AliExpress ZK-KTD2 Trigger Cycle Timer Delay Controller Instructions

Contents

AliExpress ZK-KTD2 Trigger Cycle Timer Delay Controller

Product Information

Specifications:

- **Product Name:** ZK-KTD2 Trigger Cycle Timer Delay Controller
- **Product Number:** ZK-KTD2
- **Working Voltage:** DC 5.0V~30V
- **Trigger Type:** Button/PNP/NPN/High/Low Level Signal
- **High Trigger Signal:** DC 3.0V~24V
- **Output Type:** Relay Switch Output (No voltage output)
- **Load (Max):** DC 30V 10A or AC 250V 10A
- **Work Current:** 50mA
- **Quiescent Current:** 20mA
- **Display:** 3Bit Red LED Display Screen
- **Working Temperature range:** -40~85°C
- **Working Humidity Range:** 5%-95%RH
- **Module Size:** 79*43*26mm

Product Usage Instructions

Timing Range:
The timing range for the ZK-KTD2 Trigger Cycle Timer Delay Controller is determined by the delay time settings.

Parameter Description:

- **OP:** Delay time for turn On
- **CL:** Delay time for turn OFF
- **LOP:** Number of cycles. Range is 1-999 times. '—-' means unlimited loop.
- **CLL:** Minimum value of random delay time range. The set range is 0.0~99.9 seconds. This CLL parameter is only used for P15 work mode.
- **CLH:** Maximum value of random delay time range. The set range is 0.0~99.9 seconds. This CLH parameter is only used for P15 work mode. CLH is greater than CLL.

Power-ON Delay Mode:
In the Power-ON Delay Mode, the ZK-KTD2 Trigger Cycle Timer Delay Controller will start the delay after power on, without the need for any other trigger signal.

- **P00:** Power ON and output keep OFF and start delay time CL. Then turn ON output after delay time CL. Example: Power ON -> OFF -> Delay CL -> ON.
- **P01:** Power ON and output turn ON and start delay time OP. Then turn OFF output after delay time OP. Example: Power ON -> ON -> Delay OP -> OFF.
- **P02:** Power ON and output turn ON and start delay time OP. Then turn OFF output after delay time OP. Keep OFF for delay time CL. Then turn ON output after delay time CL. And then loops the above action. The number of cycles (LOP) can be set. Output will keep OFF after the cycle. Example: Power ON -> ON -> Delay OP -> OFF -> Delay CL -> cycles -> OFF.
- **P03:** Power ON and output turn OFF and start delay time CL. Then turn ON output after delay time CL. Keep ON for delay time OP. Then turn OFF output after delay time OP. And then loops the above action. The number of cycles (LOP) can be set. Output will keep ON after the cycle. Example: Power ON -> OFF -> Delay CL -> ON -> Delay OP -> cycles -> ON.

Pulse Signal Trigger Mode:
In the Pulse Signal Trigger Mode, the ZK-KTD2 Trigger Cycle Timer Delay Controller will start the delay after receiving an input trigger signal.

- **P04:** Input trigger signal and output turn ON and start delay time OP. Then turn OFF output after delay time OP. Triggering again during the delay is invalid. Example: Trigger -> ON -> Delay OP -> OFF.

FAQ

- **Q: What is the working voltage range for the ZK-KTD2 Trigger Cycle Timer Delay Controller?**
  The working voltage range is DC 5.0V to 30V.
- **Q: What is the maximum load that the ZK-KTD2 Trigger Cycle Timer Delay Controller can handle?**
  The ZK-KTD2 Trigger Cycle Timer Delay Controller can handle a maximum load of DC 30V 10A or AC 250V 10A.
- **Q: What is the size of the ZK-KTD2 Trigger Cycle Timer Delay Controller module?**
  The module size is 79mm x 43mm x 26mm.

Description:
ZK-KTD2 is a Relay Switch Controller Trigger Delay Module with Timer and Cycle functions.It can work in 16kind work mode with or without trigger signal.It also can be delay a random time in the set range.

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Features

1. 16 kinds of work modes
2. High/Low Level or PNP/NPN signal trigger
3. Power-ON trigger
4. Button switch trigger
5. 2200W 10A Relay Driver
6. Support parameter memory function
7. Support UART communication function
8. Optocoupler isolated output
9. Support forced stop function
10. Support power saving mode

Parameters

1. **Product Name:** ZK-KTD2 Trigger Cycle Timer Delay Controller
2. **Product Number:** ZK-KTD2
3. **Working Voltage:** DC 5.0V~30V
4. **Trigger Type:** Button/PNP/NPN/High/Low Level Signal
5. **High Trigger Signal:** DC 3.0V~24V
6. **Output Type:** Relay Switch Output(No voltage output)
7. **Load(Max):** DC 30V 10A or AC 250V 10A
8. **Work Current:** 50mA
9. **Quiescent Current:** 20mA
10. **Display:** 3Bit Red LED Display Screen
11. **Working Temperature range:-**40℃~85℃
12. **Working Humidity Range:** 5%-95%RH
13. **Module Size:** 79*43*26mm

Timing range

1. Continuously adjustable from 0.1 seconds to 999 minutes.
2. Enter the settings interface when short press button ‘STOP’ in the parameter modification interface(Flashing) to select timing range.
3. Pay attention to the position where the decimal point moves when the button is pressed.
4. Display ‘XXX.’ The decimal point in the last bit, the timing range is 1 second ~ 999 seconds.
5. Display ‘XX.X’ The decimal point in the penultimate, timing range is 0.1 second to 99.9 seconds.
6. Display ‘X.X.X.’ The decimal point is fully lit, timing range is 1 minute to 999 minutes.
7. For example, if you want to set the OP to 3.2 seconds, move the decimal point to the penultimate position, Screen will display ‘03.2’
8. OP and CL parameters are the same in different work mode.
9. It will display OP(CL, LOP) and corresponding delay time by short press button SET in main display interface.
10. It just display OP and corresponding delay time in P1 mode by short press button SET in main display interface.

11. Short press ‘SET’ button on normal display to query OP, CL, LOP value in turns.

Parameter Description:

1. **OP:** Delay time for turn On;
2. **CL:** Delay time for turn OFF;
3. **LOP:** Number of cycles. Range is 1-999tims. ’—-’ means unlimited loop.
4. **CLL:** Minimum value of random delay time range. The set range is 0.0~99.9 seconds. This CLL parameter just be used for P15 work mode.
5. **CLH:** Maximum value of random delay time range. The set range is 0.0~99.9 seconds. This CLH parameter just be used for P15 work mode. CLH is greater than CLL.

MODES

Power-on Delay Mode:

1. ZK-KTD2 will start delay after power on. This mode no need input another trigger signal. The power supply is the trigger signal.
2. **P00:** Power ON and output keep OFF and start delay time CL. Then turn ON output after delay time CL. E.g. Power ON->OFF->Delay CL->ON.
3. **P01:** Power ON and output turn ON and start delay time OP. Then turn OFF output after delay time OP. E.g. Power ON->ON->Delay OP->OFF.
4. **P02:** Power ON and output turn ON and start delay time OP. Then turn OFF output after delay time OP. Keep OFF for delay time CL. Then turn ON output after delay time CL. And then loops the above action. The number of cycles (LOP) can be set. Output will keep OFF after cycle. E.g. Power ON->ON->Delay OP->OFF->Delay CL->cycles->OFF.
5. **P03:** Power ON and output turn OFF and start delay time CL. Then turn ON output after delay time CL. Keep ON for delay time OP. Then turn OFF output after delay time OP. And then loops the above action. The number of cycles (LOP) can be set. Output will keep ON after cycle. E.g. Power ON->OFF->Delay CL->ON->Delay OP->cycles->ON.

Pulse Signal Trigger Mode:

1. ZK-KTD2 will start delay after input trigger. This mode need input trigger signal after provide work power supply.
2. **P04:** Input trigger signal and output turn ON and start delay time OP. Then turn OFF output after delay time OP. Trigger again is invalid during delay. E.g. Trigger->ON->Delay OP->OFF.
3. **P05:** Input trigger signal and output turn ON and start delay time OP. Then turn OFF output after delay time OP. Restart delay OP if trigger again during delay. E.g. Trigger->ON->Delay OP->OFF.
4. **P06:** Input trigger signal and output turn ON and start delay time OP. Then turn OFF output after delay time OP. Stop delay and output turn OFF if trigger again during delay. E.g. Trigger->ON->Delay OP->OFF.
5. **P07:** Input trigger signal and output keep OFF and start delay time CL. Then turn ON output after delay time CL. E.g. Trigger->OFF->Delay CL->ON.
6. **P08:** Input trigger signal and output turn OFF and start delay time CL. Then turn ON output after delay time CL. Keep ON for delay time OP. Then turn OFF output after delay time OP. Trigger again is invalid during delay.

E.g. Trigger->OFF->Delay CL->ON->Delay OP->OFF.

7. **P09:** Input trigger signal and output turn OFF and start delay time CL. Then turn ON output after delay time CL. Keep ON for delay time OP. Then turn OFF output after delay time OP. Restart delay OP if trigger again during delay. E.g. Trigger->OFF->Delay CL->ON->Delay OP->OFF.
8. **P10:** Input trigger signal and output turn OFF and start delay time CL. Then turn ON output after delay time CL. Keep ON for delay time OP. Then turn OFF output after delay time OP. And then loops the above action. The number of cycles (LOP) can be set. Output will keep ON after cycle. Stop delay and output turn ON if trigger again during cycles. E.g. Trigger->OFF->Delay CL->ON->Delay OP->cycles->ON.
9. **P11:** Input trigger signal and output turn ON and start delay time OP. Then turn OFF output after delay time OP. Keep OFF for delay time CL. Then turn ON output after delay time CL. And then loops the above action. The number of cycles (LOP) can be set. Output will keep OFF after cycle. Stop delay and output turn OFF if trigger again during cycles. E.g. Trigger->ON->Delay OP->OFF->Delay CL->cycles->OFF.
10. **P12:** Input trigger signal and output turn ON and start delay time OP. Then turn OFF output after delay time OP. Keep OFF for delay time CL. Then turn ON output after delay time CL. And then loops the above action. The number of cycles (LOP) can be set. Output will keep OFF after cycle. Trigger again is invalid during cycles. E.g. Trigger->ON->Delay OP->OFF->Delay CL->cycles->OFF.

Keep Signal Trigger Mode:

1. This mode need keep input trigger signal. The output state will also change when the input trigger signal is removed,.
2. **P13:** Keep input trigger signal and output turn ON. Then start delay time OP if remove input trigger. Then turn OFF output after delay time OP. Stop delay and output turn ON if trigger again during delay.
3. **P14:** Keep input trigger signal and output turn OFF. Then start delay time CL if remove input trigger. Then turn ON output after delay time CL. Stop delay and output turn OFF if trigger again during delay.

Random Delay Mode:

1. **P15:** Input trigger signal and output keep OFF and start delay time. The delay time between CLL and CLH. Then turn ON output after delay time CLL~CLH. This mode also can set PWM duty cycle from 20%,25%,30%,35% to 100% in 600Hz by parameter SP. (The delay time is a random value between CLL and CLH. Their setting range is 0.0~99.9second and CLH is more than CLL.) E.g. Trigger->OFF->Delay->ON.

Set steps

1. Confirm the working mode before start to set mode and parameters.
2. Keep press SET Button about 2second enter to select work mode.
3. Press UP and Down button to switch work mode P00~P015.
4. Press SET button to set parameter value for selected work mode such as P03 work mode.
5. The first set parameter OP will flashing about 2second and display parameter value.
6. Press STOP button to move the decimal point and set delay time range.
7. Press UP and Down button to set OP parameter value.
8. Press SET button to set the second parameter value CL. Then set time range and parameter value as the same method.

9. Press SET button to set the third parameter value LOP. Then set parameter as the same method.
   Note: '—-' means unlimited loop.
10. For P15 work mode the set method is the same for CLL, CLH and SP.
    Note: The delay time is 0.0~99.9second at this mode.
11. Keep press SET Button about 2second to save parameter and exit set mode to start normal work.

Additional Features:

1. **Auto sleep function:** keep press button 'STOP' about 2second in the normal running interface to turn on or off auto sleep function.
    1. **C-L:** Turn ON auto sleep function.Screen will automatically turns off if there is no operation within 3 minutes. It can be wake up by any buttons.
    2. **O-d:** Turn OFF auto sleep function.
2. Enabled/Disabled output by press button STOP:
    1. **ON:** Enabled output during delay time OP.
    2. **OFF:** Disabled output. Module can not output any signal at this mode.
3. It's not working is display '000' which no decimal point is displayed. e.g. to end the cyclic working state.

Use Steps:

1. Connect right work voltage from input terminal.
2. Set work mode and parameter value.
3. Remove work power supply.
4. Connect load and load voltage, trigger signal if need.
5. Re-connect the power supply.
6. Start normal work with or without in trigger signal by selected work mode.

UART Control Protocol

UART Communication and Parameter settings							
No.	Parameter		Value				
1	Baud rate		9600bps				
2	Data bits		8bit				
3	Stop bit		1bit				
4	Check bit		none				
5	Flow control		none				
6	Protocol		MODBUS-RTU				
7	Function code		0x03,0x06,0x10(Just support three function code)				
8	Device address		0x01~0xFF(Default address is 0x01)				
No.	Command	Function	Set Range	Default	Bytes	Read/Write	Register Address
1	Addr	Set device address	0x01~0xFF	0x01	2	R/W	0000H
2	Run	Work Status	0:Working 1:Stop Work	——	2	R/W	0001H
3	SLEEP	Enable/Disable sleep state	0:Disable 1:Enable	——	2	R/W	0002H
4	MODE	Set work mode	0x00~0x0F	——	2	R/W	0003H
5	OP	Delay time for OP	0~999	——	2	R/W	0004H
6	OP UNIT	Set delay time unit for OP	0:Second 1:0.1 Second 2:Minute	——	2	R/W	0005H
7	CL	Delay time for OL	0x00~0x0F	——	2	R/W	0006H
8	CL UNIT	Set delay time	0:Second	——	2	R/W	0007H

		unit for OL	1:0.1 Second 2:Minute				
9	LP	Set loop times	1~999:Limited times —:Infinite times	——	2	R/W	0008H
10	CLL	Set Min value of random delay.	0~99.9s	——	2	R/W	0009H
11	CLH	Set Max value of random delay.	0~99.9s	——	2	R/W	000AH
12	SP	Set PWM duty cycle	20%~100%	——	2	R/W	000BH
13	TRGI-GER	Input trigger signal	For P04~P15	——	2	W	000CH

Note:

1. It is relay switch output, so it can not output voltage. The load also needs to be connected to the load voltage.
2. It will display '000' if stop work. It shows the decimal point when working.
3. Please read use manual and description before use.

Application

1. Delay switching
2. Counter
3. Access control system
4. Car circuit modification
5. Motor
6. The electromagnetic valve
7. Light strip

Package:

1. 1pcs ZK-KTD2 Trigger Cycle Timer Delay Controller

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Documents / Resources

	**AliExpress ZK-KTD2 Trigger Cycle Timer Delay Controller** [pdf] Instructions ZK-KTD2 Trigger Cycle Timer Delay Controller, ZK-KTD2, Trigger Cycle Timer Delay Controller, Cycle Timer Delay Controller, Timer Delay Controller, Delay Controller, Controller

References

- amazon.com/shops/icstation
- User Manual