### Product Description:

#### Features:

- To achieve fast high frequency turn-on and off circuit, an unlimited number of switching times.
- No noise was made during turning on/off, no spark, and no electromagnetic interference.
- · Compared to normal electromagnetic relay modules, it has a longer service life.
- Dual-MOS in parallel active output, lower inner resistance, larger current, strong power; at room temperature, operating current is up to 15A, power up to 400W, that can be used for most equipment.
- · Wide voltage input from 5V to 36V, normally used for controlling DC motors, lights, LED strips, micro-pumps, solenoid valves, etc., very convenient.
- It has an emergency stop function ("STOP" button) and reverse input protection.
- $\cdot$  Automatically enter sleep mode and shut off display if no operation in 5 minutes, and will be wake up by pressing any button.
- · You can set different OP, CL, LOP parameters, which are independent of each other, and are saved separately;
- · All parameter settings will be saved automatically if there is a power failure.

# Specifications:

Voltage: DC 5V~36V.

Trigger Signal Source: High voltage level trigger (3.0V~24V), signal ground and system ground are not on common ground to improve the system's anti-jamming capability (you can also connect them on common ground).

Output Capacity: DC 5V~36V, at room temperature, continuous current is 15A, power 400W. With enhanced heat dissipation, the current can be up to 30A.

Quiescent Current: 20mA

Operating Current: 50mA

Working Temperature: -40°C~85°C

Clocking (Time Delay) Range: 0.1seconds to 999minutes

Size: 60\*34\*12mm / 2.36\*1.33\*0.47"

Package Includes:

1 x Timer Switch Module

#### Note:

- 1. The module is an active output, the output voltage equal to the input voltage.
- 2.'DC + 'and' load + ' are internally shorted(connected), but' DC- 'and' load '

cannot be shorted, otherwise the load cannot be controlled on and off, which is equivalent to load being powered on always.

# Operating Mode:

- P1: trigger signal, the relay is on "OP" time, and then disconnect; in the "OP" time, as follows:
- P1.1: signal is triggered again, invalid
- P1.2: signal is triggered again, the clocking is reset
- P1.3: Signal is trigger again reset, relay off, and stop the clocking;
- P-2: trigger signal, the relay off "CL" of time, the relay on "OP" time, and then disconnect relay after clocking;
- P3.1: trigger signal, the relay is turned on after the "OP" time, the relay off "CL" time, then the operation cycles; if trigger signal again during the cycle, the relay off, stop clocking; the number of cycles times ( "LOP ") can be set.
- P3.2: without triggering signal after power on, the relay is on "OP" time, the relay off "CL" time, then the operation cycles; the number of cycles times ( "LOP") can be set.
- P-4: signal holding function. If there is trigger signal, clocking is reset, the relay remains on; when the signal disappears, after clocking "OP" time, the relay is off; if another signal is triggered during clocking, clocking will be reset. How to Set Clocking Range:
- After setting the parameter value at mode selection, press "STOP" button to set the clocking range;
- XXX. The last decimal point lights up, range: 1 second to 999 seconds.
- XX. X The second last decimal point lights up, range: 0.1 seconds to 99.9 seconds X. X. X. all 3 decimal points light up, range: 1 minute to 999 minutes.
- For example, if you want to set "OP" as 3.2 seconds, light up the second last decimal point, and set digit display as 03.2

Parameter Description:

- "OP" on time, "CL" off time, "LOP" number of cycle times (1-999 times, "---" represents infinite loop).
- These parameters are independent of each other, but are shared by each mode. For example, in P1.1 mode, set the on-time "OP" is 5 seconds, if you switch to P1.2 mode, its "OP" will also be 5 seconds.
- In the main interface (display 000), press "SET" button will display "OP" ( "CL", "LOP") and the corresponding time XXX;
- If the mode (such as the mode P1.1, P1.2, P1.3) only has "OP" time, press the "SET" key to display only the "OP" and the corresponding time;
- Some models (such as the mode P3.1, P3.2) have parameters "OP", "CL", "LOP", press "SET" button will display "OP" and the corresponding time, "CL" and the corresponding time, "LOP" and the corresponding number of times;
- After setting mode, in the main interface press "SET" key to see information about the parameters of the current mode, very convenient. How to Set Parameters:
- 1. First, read the instructions to determine the required operating mode.
- 2. The module is powered up, the display at the current work mode (P1.1 default mode), then enter the main interface; press and hold "SET" button for 2 seconds to enter mode selection interface; then press "UP", "DOWN" button to select the mode (P1.1  $\sim$  P-4).
- 3. Select the mode (such as P3.2), then press the "SET" button, the parameter to be set flashes ("OP" on-time, "CL" off time, "LOP" cycles ("---" represents infinite loop)), press(or press and hold) "UP", "DOWN" button to adjust the parameter value; then press the "STOP" key to set the decimal point position to select the clocking range (0.1 seconds to 999 minutes); press the "SET" button to

set the next parameters of the current mode, method is same as above.

4. After the parameters are set, press and hold "SET" button for 2 seconds, then the current mode will flash once, and then return to the main interface, which means the parameters are successfully set.

The main interface: If the relay is not in work state, it display "000" with no decimal point), if it is in work state, it has decimal point.

Mode selection screen: Press and hold the "SET" button to enter; after setting, press and hold the "SET" button to exit back to the main interface. Relays Enable Mode:

- 1. ON: Relay allows conduction in the "OP" on-time;
- 2. OFF: Relay prohibits conduction and is always closed;

In the main interface, press the "STOP" button to switch between ON and OFF, the current state will flash, and then return to the main interface. (This feature is an emergency stop function, press on button to disconnect re