

BVS Controller User Manual

Thank you for using this product of our company. The BVS controller is compatible with a variety of operating modes, LED digital display, procedures for intelligent control, has a voltage detection channel, a set of relay switch output (normally open and normally close), the time relay can be controlled by voltage detection to achieve a variety of functions.

In case of any printing or translation error, we apologize for the inconvenience.

Product Features:

Operating modes:

P-1: Relay close delay time and display off setting

P-2: Voltage Control Timer- A (delay on)

P-3: Voltage Control Timer- B (delay off)

P-4: Voltage range control

Output timer range: 0-999 seconds

Detection sampling delay: 0.1-0.9 seconds (detection sensitivity)

Voltage detect and display range: DC 0-99.9 V error: $\pm 0.1V$

Operating Power: DC 6~80V ,60V battery maximum

Relay parameters:

A set of conversion (normally open and normally close)

Contact load: NO: 30A/250V AC or 30A/30V DC NC :20A/250V AC or 20A/30V DC

Attention: Because high voltage DC electric arc damages relay contact, so the electric load above DC60V load current is less than 10A.

Contact resistance: $\leq 100m\Omega$ (1A 6VDC)

Mechanical durability: 10 millions

Electricity durability: $> 100,000$ (10A-250VAC)

Operating Temperature: $-40 \sim 85$ °C

Set display shut, the minimum current value is 4mA/24V (Relay open)

The preset parameters can be saved after power off.

Attention:



Do not reverse input voltage polarity!

Use this product to control the high-voltage electrical equipment must electrical professionals to operate, high voltage danger!

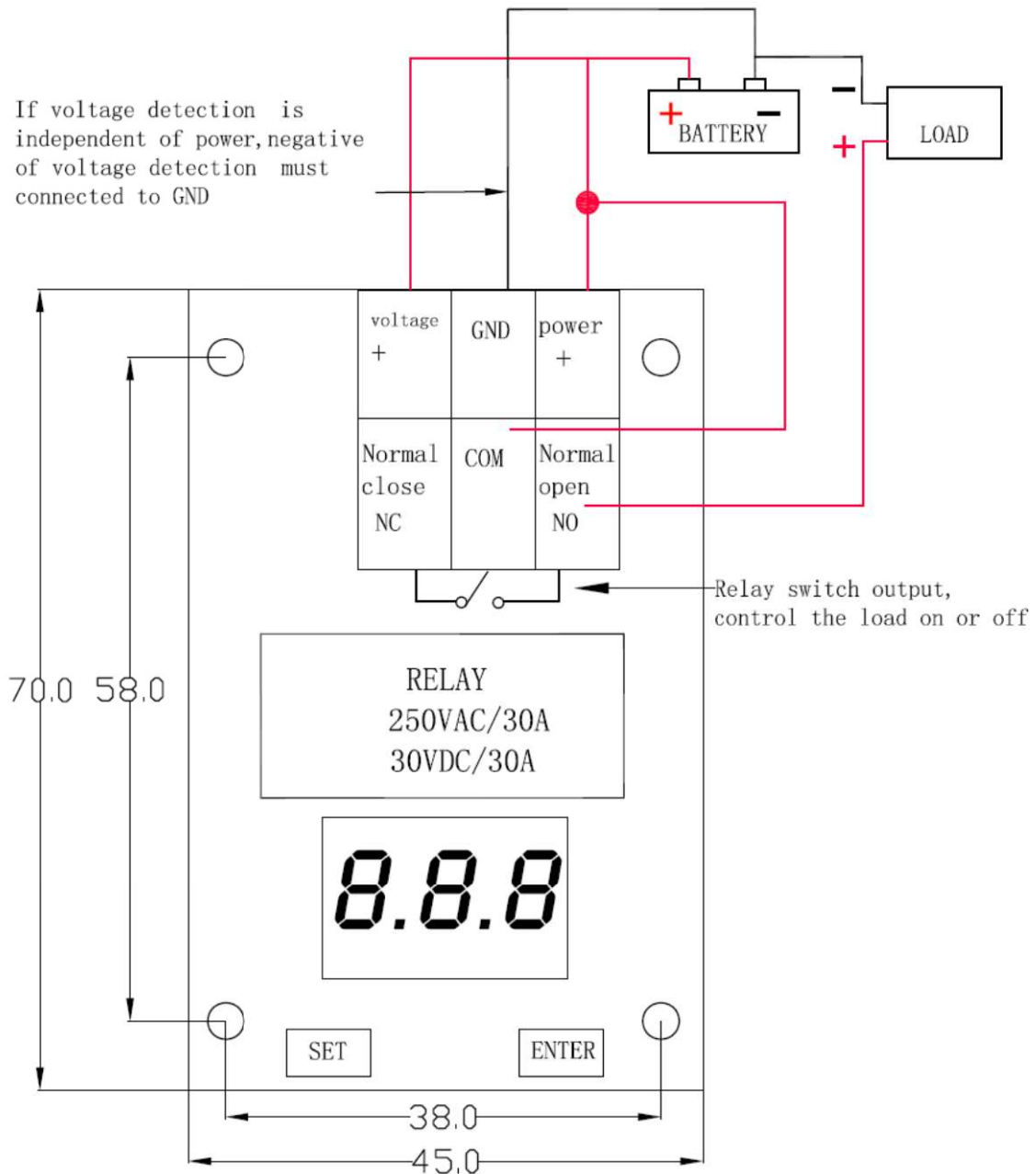


Figure 1

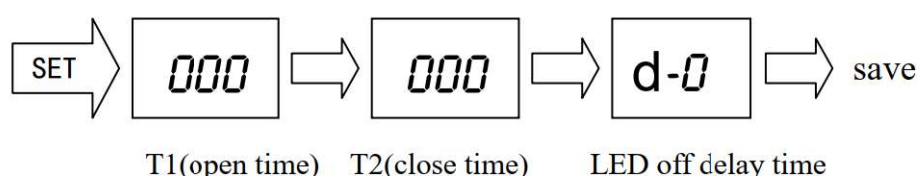
Relay close: NO connect to COM
Relay open: NC connect to COM

2 operating modes:

Connect to power, LED digital display show "U-3", then enter the selection state, press the "SET" key to select "P-1~P-4" mode, press "ENTER" to enter into the corresponding mode. While any mode running, **press the "ENTER" key for 3 seconds**, system will return to the mode selection state.

Hold the "SET" key to connect the power, the controller will be restored to factory settings.

2.1 Relay close delay time and display off setting (P-1)



Press the "SET" key to set the three bit values, first to be set is T1 value, press the "ENTER" button to increase value number "0-9", T1 is relay's open time, T2 is relay's close time, for example: T1 005, T2 000, the relay will close after delay 5 seconds, set to T1 000 T2 006, the relay will close immediately then open after 6 seconds, set to T1 005 T2 006, the relay will close after delay 5 seconds, then open after 6 seconds.

Delay time: 999 seconds adjustable.

The display shows "d-0" means keep bright, "d-9" means display off after 9 min.

2.2 Voltage Control Timer- A (relay open first P-2)

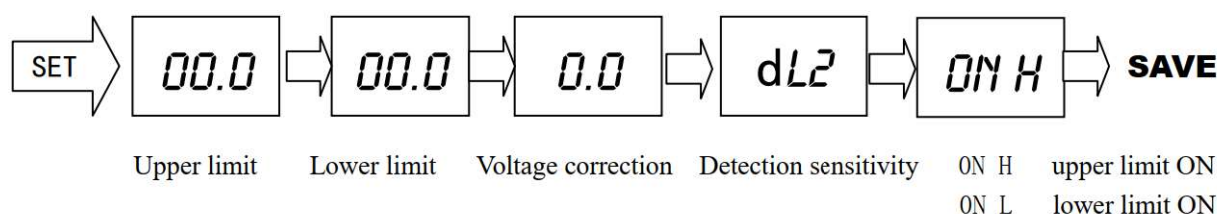


Figure 3

Enter into P-2 mode, the controller detects voltage from "voltage+ GND" Interface (Figure 1) and display values (DC 0-99.9V). The relay will close or open by detect voltage above the upper limit or below the lower limit.

Press the "SET" button to set the three bit values, LED display flash, first to be set is

upper limit value , press the “SET” key three times, lower limit value to be set, press the “ENTER” key to increase value, the lower limit value can not above the upper limit, press the “SET” to next group value is voltage correction ($\pm 0.5V$), next group value is detection sensitivity, “dL1” means detect delay 0.1s, “dL9” means detect delay 0.9s, next group value is “ON H/ON L”, set to “ON H” means that the relay will close(or time relay run) when detect value above the upper limit ,it does not open until voltage value below the lower limit , set to “ON L” means that the relay will close(or time relay run) when detect voltage value below the lower limit , it does not open until voltage value above the upper.

If the delay time in P-1 mode has been set, the time relay will act according to setting of P-1 (reference to the P-1 mode).

Short press “ENTER” button, LED display show countdown of timer (P-1 setting).

If the pre-set upper and lower limits values set to the same, such as 13.0V, when controller detected voltages at 13.0V fluctuations may cause the relay contact frequent action, we recommend to set the value to maintain the difference between the upper and lower limits.

Note: Make sure the detection voltage interface connected reliable, loosely connect or PCB has not insulation, may lead to the induced current or voltage detection values is not accurate.

2.3 Voltage Control Timer- B (close first P-3)

The difference between “P-2” and “P-3” is the relay’s initial state, “P-2” mode relay open first, but “P-3” mode relay close first. Setting method is the same as section 2.2.

For example:

- (1) In P-1 mode , set T1 005, T2 000, then enter P-2 mode , voltage detection above the upper limit of the pre-set the relay will close after 5 seconds, voltage drops below the lower pre-set limit the relay open immediately. Voltage control logic can be reversed by setting “ON H/L”. (close/open)
- (2) In P-1 mode , set T1 000, T2 006, then enter P-3 mode, voltage detection below the lower pre-set limit the relay close immediately, voltage detection above the upper limit of the pre-set the relay will open after delay 6 seconds. Voltage control logic can be reversed by setting “ON H/L”.

2.4 Voltage range control ((P-4)

P-4 mode, the controller detects voltage and display values. Set “ON H” ,the relay will close when voltage detection exceed the upper limit and lower limit range, relay will open

when voltage detection between the upper limit and lower limit range.

Set "ON L", the relay's control logic (close/open) can be reversed.

Setting method is the same as section 2.2.

If the delay time in P-1 mode has been set, in P-4, the relay will act according to setting of P-1 when voltage detection exceed the upper limit and lower limit range (reference to the P-1 mode), when voltage detection between the upper limit and lower limit range, set "ON H" relay closed, set "ON L" relay open).

Example:

1. P-1 mode setting "T1 000, T2 000", P-4 mode setting "ON H", voltage value between the upper limit and lower limit range the relay close, relay will open when voltage detection exceed the upper limit and lower limit range.
2. P-1 mode setting "T1 005, T2 000", P-4 mode setting "ON L", relay will close after 5s when voltage detection exceed the upper limit and lower limit range, voltage value between the upper limit and lower limit range the relay open.
3. P-1 mode setting "T1 000, T2 005", P-4 mode setting "ON H", relay will open after 5s when voltage detection exceed the upper limit and lower limit range, voltage value between the upper limit and lower limit range the relay close.

Short press "ENTER" button, LED display show countdown of timer (P-1 setting).

-THE END-