CardWare d.o.o.
Auto ID
www.cardware.rs

SL-621 Relay module for SL-62

Technical reference

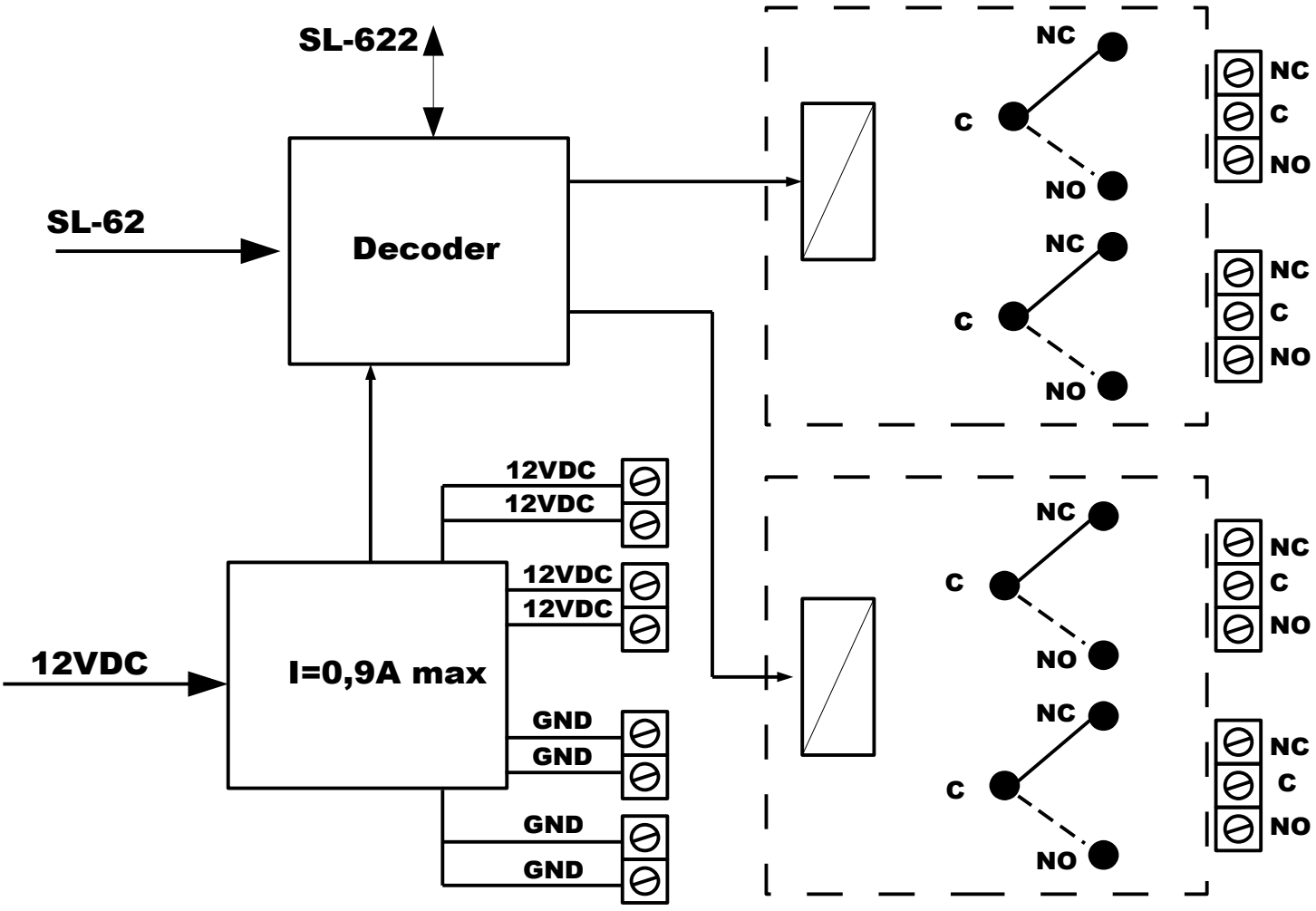
v1.0 June 2022

1 General description

The SL-62 Jingle2 controller can be used as a general purpose timer only with additional hardware such as the SL-621 relay module. This is because the 3-pin output of the SL-62 is a very specific „coded“ pattern in order to convey power and melody selection information on a 3-wire cable. General relay outputs can be used only if the information on the SL-62 3-pin output is first „decoded“ and then used to set or reset these relays.

The SL-621 does this and drives two DPDT relays with voltage-free outputs.

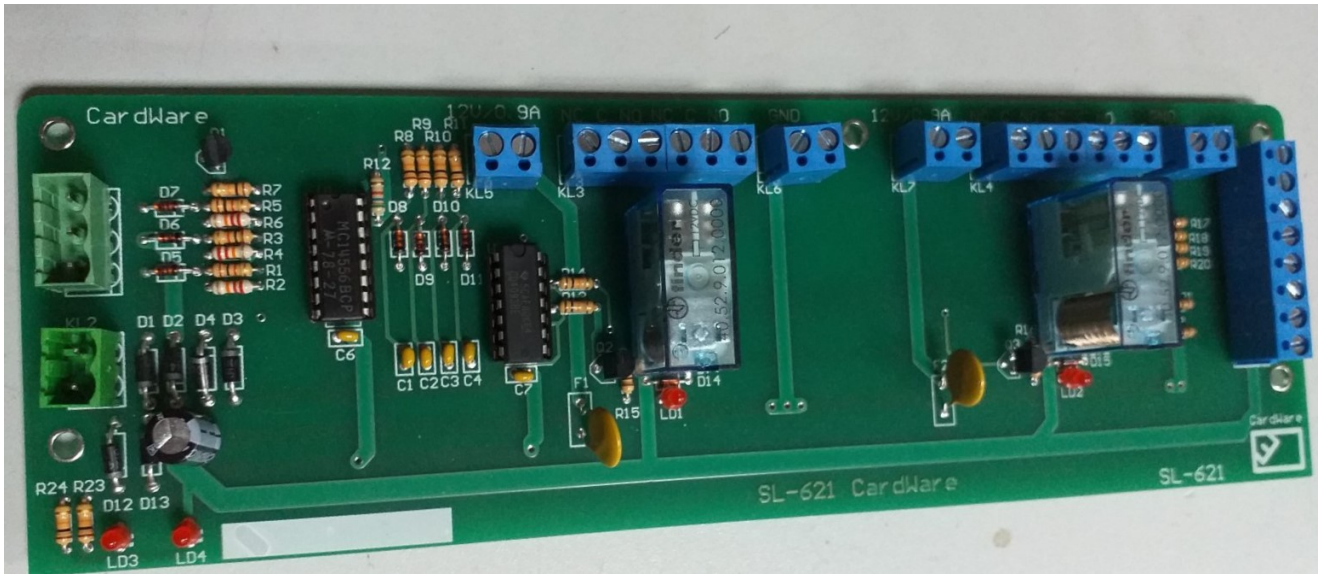
- The four output patterns of the SL-62 are used to switch these two relays ON and OFF
- Each of the two switchable relays has two independent output circuits (NO,C,NC)
- The output circuits can be used with current limited (12V/0.9Amax) voltage outputs if a voltage output is required instead of a voltage-free output, but the two outputs have a common ground.
- The SL-621 has an 8-pin screw terminal for connection to a desktop or wall-mounted manual module, the SL-622. This module shows the styatus of the two relays with LEDs and has pushbuttons for setting and resetting both relays.



The above block diagram shows the elements of the SL-621 relay module.

- The 3-wire input cable from the SL-62 timer can be longer than the recommended 20m for Jingle2 units, because the SL-621 has its own power supply. Cables longer than 100m are not recommended.
- The 12VDC input need to be clean and able to source up to 2,5A if the relay outputs are used with the 12VDC/GND outputs. Otherwise, with only voltage-free relay outputs, 0,5A is enough.
- The cable to the SL-622 manual module can be a UTP/STP network cable. Lengths up to 20m should be OK.

The SL-621 relay module PCB



- The 3-pin screw terminal on left side (top) is the pattern input from the SL-62
- The 2-pin screw terminal on the left is the 12VDC input
- the top row has two groups of 2,6,2 pin screw terminals
  - first (left) 2-pin screw terminal is the current limited 12VDC/0.9A output
  - the 6-pin screw terminals are the two independent voltage-free circuits (NC,C,NO) of the adjacent DPDT relay
  - the second (right) 2-pin screw terminal is the GND connection for the 12VDC circuit
- The 8-pin screw terminal on the right is the connection to the SL-622 manual modules, which displays the status of the relays and enables manually changing the relays' status with set/reset pushbuttons. (provided a key lock is turned)
- LEDs indicate the status of each relay on the PCB (under each relay on the photo)
- LEDs indicate the availability of 12Dc input voltage from the 2-pin power input and 12VDC from the SL-62 via pins 1 and 2

Connectors (all connectors are 2,5mm screw terminals)

- **KL1 3-pin screw terminal** input from the SL-62
  1. pin 1 of input pattern (+ or – of 12DC)
  2. pin 2 of input pattern (+ or – of 12DC)
  3. pin 3 of input pattern (shorted to pin 1 or pin 2)

- **KL2 2-pin screw terminal** 12VDC/2,5A power input
  1. GND
  2. +12V..13VDC (2,5A)

- **KL3 6-pin screw terminal** output circuits for relay 1
  1. NC1 (normally connected)
  2. C1 (common)
  3. NO1 (normally open)
  4. NC2 (normally connected)
  5. C2 (common)
  6. NO2 (normally open)

- **KL4 6-pin screw terminal** output circuits for relay 2
  1. NC1 (normally connected)
  2. C1 (common)
  3. NO1 (normally open)
  4. NC2 (normally connected)
  5. C2 (common)
  6. NO2 (normally open)

- **KL5 2-pin screw terminal** 12VDC/0.9Amax output
  1. 12VDC/0.9A max (total current of both pins is 0,9A)
  2. 12VDC/0.9A max

- **KL6 2-pin screw terminal** GND
  1. GND
  2. GND
  3.
- **KL7 2-pin screw terminal** 12VDC/0.9Amax output
  1. 12VDC/0.9A max (total current of both pins is 0,9A)
  2. 12VDC/0.9A max

- **KL8 2-pin screw terminal** GND
  1. GND
  2. GND

- **KL 9 8-pin screw terminal** connection to SL-622 wall module
  1. S1 pushbutton input for setting RL1 (pulse short to GND will set RL1)
  2. R1 pushbutton input for resetting RL1 (pulse short to GND)
  3. S2 pushbutton input for setting RL2 (pulse short to GND)
  4. R2 pushbutton input for resetting RL2 (pulse short to GND)
  5. GND common GND for all set and reset pushbutton inputs

6. LD1 LED signal for RL1 state, connect to LED1 cathode
7. LD2 LED signal for RL2 state, connect to LED2 cathode
8. 12V used for LED1 and LED2 power. Connect to LED1 and LED2 anodes

Input Patterns

This section describes how SL-62 output patterns are used to set and reset the relays of the SL-621

Desired effect on SL-621	SL-62 output pattern
SET Relay 1	3
RESET Relay 1	2
SET Relay 2	4
RESET Relay 2	1

So, in order to use the SL-62 as a general purpose timer with the SL-621, these patterns have to be configured along with time events for setting and resetting the relays.

The duration of the time events can be the shortest possible i.e. 1s.