

Product Instruction Manual



Product Name: 5V high / low level trigger delay module

Version: 10A current version

Material code: 190501

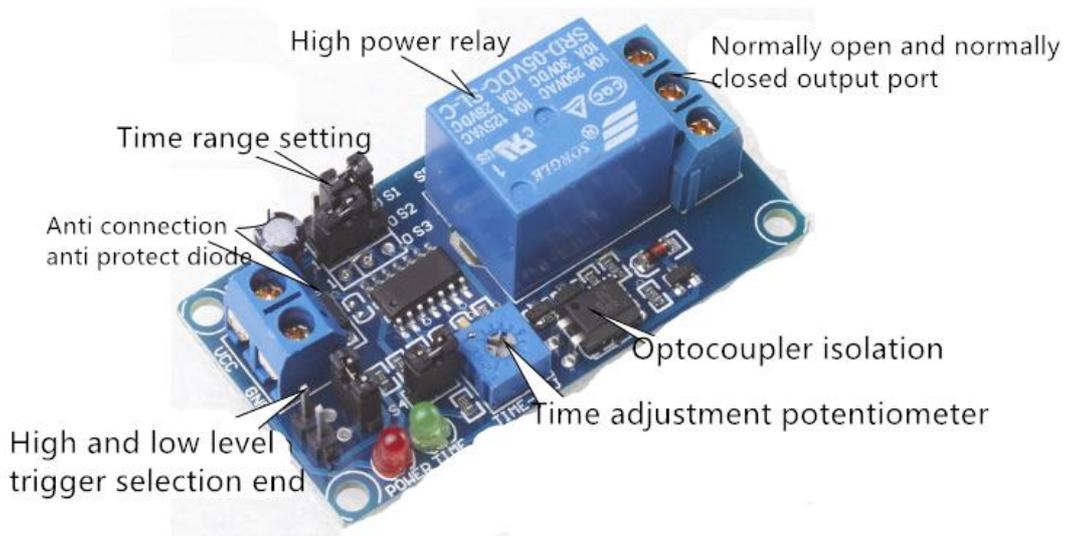
一、Product application:

This module is a new product with high level or low level trigger delay relay. It is mainly applied to machine equipment, automatic equipment modification, PLC industrial control, Arduino robot, intelligent product.

二、Product introduction:

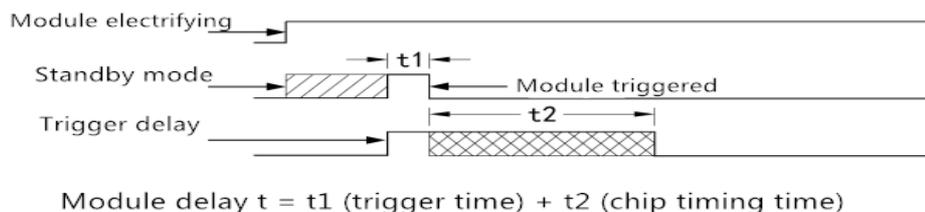
1. control by advanced high quality timing chip, accurate timing;
2. the maximum power relay is used to control the load, and the maximum can reach 10A.
3. with anti power protection diode, better protection module;
4. The triggers are isolated by optocoupler, and the interference ability is strong, and the false trigger is avoided.
5. the high or low level trigger delay module can be set by the selection of the jumper line.
6. has 8 optional time ranges, the shortest 0.1 seconds, and the maximum of 1 hours.

7. The time delay has the potentiometer adjustment, the clockwise adjustment time will be longer.
8. with power indication and delay switch indication;
9. the relay output has a normally open and normally closed interface.
- 10.

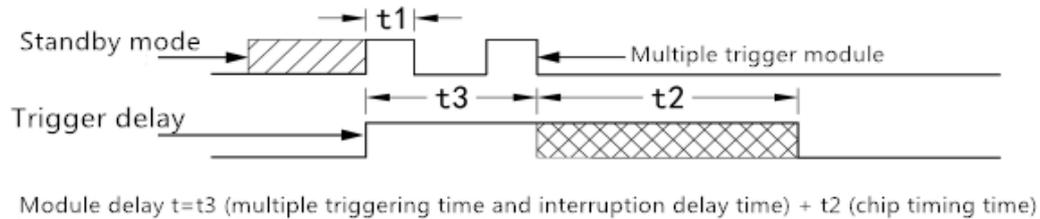


Three、Functional introduction:

1. The module is connected to the 5V DC power supply, waiting for the trigger signal to have the trigger signal.
2. When the trigger terminal of the module senses a high or low level trigger (jumper cap selection, the trigger time is only 1ms is enough), the module starts the delay function, at the same time relay pull, the end of the delay, the relay is off open;



3. , when the module is triggered delayed, if there is a trigger signal again, the module will re timed, automatically trigger the last time until the end of the delay.



Four、 Electrical parameters:

Power supply voltage: 5VDC

Static current: 2.5mA

Maximum power consumption: 70mA

High level trigger requirement: the trigger terminal voltage can be triggered at 4-5V, and the current is more than 3mA

Note: the trigger end should be shared with the power source to be effective

Low level trigger requirement: the trigger terminal voltage can be triggered at 0-1V, and the current is more than 3mA

Note: the trigger end should be shared with the power source to be effective

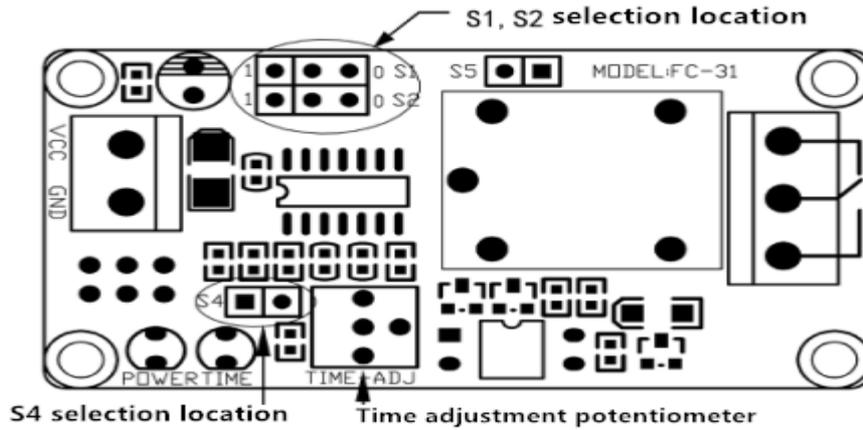
Relay load capacity: 250V 10A AC 30V 10A DC (practical application best power halving use, beneficial for prolonging product service life)

Relay life: 100 thousand times (maximum power)

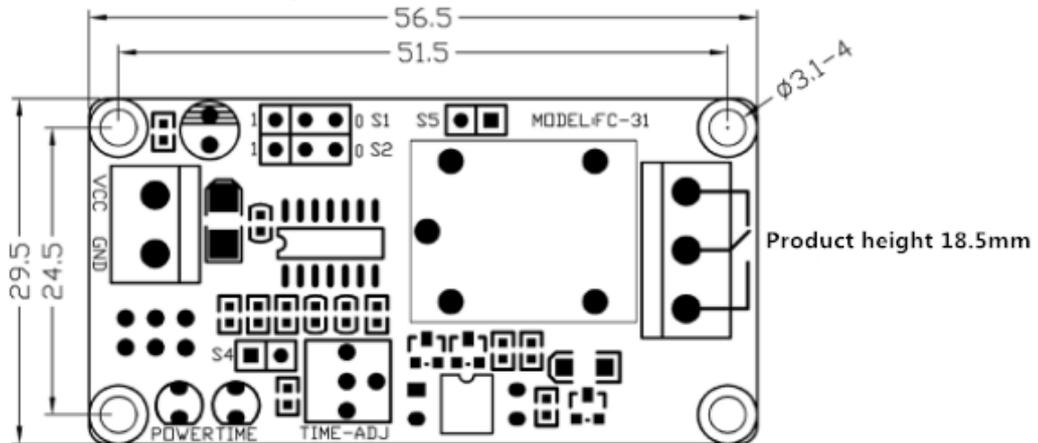
Five、 The selection method of time delay range:

The S1. S2. S4 is switched to different locations to select different time ranges, and the potentiometer is to adjust the time in the corresponding range.

S1 position	S2 position	Not inserted S4 time	inserted S4 time	Illustration
0	1	0.13S-1.3S	1.5S-14.5S	
1	0	0.5S-5.2S	6S-58S	
0	0	4.4S-42S	48S-463S	
1	1	38S-340S	389S-3700S	

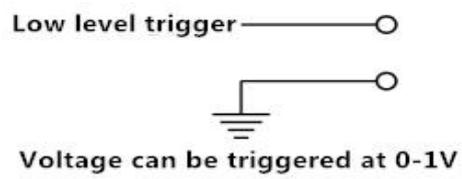
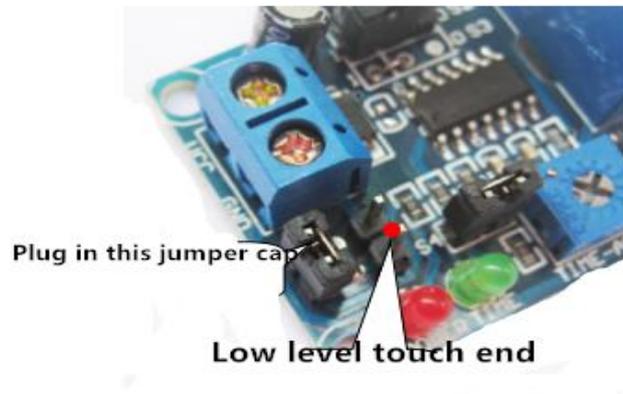


Six、 Product structure diagram:

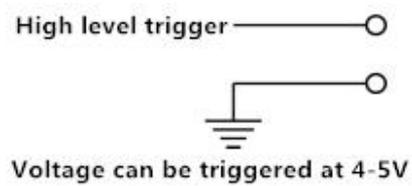
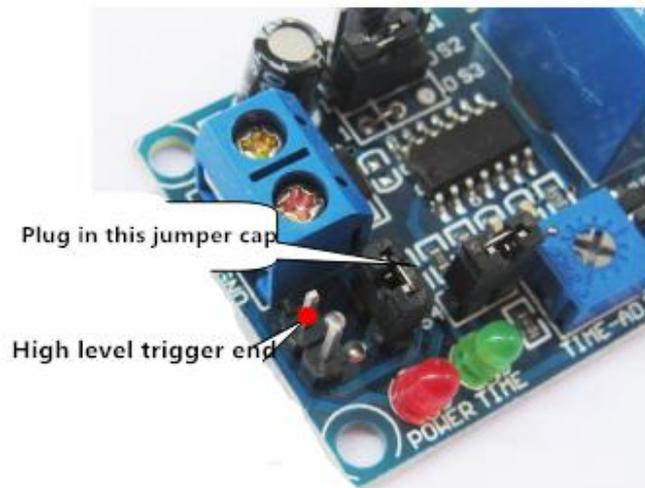


Seven、 the selection method of trigger end:

Low level trigger selection method:

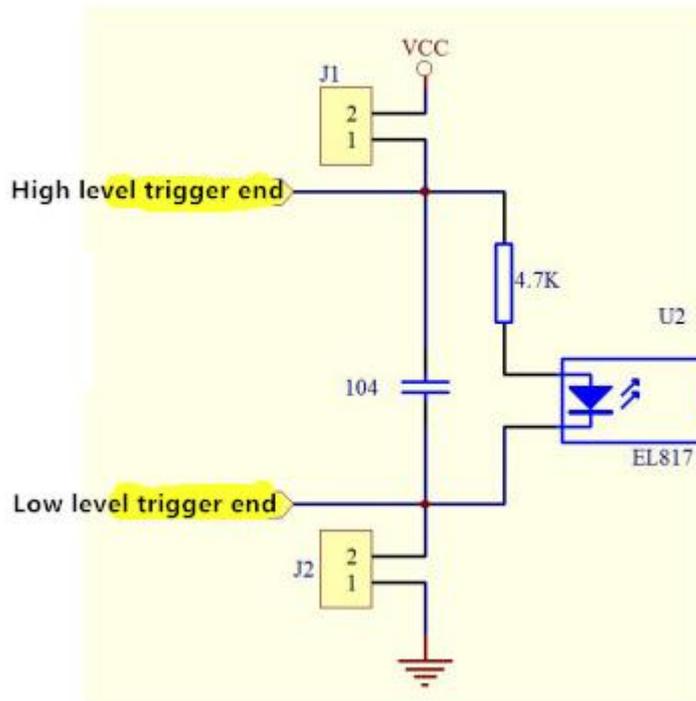


High level trigger selection method:



Note: the trigger end is connected to or shared with the power source.

Trigger circuit diagram



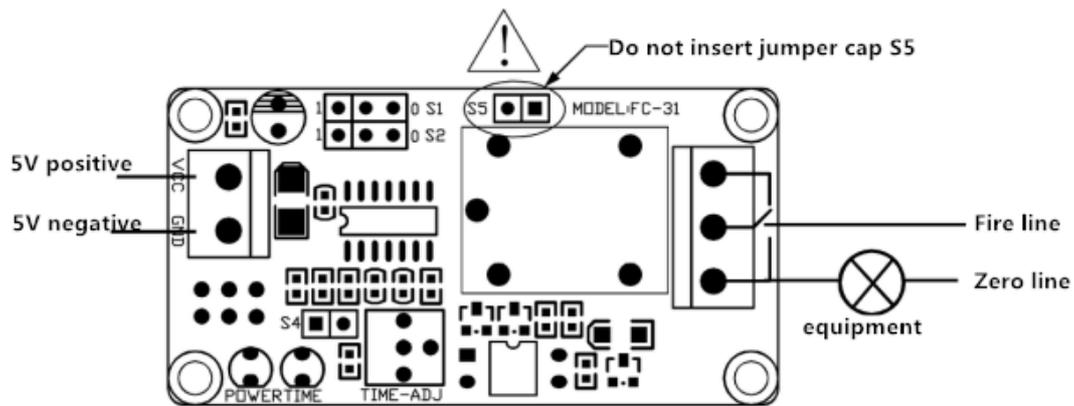
When the J1 is inserted into a jump line, the low level trigger is effective, and the high level trigger is effective when the J2 is inserted into the jump line.

Eight、Product wiring diagram:

1. Control AC connection:

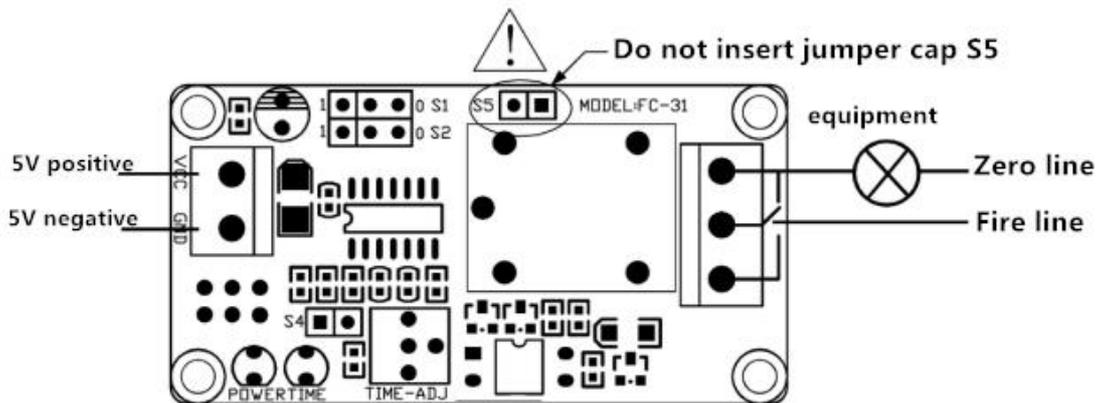
Note: the following figure is the way of module control AC voltage. It controls the AC can not insert jumper wire S5, so that when S5 is inserted, the high voltage will return to the module, and it will burn up the module.

The first method of connection:



When the module triggers the delay, the relay will pull in, the common terminal will connect with the beginning. The device will have electricity. When the delay ends, the relay will be released, and the switch will be disconnected. The device will run without electricity.

Second types of connection:



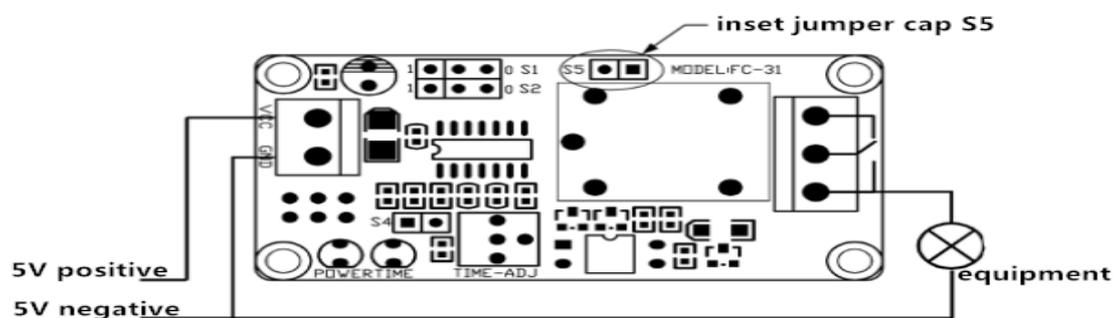
When the module triggers the delay, the public terminal and the normally closed terminal are disconnected, which is equivalent to the switch disconnection. The device does not work without electricity. The end of

the delay is ended. The public terminal is connected with the normally closed terminal, and the device works with electricity. The connection is suitable for the connection of trigger delay interruption power supply.

2 .Control DC connection:

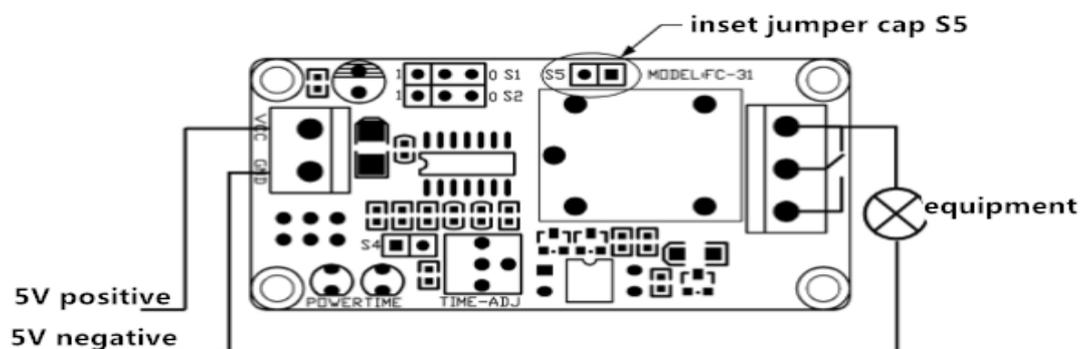
Note: the following figure is the connection of the 5V power of the control module. The jumper wire cap S5 must be inserted. The positive pole equivalent to the module's power supply is connected to the common end of the relay (specially designed in the circuit board).

The first method of connection:



When the module triggers the delay, the relay will pull in, the common terminal will connect with the usual start, the device will operate with 5V power, and the relay will release when the delay ends, and the switch will be disconnected, so the device will be operated without electricity.

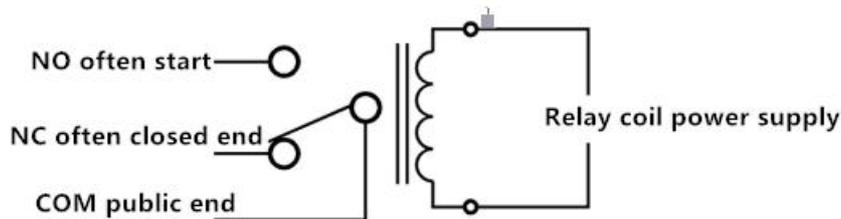
The second method of connection:



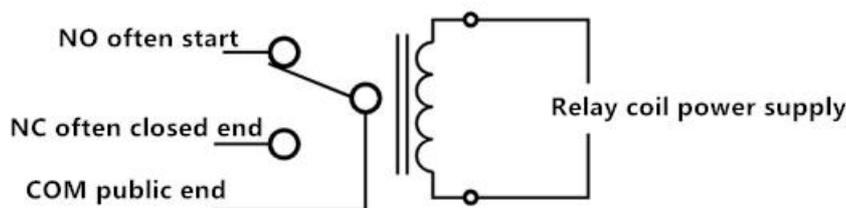
When the module triggers the delay, the public terminal and the normally closed terminal are disconnected, which is equivalent to the switch

disconnection. The device does not work without electricity. The end of the delay is ended. The public terminal is connected with the normally closed terminal, and the device works with electricity. The connection is suitable for the connection of trigger delay interruption power supply.

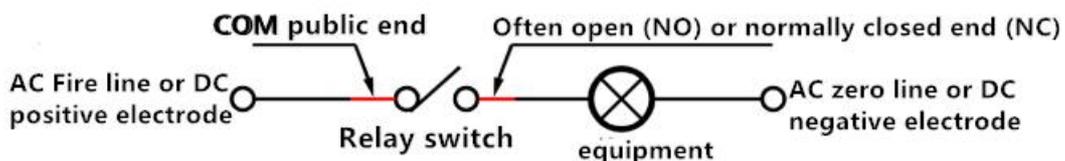
If you do not understand the working principle of the relay, please look at the following:



When there is no voltage or voltage at both ends of the relay coil, the common end of the relay (COM) is connected to the normally closed end (NC).



When the voltage at both ends of the relay coil reaches the absorbed voltage, the common end of the relay (COM) is connected to Chang Kaiduan (NO).



When the relay switch is closed, there is a voltage at both ends of the device. It can work normally and the switch does not work.

The working principle of the relay is:

As long as the coil ends with a voltage and current will flow through the coil in a, resulting in electromagnetic effects, the armature will attract the electromagnetic force to overcome the spring to return to the core ally absorption, thereby driving the armature static and dynamic contact (normally open). When the coil is cut off, the attraction of electromagnetic force will also disappear. The armature will return to its original position in the spring's reaction force, so that the moving contact will be released from the original static contact (normally closed contact). In this way, it is absorbed and released, thus achieving the

purpose of conducting and cutting off in the circuit. For a relay's normally open or normally closed contact, it can be distinguished: the static contact when the relay coil is not energized, is called the "normally open contact", and the static contact in the connected state is called "normally closed contact". The relay usually has two kinds of circuits, which are low voltage control circuit and high voltage working circuit.