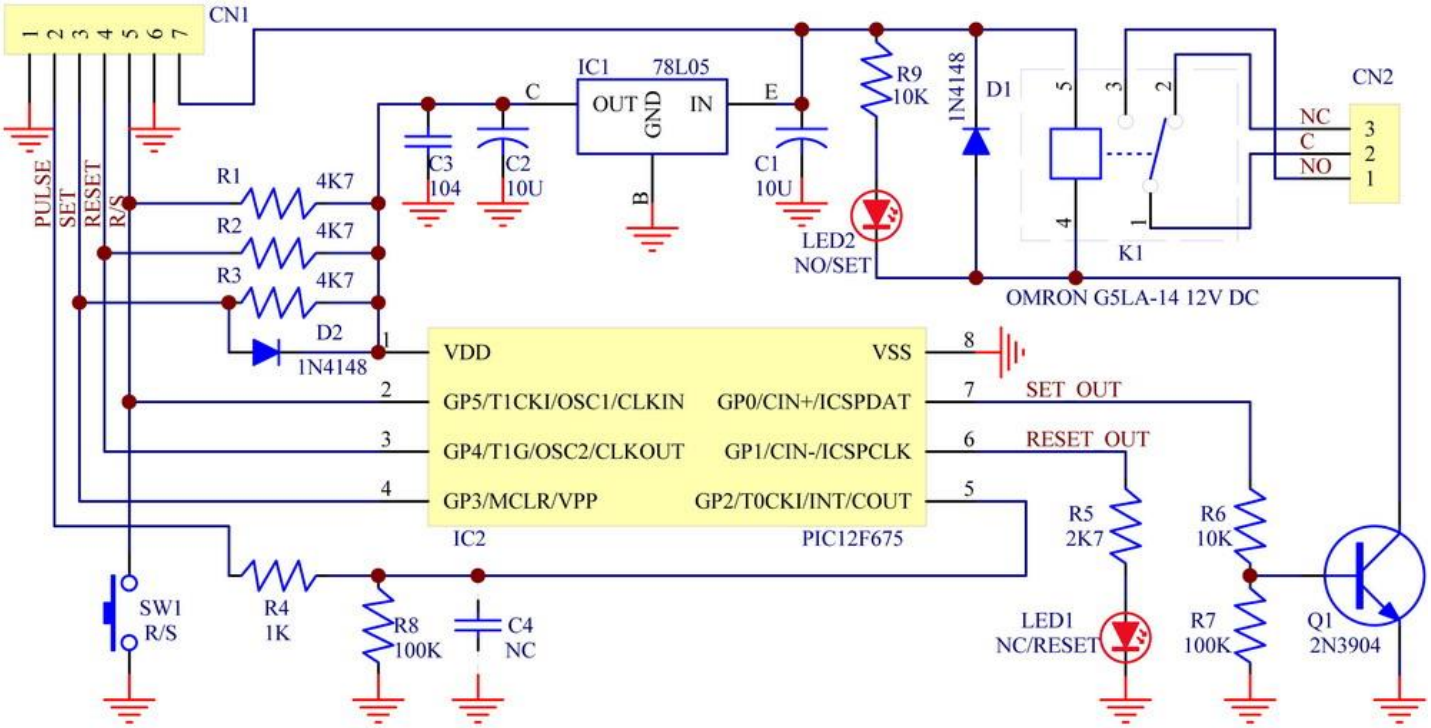


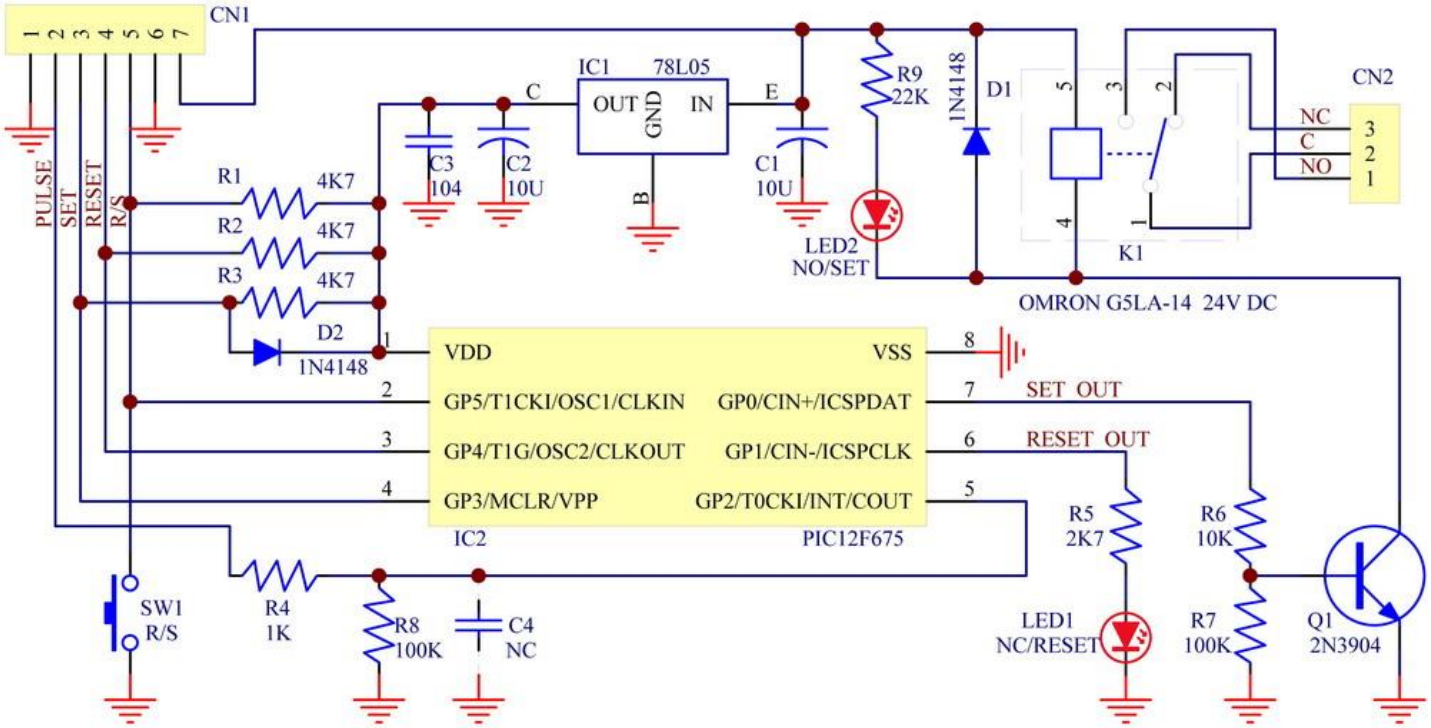
4. **Pulse Signal Input Control Mode:**
   Pulse rising is valid, relay state SET / RESET change. but signal frequency cannot > 1Hz.
   In the mode, on board red switch still usable.



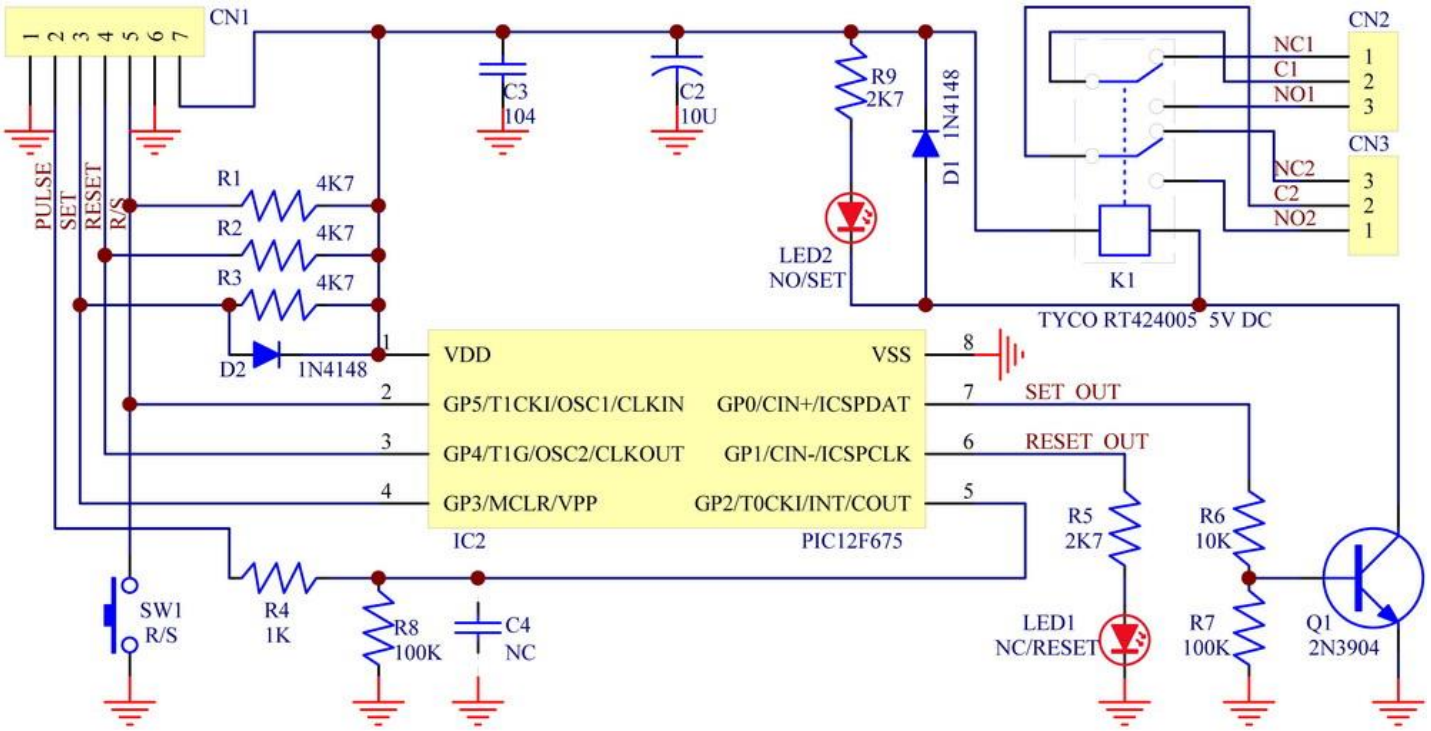
D-1022A 5V / 12V / 24V version Schematic:

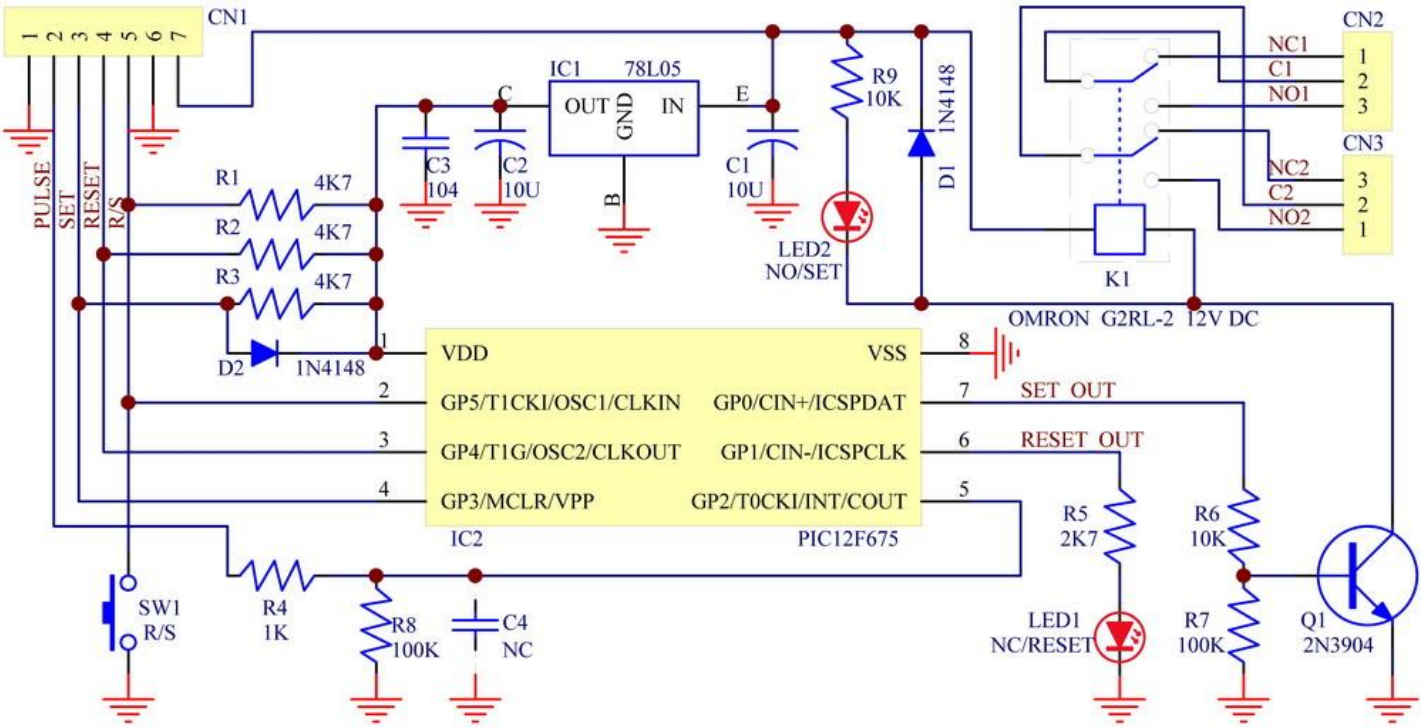


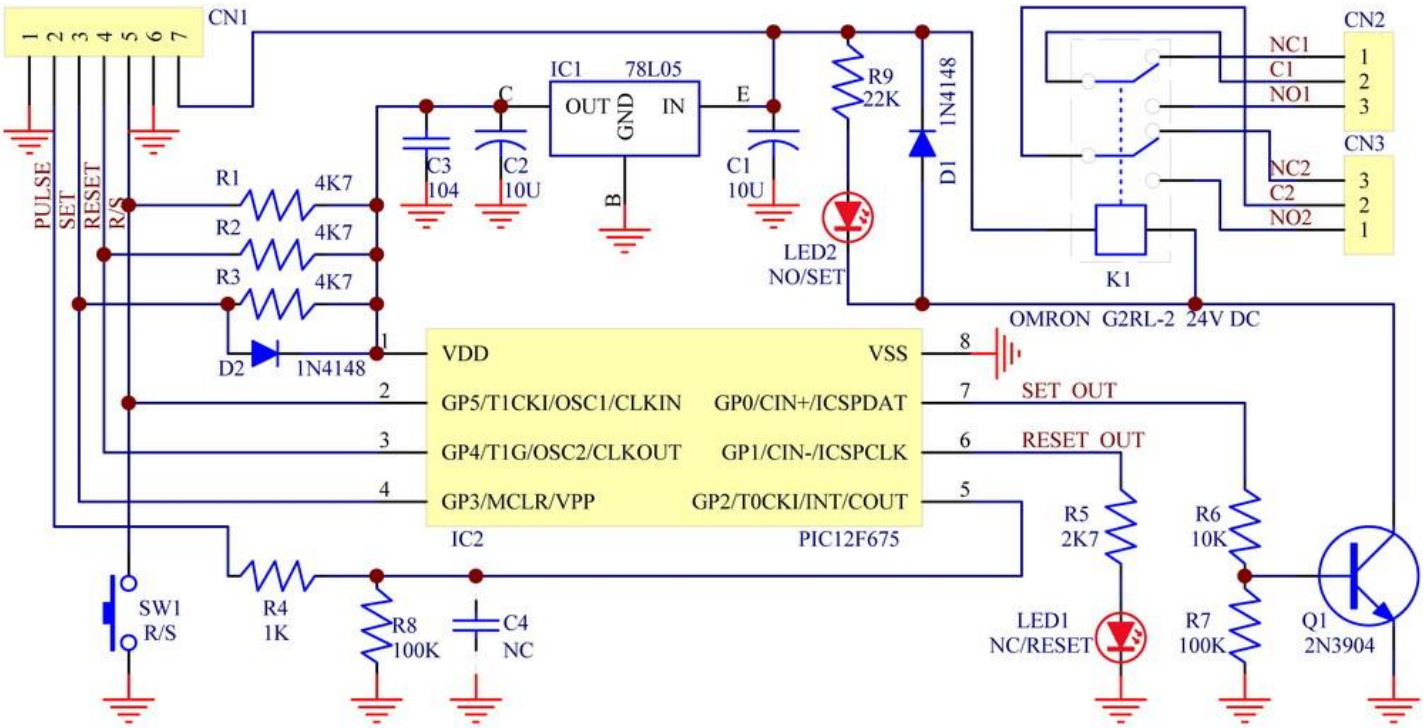




D-1022B 5V / 12V / 24V version Schematic:




CN1
1 2 3 4 5 6 7
PULSE
SET
RESET
R/S
R1 4K7
R2 4K7
R3 4K7
D2 1N4148
IC1 78L05
OUT GND IN
C
E
B
C3 104
C2 10U
C1 10U
R9 10K
D1 1N4148
LED2 NO/SET
K1
CN2
NC1
C1
NO1
CN3
NC2
C2
NO2
OMRON G2RL-2 12V DC
IC2
VDD
VSS
GP5/T1CKI/OSC1/CLKIN
GP0/CIN+/ICSPDAT
GP4/T1G/OSC2/CLKOUT
GP1/CIN-/ICSPCLK
GP3/MCLR/VPP
GP2/T0CKI/INT/COUT
PIC12F675
SET OUT
RESET OUT
SW1 R/S
R4 1K
R8 100K
C4 NC
R5 2K7
R6 10K
R7 100K
LED1 NC/RESET
Q1 2N3904


CN1
1 2 3 4 5 6 7
PULSE
SET
RESET
R/S
R1 4K7
R2 4K7
R3 4K7
D2 1N4148
IC1 78L05
OUT GND IN
C
E
B
C3 104
C2 10U
C1 10U
R9 22K
D1 1N4148
LED2 NO/SET
K1
CN2
NC1
C1
NO1
CN3
NC2
C2
NO2
OMRON G2RL-2 24V DC
IC2
VDD
VSS
GP5/T1CKI/OSC1/CLKIN
GP0/CIN+/ICSPDAT
GP4/T1G/OSC2/CLKOUT
GP1/CIN-/ICSPCLK
GP3/MCLR/VPP
GP2/T0CKI/INT/COUT
PIC12F675
SET OUT
RESET OUT
SW1 R/S
R4 1K
R8 100K
C4 NC
R5 2K7
R6 10K
R7 100K
LED1 NC/RESET
Q1 2N3904