

## 1-CHANNEL RELAY MODULE TRIGGER DELAY CYCLE TIMER CIRCUIT SWITCH ADJUSTABLE 6-30V



### Description:

Relay module, delay power and trigger, voltage upper and lower limit detection, cycle timing and counting

0.01 seconds (min) to 9999 minutes (max) continuously adjustable.

This product is easy to use, has a strong timing function, counting function and voltage detection. Please follow your needs, seriously look at the product description, we believe that there is always a function for you!

### Highlights:

Multi-function: powerful timing function, counting function and voltage detection function; support high-level trigger, low-level trigger, switch control;

Wide voltage power supply (6 ~ 30V), the use of very convenient;

The interface is clear and simple, powerful, easy to understand, meet almost all your needs;

The emergency stop function ("STOP" key); With reverse polarity protection, reverse polarity will not burn the product. Increase the sleep mode, if this mode is enabled, without any operation within 5 minutes, then automatically turn off the monitor, any key wake-up; You can set a different OP, CL, LOP parameters, which are independent of each other, and are automatically saved; After the module is powered down, all parameter settings are not lost.

### Operating mode:

P-1: 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 clock is reset

P1.3: Signal trigger again, relay off, stop the clock;

P-2: once triggered, the relay off "CL" of time, the relay on "OP" time, and then disconnect relay;

P-3: signal hold function: When the trigger signal, start the "CL", "CL" timer to complete the relay connected (if the signal period disappears, then stop the time and "CL" clear); when the signal disappears, When the timer "OP" is finished, the relay is turned off (during the "OP" period, the signal is triggered again and "OP" is cleared).

P4.1 signal self-locking function: trigger the first time, timing "CL" time, timing to complete the relay connected; once again trigger, timing "OP", the timer to complete the relay disconnect, cycle. (Signal is triggered during delay, invalid)

P4.2 signal self-locking function: trigger the first time, timing "CL" time, timing to complete the relay connected; once again trigger, timing "OP", the time to complete the relay disconnect, cycle. (Signal is triggered during the delay, the clock is cleared)

P-5 Recycling: The relay turns on the "OP" time, turns off the "CL" time, and cycles "LOP" times. "OP", "CL" and "LOP" are adjustable.

P5.1: Trigger, cycle start; trigger again, system reset.

P5.2: When the signal is held, the system automatically cycles; the signal disappears and the system is reset.

P5.3: no need to trigger the signal, restart or exit from the parameter settings interface, the system automatically starts;

P6.1: signal self-locking function: the first trigger, relay connected; trigger again, the relay disconnected.

P6.2: Signal interlock function: high pulse trigger, relay connected; low pulse (switch variable) trigger, relay disconnect.

P6.3: Signal interlock function: high pulse trigger, relay off; low pulse (switch variable) trigger, relay connected.

P-7 count relay: to a pulse (or switch variable) system count once, to reach the threshold "CnOP", the relay turns on and the counter is cleared; wait for the next pulse (or switch variable) to reach the threshold "CnCL "When the relay is disconnected.

### **Voltage detection**

Lower limit voltage: nL1; Upper limit voltage: UL1.

U-1: Charging detection: When the measured voltage is lower than the lower limit voltage, the relay is turned on; above the upper limit voltage, the relay is disconnected.

U-2: Discharge detection: When the measured voltage is lower than the lower limit voltage, the relay is turned off; above the upper limit voltage, the relay pulls.

U-3: Interval conduction: When the measured voltage between the upper and lower limits between the relay conduction, the other case off;

U-4: Out-of-range conduction: the measured voltage below the lower limit voltage or higher than the upper limit voltage, the relay conduction,

### **Additional features:**

In all the timing function, you can achieve voltage measurement function, by short press **【DOWN】** key to switch the display;

### **Product parameters:**

1: Operating voltage: 6 - 30V power supply.

2: Trigger source: high level trigger (3.0V ~ 24V), low level trigger (0.0V ~ 0.2V), switch control (passive switch).

3: Output capacity: can control the DC 30v / 5A or AC 220v / 5A equipment.

4: Quiescent current: 20mA, operating current: 50mA.

5: Service life: more than 100,000 times; Operating temperature: -40-85 °C; Size: 6.2 \* 3.8 \* 1.7cm.

6: With optocoupler isolation, enhanced anti-jamming capability, industrial-grade circuit board, parameter power loss is not lost.

Special Note: The relay output is a passive contact, no live output, control a line conduction or disconnected role.

### **Timing range**

0.01 seconds (min) to 9999 minutes (max) continuously adjustable

### **How to choose the time range?**

After setting the mode selection screen parameter value by a short press "STOP" button to select the time range.

XXXX. decimal point in the unit place, time range: 1 second to 9999 seconds.

XXX. X decimal point in decade place, Timing range: 0.1 seconds to 999.9 seconds.

XX decimal point in hundred place, Timing range: 0.01 seconds to 99.99 seconds.

X. X. X. decimal full brightness, Timing range: 1 minute to 9999 minutes.

For example, you want to set "OP" is 3.2 seconds, then move the decimal point to decade place, the digital display 003.2

Parameter description: "OP" - conduction time, "CL" - off time, "LOP" - the number of cycles (1-9999 times, "----" represents infinite loop).

These parameters are independent of each other, but is 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, it's "OP" will be 5 seconds too.

In the main interface (display 0000), short press "SET" button will display "OP" ( "CL", "LOP") and the corresponding time XXXX;

Some parameters only mode "OP" (such as the mode P1.1, P1.2, P1.3), short press the "SET" key to display only the "OP" and the corresponding time;

Some models have parameters "OP", "CL", "LOP" (such as the mode P5.1, P5.2), short press "SET" button will display "OP" and the corresponding time, "CL" and the corresponding time, "LOP" and the corresponding number of times;

In the main interface by short press "SET" key to see information about the parameters of the current mode, very convenient!

### **How to set parameters?**

First, read the instructions to determine the required operating mode.

The module is powered up, the display at the current work mode (P1.1 default mode), then enter the main interface; press "SET" button for 2 seconds after release to enter mode selection interface; a short time by pressing "UP", "DOWN" key to select the mode (P1.1 ~ U-4).

Select the mode (such as P5.3), short press the "SET" button, then the parameter to be set flashes ( "OP" on-time, "CL" off time, "LOP" cycles ( "----" represents infinite loop)), by "UP", "DOWN" keys to adjust the parameter value, support long press (rapid increase or decrease) and short press (increase or decrease one unit); then short press the "STOP" key to select the decimal point position, select the time range (0.01 seconds to 9999 minutes); short press the "SET" button to set the next parameters of the current mode of procedure is as above.

After the parameters are set, long press "SET" button for 2 seconds then release, the name of the current mode will flash once, and then return to the main screen, set the parameters of success!

5.P-5 function of the number of cycles and direction can be set, "----" represents the infinite loop, enter the LOP parameter settings, by short press "STOP" button to switch LOP1 and LOP2, LOP1 on behalf of the relay Turn on and then turn off, LOP2 on behalf of the relay first off, and then conduction.

When setting the voltage detection function parameter, the voltage lower limit nL1 needs to be lower than the voltage upper limit UL1, otherwise the main interface will display ERR, and then return to the parameter setting interface, you need to re-set the voltage parameters.

The main interface: In the relay does not work status display "0000" (no decimal point), with a decimal point under relay state.

Mode selection screen: Long press the "SET" key to enter, after setting is completed, long press the "SET" key to exit back to the main screen.

"STOP" button extensions:

ON: Relay allows conduction in the "OP" on-time;

OFF: relay prohibit conduction is always closed;

In the main interface, short press the "STOP" button to switch between ON and OFF, the current in which the state will flash, and then return to the main screen. (This feature is an emergency stop function, click off the relay)

Sleep mode:

"C-P" automatic sleep mode: a long time does not operate, the digital tube automatically shut down the display, the program normal operation, any key to wake up (the function of the customer to choose);

"O-d" normal mode: digital display always open;

Press the "STOP" button for two seconds and then release to switch "C-P" and "O-d" state, in which the current state of flashes and then return to the main screen.

### **Package Included:**

1PCS 1-Channel Relay Module Trigger Delay Cycle Timer Circuit Switch Adjustable 6-30V