DROK Delay Relay Module

DC 6.0 ~ 30V Wiring Diagram

- +
DC6.0V~30V
Load

AC 220V Wiring Diagram

- +
DC6.0V~30V
Load
Neutral
Line
AC220V

Display "OUT" when relay is closed
Timing status and time
Setting button
Up
Down
Current working mode
Pause / Trigger button

High level trigger +
Signal Ground GND
Low level trigger -
Serial communication (TTL level)

+ -
Relay Output
Power Supply DC 6.0~30V
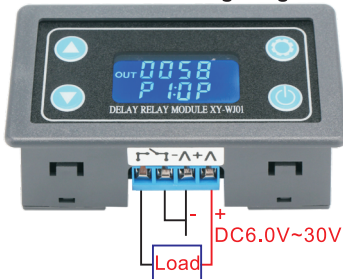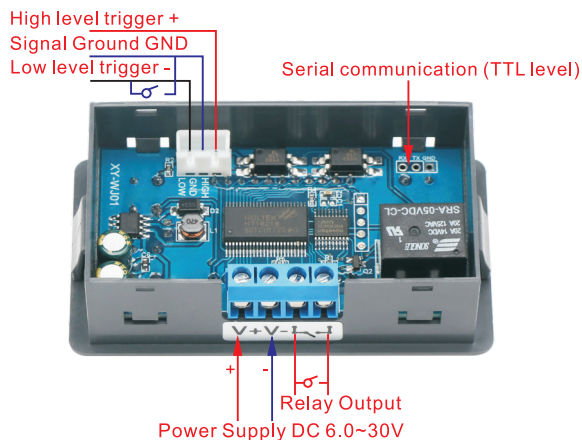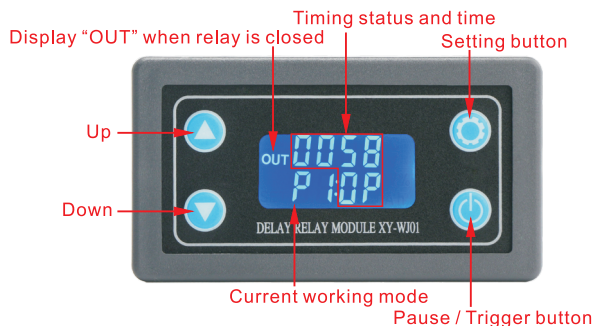
Product Features:

1. Adopts LCD display, can long term display current working mode and timed time. All the parameters will be clear at a glance.
2. Trigger mode: Support button trigger control, high and low level control, switching value control. Meet most of the needs.
3. Wide input voltage of 6~30v.
4. Support UART data upload and parameter setting.
5. With one-button pause function, with reverse connection protection, won't burn when connected reversely.
6. With sleep mode. After enabling, the LCD backlight will automatically turn off after no operation for about 5 minutes; press any button to wake up.
7. Different OP, CL, LOP parameters can be set. All these parameters are independent and saved separately.
8. All set parameters are automatically saved after power-off.

Working Mode:

P0: After the signal is triggered, the relay conducts OP time and then turns off OP time; In the OP time, the signal is invalid.

P1: After the signal is triggered, the relay conducts OP time and then turns off OP time; In the OP time, trigger the signal again and it will restart timing.

P2: After the signal is triggered, the relay conducts OP time and then turns off OP time; In OP time, trigger the signal again and it will reset timer, relay will disconnect and stop timing.

P3: After the signal is triggered, the relay turns off CL time, and then the relay conducts.

P4: After the trigger signal is given and the relay conducts OP time, the relay turns off CL time, and then loops the actions above. Give the signal again in the loop, it will restore to the initial status and stop timing. Loop times (LOP) can be set. At the end of the loop, the relay keeps open.

P5: After the trigger signal is given and the relay turns off CL time, the relay conducts OP time, and then loops the actions above. Give the signal again in the loop, it will restore to the initial state and stop timing. Loop times (LOP) can be set. At the end of the loop, the relay keeps conducted.

P6: No trigger signal is required after power-on, the relay conducts OP time, the relay turns off CL time, and then loops the actions above; Loop times (LOP) can be set. At the end of the loop, the relay keeps open.

P7: No trigger signal is required after power-on, the relay turns off CL time, the relay conducts OP time, and then loops the actions above; Loop times (LOP) can be set. At the end of the loop, the relay keeps conducted.

P8: Signal holding function. If there is a trigger signal, the timing is cleared, the relay remains conducted; when the signal disappears, the relay will be open after timing OP; during the timing, if there is any signal, the timing will be cleared.

P9: Signal holding function. If there is a trigger signal, the timing is cleared, the relay remains open. When the signal disappears, the relay will be conducted after timing CL; during the timing, if there is any signal, the timing will be cleared.

(P0~P7) Mode: Short press pause button, when the system has not timed, the system will start timing; when the system has already timed, it will stop timing, relay disconnected, "OUT" flashes as a reminder.

P8 P9 Mode: In the running interface, the pause button is as a trigger signal, the button function of short press/long press is invalid.

Parameters:

1. Working voltage: 6-30V
2. Trigger signal source: High level (3.0-24V), low level (0.0V~0.2V), switching value control (passive switch).
3. Output capacity: can control devices within DC 30v 10A or within AC 220v 5A.
4. Quiescent current: 15mA; working current: 50mA
5. Service life: more than 100,000 times;
6. With Opto-couplers isolation, strong anti-interference ability, industrial grade circuit board, setting parameters will be stored after power off.
7. Working temperature: - 40-85 ℃;
8. Size: 7.1*3.9*2.5cm
9. Weight: 45g

Timing range:

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

How to choose the timing range:

In the OP/CL parameter setting interface, press the pause button to select the timing range;

XXXX: No decimal point, the timing range is 1 second ~ 9999 seconds.

XXX.X: The decimal point is in ten digits, and the timing range is 0.1 second ~ 999.9 seconds.

XX.XX: The decimal point is in the hundred digits, and the timing range is 0.01 second ~ 99.99 seconds.

X.X.X.X: Full decimal points, and the timing range is 1 minute ~ 9999 minutes.

For example, if you want to set the OP to 3.2 seconds, move the decimal point to ten digits and the LCD displays "003.2".

Parameter description:

OP: conduction time
CL: disconnection time
LOP: loop time (1-9999 times, "----" stands for infinite loop)

Parameter Setting:

a) Hold press set button, enter setting interface.

b) Set working mode, working mode flashes as a reminder. Switch working mode by pressing up / down button.

c) Short press set button to select the working mode and enter the system parameter setting.

d) In the system parameter setting interface, short press set button to switch the system parameters to be changed, short / long press the up/down button to change the parameter.

(Note: In mode P0~P3/P8/P9, it is invalid to short press the set button)

e) In the OP/CL parameter setting interface, short press the pause button to switch the timing unit (1s/0.1s/0.01s/1min).

f) After all parameters are complete, hold press the set button, save the set parameters and exit the setting interface.

Remote data upload and parameter setting function:

The system supports UART data upload and parameter setting functions.

UART: 9600, 8, 1

Instruction	Function
read	Read the system parameters
OP: xxxx OP: xxx.x OP: xx.xx OP: x.x.x.x	1s 0.1s 0.01s 1 min
CL: xxxx CL: xxx.x CL: xx.xx CL: x.x.x.x	1s 0.1s 0.01s 1 min
LP: xxxx	Loop time
Start	Trigger / Start (valid on mode P0 ~P7)
Stop	Pause (valid on mode P0 ~ P7)
PX	Mode P1, P2, etc

Other Functions:

a) Auto Sleep Function: In the running interface (mode P0~P7), hold press the pause button to turn on / turn off the auto sleep function (L-P select on to turn on the sleep function and off to turn off the sleep function. When it is turned on, the LCD backlight will automatically turn off after no operation for about 5 minutes, and the system will run normally. Press any button to wake up).

b) Parameter View: In the operation interface, press the SET button to display the current parameter setting without affecting the normal operation of the system.

c) Display Data Switching: In P4 ~P7 mode, short press DOWN button to switch the display data (running time/cycle number).