Multi Functional Voltage Detection Relay Controller with Time Timing / Delay Function

Description:
This controller is compatible with a variety of operating modes, each mode can work independently or together. It use LED digital tube to display. It features in controlling relay by time timing function, time delay function, voltage control function, and voltmeter function, applies to automatic control field, product testing, DIY etc.

Technical Parameter:
Working Voltage: DC 10~15V
Standby Current: ≤10mA
Dimension: 50mm x 40mm
Contact Mode: normally open and normally closed
Contact Load: 10A
Operating Temperature: -30 ~ +85°C
Timing Range: 0-999 seconds or 0-999 minutes
Voltage Detection Range: DC 0~99.9 V (±0.1V)
In time control mode, can set the relay contact on and off time
In voltage control mode, can preset upper and lower limit of voltage value
The pre-set parameters can be saved after power cut down

Working modes:
P-1: Time timing mode (1-999 S / 1-999 Min)

P-2: Time delay mode (1-999 S / 1-999 Min)

P-3: Voltage control mode (pre-set upper / lower limit of voltage detection, control relay open / close)

P-4 Mixed mode: Voltage control and Time timing mode

P-5 Mixed mode: Voltage control and Time delay mode

P-6: Voltage overrun control mode

P-7 Mixed mode: Voltage overrun control and time control mode

Operation:
The option of P1 ~ P7 modes:
Press and hold “ENTER” button for 3 seconds, enter into the options of P1 ~ P7 modes, the digital tubes show “P-0”. And press “SET” button to choose P1 ~ P7 modes. When selects a mode then press “ENTER” button, enter into the corresponding mode. Press and hold “ENTER” button for 3 seconds in any mode, return to options of P1 ~ P7 modes.

1. P-1: Time timing mode (1-999 S / 1-999 Min)
1) When the digital tubes show “P-0”, press “SET” button, the digital tubes show “P-1”, then press “ENTER” button to enter P-1 mode.
2) When enter P-1 mode, you can press “SET” button and “ENTER” button to set the closed time (T1) of relay, the open time (T2) of relay, and cycle times (Max 999 times).
For example, set T1 as 125 seconds, T2 as 38 seconds, cycle 50 times. The relay will be closed for 125 seconds and open for 38 seconds, cycle 50 times then stop.
Set the closed time (T1) to 125 : Press “SET” button, the first number flash, then press “ENTER” button to set this number to 1. Press “SET” button again, the second number flash, then press “ENTER” button to set this number to 2. Press “SET” button again, the third number flash, then press “ENTER” button to set this number to 5.
Set the open time (T2) to 38 : Press “SET” button, the first number flash, then press “SET” button again, the second number flash, then press “ENTER” button to set this number to 3. Press “SET” button again, the third number flash, then press “ENTER” button to set this number to 8.
Set cycle times to 50 : Press “SET” button and “ENTER” button to set this number to 50.
3) Run: Press “ENTER” button to run, the relay will be closed for 125 seconds and open for 38 seconds, cycle 50 times then stop.

Note:
A. When runing, you can press “ENTER” button to pause.
B. When runing, you can press and hold “SET” button for 3 seconds to swap timing time or cycle times on digital tubes.
C. When set time, you can press and hold “SET” button for 3 seconds to swap second timing or minute timing. If the third point shine, it means minute timing; if the third point does not shine, it means second timing.
D. If you set T1 as 30 seconds, T2 as 0 second, you cannot set cycle times. The relay will be closed for 30 seconds then stop.
E. If you set T1 as 0 second, you cannot set T2 and cycle times. The relay will not work.

2. P-2: Time delay mode (1-999 S / 1-999 Min)
1) When the digital tubes show “P-0”, press “SET” button twice, the digital tubes show “P-2”, then press “ENTER” button to enter P-2 mode.
2) When enter P-2 mode, you can press “SET” button and “ENTER” button to set the delay time (T1) of relay, the closed time (T2) of relay, and cycle times (Max 999 times).
For example, set T1 as 125 seconds, T2 as 38 seconds, cycle 50 times. The relay will delay for 125 seconds and close for 38 seconds, cycle 50

times then stop.

3. P-3: Voltage control mode (pre-set upper / lower limit of voltage detection, control relay open / close)
1) When the digital tubes show “P-0”, press “SET” button 3 times, the digital tubes show “P-3”, then press “ENTER” button to enter P-3 mode.
2) When enter P-3 mode, you can press “SET” button and “ENTER” button to set the upper limit value of voltage, lower limit value of voltage, and the correct value of voltage (The value range is -0.3~+0.3V).
3) Run: After you set three values, the digital tubes will not flash. It will collect and show external output voltage value. When the voltage is above the upper limit value, the relay will be open. The relay changes to be closed until the voltage is under the lower limit.
When runing, you can press and hold “SET” button for 3 seconds to swap relay closed when voltage is above the upper limit value, or relay closed when voltage is under the lower limit value.

Note:
A. The lower limit value cannot exceed the upper limit value.
B. Do not set the upper limit and lower limit as same value.

4. P-4 Mixed mode: Voltage control and Time timing mode
The relay will work with pre-set voltage control and time timing control.

5. P-5 Mixed mode: Voltage control and Time delay mode
The relay will work with pre-set voltage control and time delay control.

6. P-6: Voltage overrun control mode
1) When enter P-6 mode, you can press “SET” button and “ENTER” button to set the upper limit value of voltage, lower limit value of voltage, and the correct value of voltage (The value range is -0.3~+0.3V).
2) Run: After you set three values, when the voltage is above the upper limit value and when the voltage is under the lower limit, the relay will be closed.
3) When runing, you can press and hold “SET” button for 3 seconds to swap relay closed or open when the voltage is above the upper limit value and when the voltage is under the lower limit

7. P-7 Mixed mode: Voltage overrun control and time control mode
The relay will work with voltage overrun control and time control.