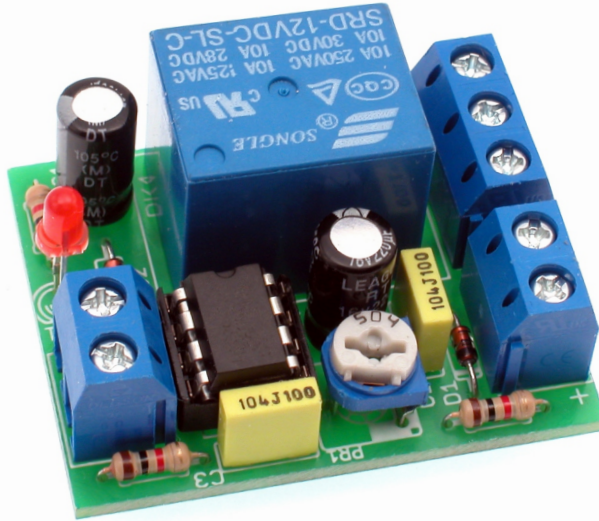


AVT 1689



ASSEMBLY DIFFICULTY

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An uncomplicated device for converting short-duration pulses into pulses of a preset, adjustable duration. Such impulses can come, for example, from any switches, the pressing of which will trigger the relay for a predetermined time. The relay tripping time can be continuously adjusted from 1 to approximately 120 seconds.

Specifications

- relay tripping time range: 1...120 seconds
- actuating element: relay
- load capacity of relay contacts: 10 A / 230 V
- supply: 12 VDC
- board size: 41×32 mm

Circuit description

The system can be used to maintain the opening of a deadbolt in door locks or gate locks, and it can also be useful in timed lighting control by acting as an automatic switch-off after the expiry of preset time.

The electrical diagram of the timer is shown in Figure 1 and the mounting diagram in Figure 2.

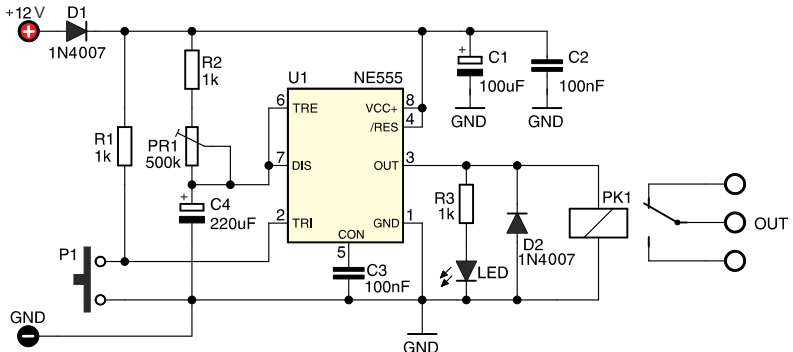


Fig. 1 Schematic diagram

At the heart of the circuit is the still immortal NE555 timer, operating in one of the most commonly used solutions, the monostable generator circuit. It generates pulses of a duration dependent on the capacitance of the capacitor C4 and the setting of the PR1 potentiometer slider. The P1 button that triggers the timer circuit is connected between TRI (pin2) and circuit

ground. The PK1 relay and the LED indicating its activation are controlled directly from the OUT output (pin3). Device can be supplied with 12-15 VDC from a power supply unit, battery or rechargeable battery. Model unit uses a 12V relay with a permissible load current of 10 A at 230 VAC.

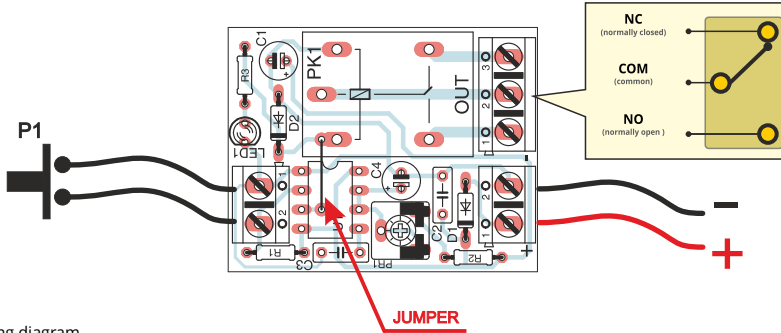


Fig. 2 Mounting diagram

List of elements

Resistors:

JUMPER
 R1-R3:1 kΩ
 PR1:500 kΩ

Capacitors:

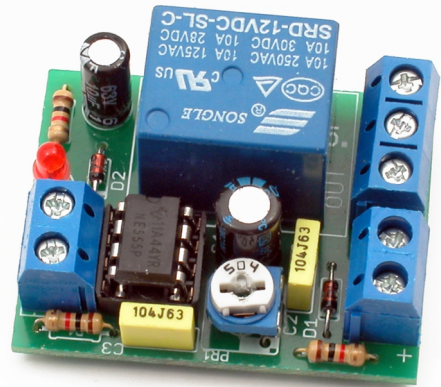
C1:100 μF
 C2, C3:100 nF
 C4:220 μF

Semiconductors:

U1NE555
 D1, D2:1N4148
 LED:LED

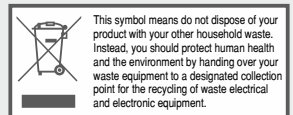
Other:

PK1:Relay 12 VDC
 ARK2/500 – 2 pcs
 ARK3/500 – 1pcs
 CONTACT button



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