LD-IS LIFT LOAD DETECTOR

USER MANUAL

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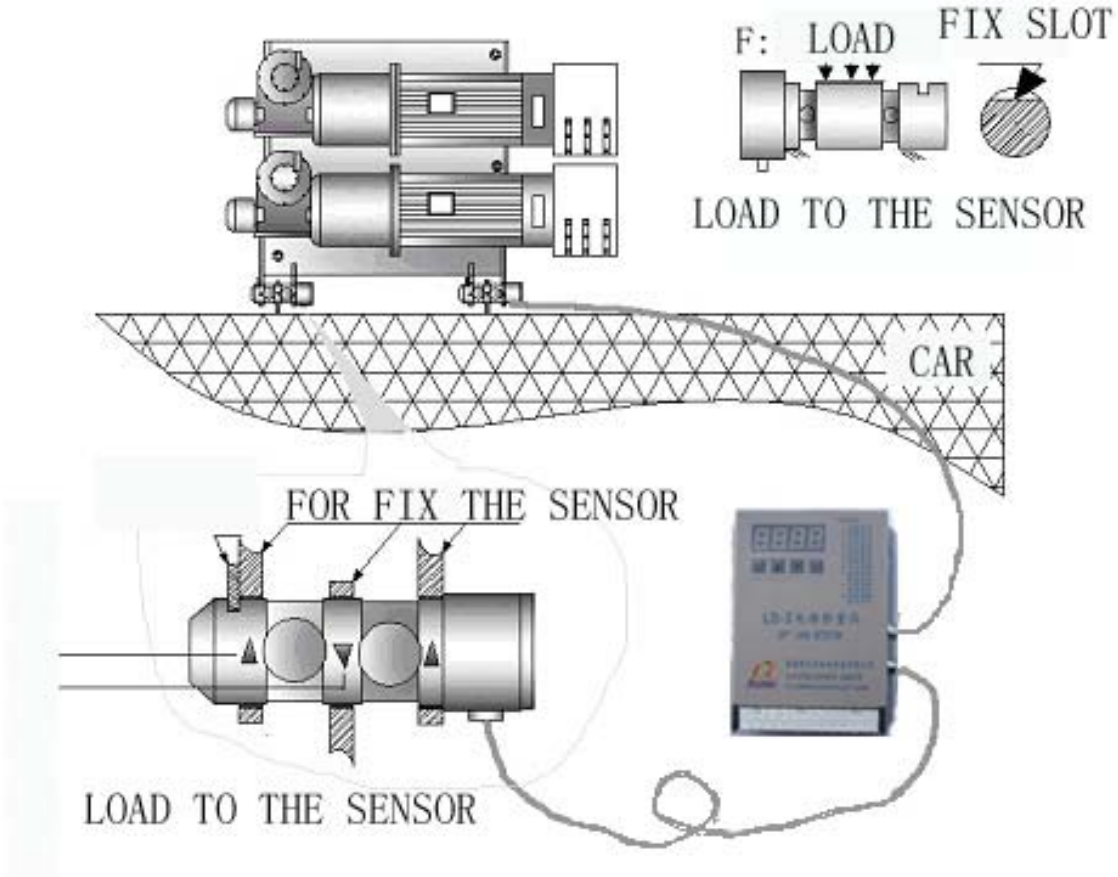
LD-IS lift load detector is designed for detecting the load of the lift, It can put out switch signal and analog signal to lift control system and inverter to avoid danger to the equipment and operator.

A、**Principle**

This system is composed of a control device and two weighting sensors mounted over the top of the car

It can put out full load and over load switch signals , it can also put out analog Voltage output (0～10V) and analog current output(4～20mA).

Sensor Position Map ： (two sensors)



B、Character of LD-IS

1. It is easy to fix and adjust.
2. Microprocessor intellectual control, can display the actual load .
3. You can set parameter and study load by menu operation.
4. Load learning function.
5. output lock when running.(by give the terminal a signal)
6. set output delay time to avoid impact to the out put when start and stop.
7. can set the gap to improve the stability of the divice.

C、Parameter of LD-IS

POWER：AC220V ±15%
OUTPUT OF RELAY (fullload and overload) ： DC 60V 5A
INPUT：DC 24V
LD-IS control device outline：166X110X62 (unit: mm)

D、Terminal

1、2：NC (NOT USED)
3：OUT1: full load output。Relay output.
4：COM1: common terminal of OUT1。
5：OUT2: over load output Relay output.
6：COM2: common terminal of OUT2。
7：Weighting Sensor1 output signal A1 — To green wire of sensor1
8：GND of Power to the sensor1(0V) — To black wire of sensor1
9：weighting Sensor1 output signal B1 － To white wire of sensor1
10： Power(+12V) to the sensor1 － To red wire of sensor1

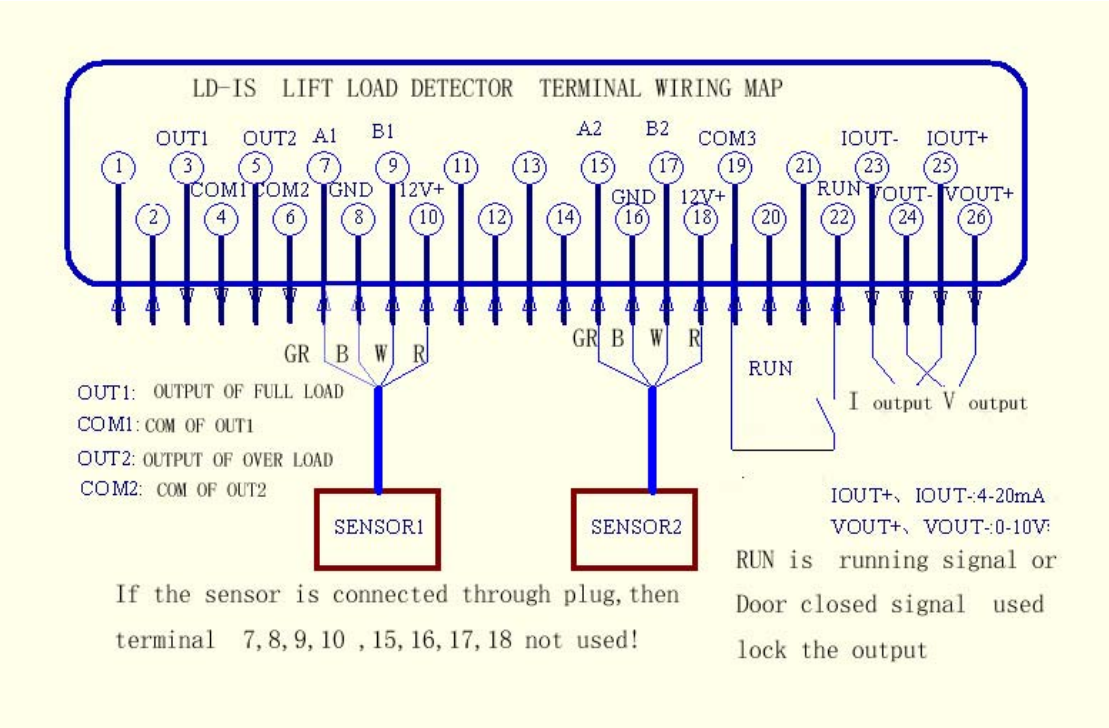
11~14：NC, not used

15：Weighting Sensor2 output signal A2 — To green wire of sensor2
16：GND of Power to the sensor2(0V) — To black wire of sensor2
17：weighting Sensor2 output signal B2 － To white wire of sensor2
18： Power(+12V) to the sensor2 － To red wire of sensor2

19： common terminal of terminal 20 , 21 ,22 。
20：not used
21：not used
22：input port of the function locking the output .
if this terminal is on,the output of this control box is stable, not changed with the load.
23： 4-20m Analog output IOUT-.
24： 0-10V Analog output VOUT- .
25： 4-20mA Analog output IOUT+
26： 0-10V Analog output VOUT+ .

P1: PLUG1 has the same function as terminal 7、8、9、10
P2: PLUG2 has the same function as terminal 15、16、17、18

Wire color of the plug：white 1， red 2， green 3, black 4
photo of the plug：



E. LD-IS MENU operation

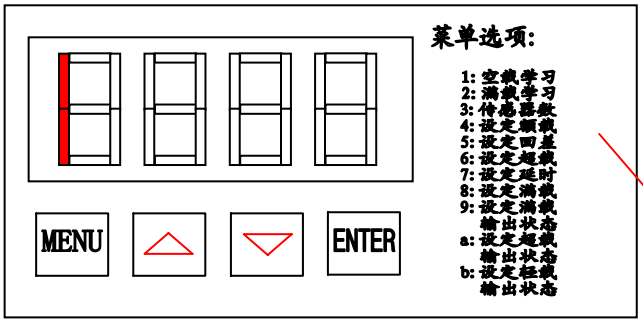
The LD-IS Operation menu has 11 sub menus：

They are ：

1、empty load studying;
2、full load studying;
3、set sensor number (usually set as “2”)
4、set the rated load（for example: 1000KG or 2000KG …）;
5、set gap （for example: 100KG, 200KG..）;
6、set the over load－（for example: 1150KG 2300KG…）;
7、set delay time－ (ususlly set as about 5 seconds)
8、set the full load－（for example: 950KG）;
9、set the output(nc or no of the relay) of full load;
a、set the output(nc or no of the relay) of over load.
b、set the output(nc or no of the relay) of light load;(not use)

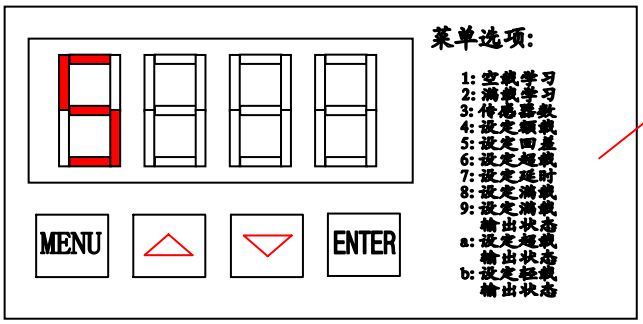
1、 Empty load studying

Lift is at the base floor and the load is guaranteed to be empty.



1. Empty load learning
2. Full load learning
3. Set sensor number
4. Set the rated load
5. Set gap
6. Set the over load
7. Set delay time
8. Set the full load
9. Set the output of full load
a. Set the output of over load
b. Set the output of light load

Press ENTER button as follow:



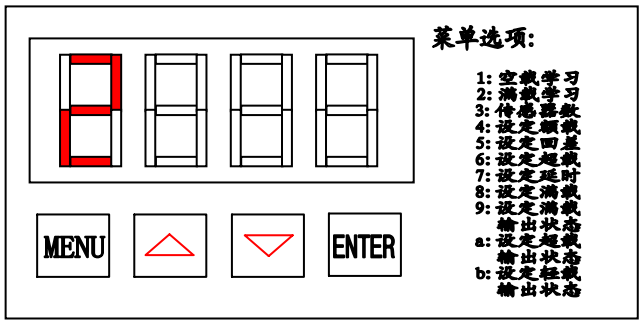
Now it is in empty studying mode , the operator leave the car ,after 30 seconds ,the studying process will end .

2、 Rated load studying

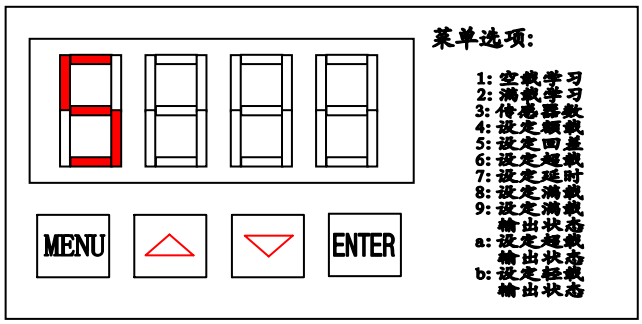
If there are no enough weight nearby, the weight in the car can be less than rated load ,but the MENU4 should be set to the actual load in the car .

After studying, the MENU 4 should be set to the rated load.

Lift is at the base floor and the load is guaranteed to be rated load as follow:



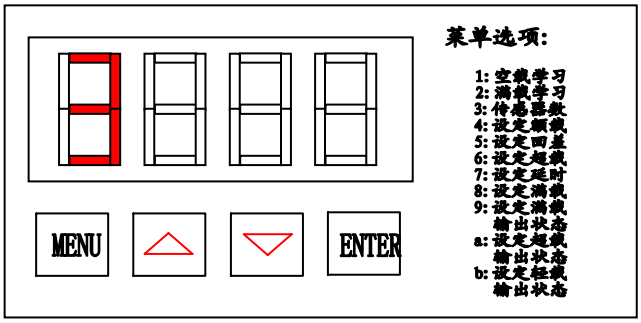
Press ENTER button , as follow:



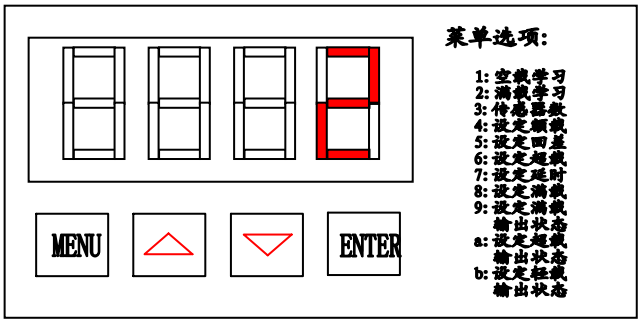
Now it is in rated load studying mode , the operator leave the car ,after 30 seconds, the studying process will end

3. set sensor number

this menu is used to set the all sensor number that the lift used: (is always set as “2”)



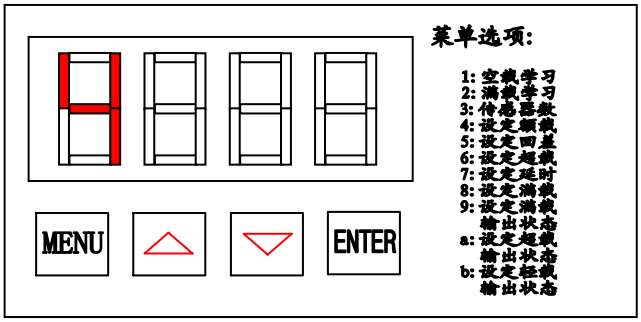
Press ENTER button , as follow:



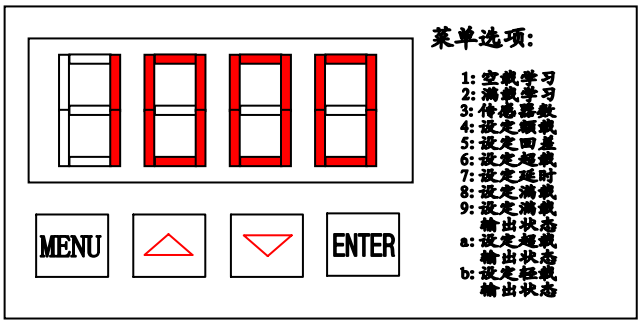
Press ENTER button to save the value and return.

4. Set the rated load

Press MENU button , select 4 as follow:



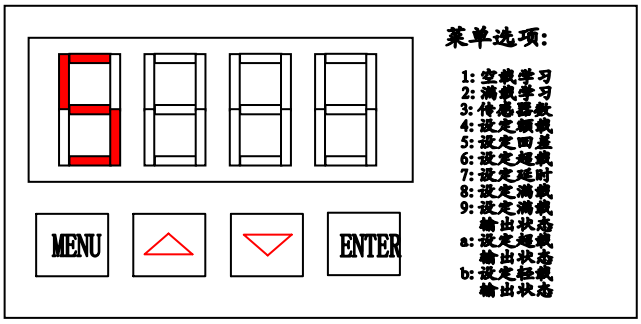
Press ENTER button, press▲and ▼button to set lift rated load as 1 000Kg, as follow:



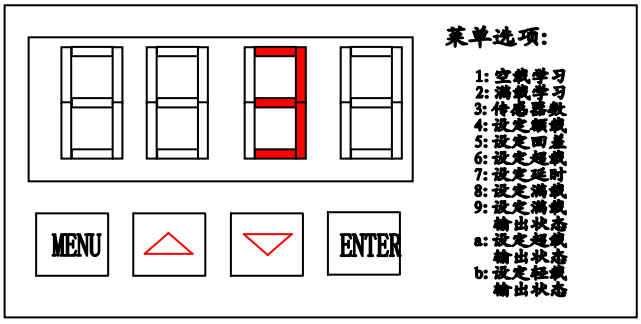
Press ENTER button to save the value and return.

5. Set gap

Press MENU button , select 5 as follow:



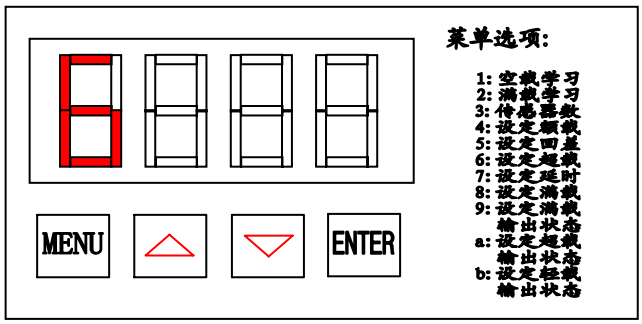
Press ENTER button, press▲and ▼button to set gap as 30 , as follow:



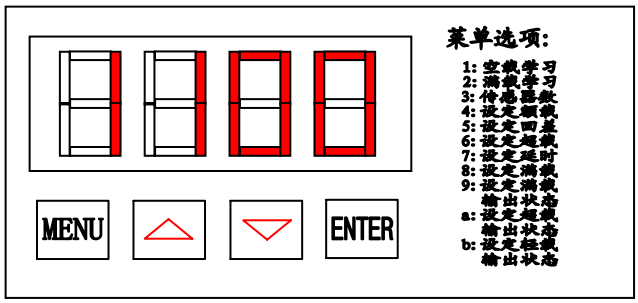
Press ENTER button to save the value and return.

6、 Set the over load

Press MENU button , select 6 as follow:



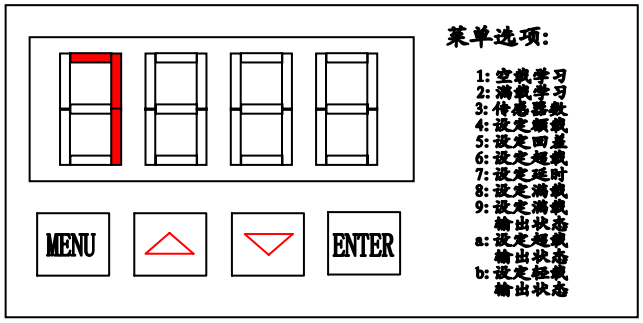
Press ENTER button, press▲and ▼button to set lift over load as 1100Kg, as follow:



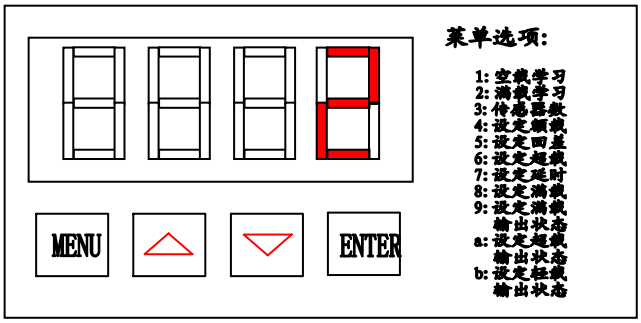
Press ENTER button to save the value and return.

7、Set delay time

Press MENU button , select 7 as follow:



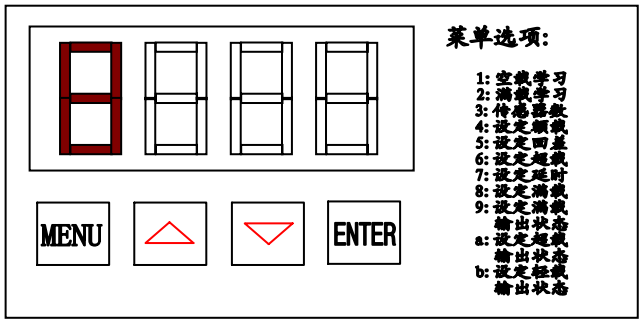
Press ENTER button, press▲and ▼button to set delay time as 2 second, as follow:



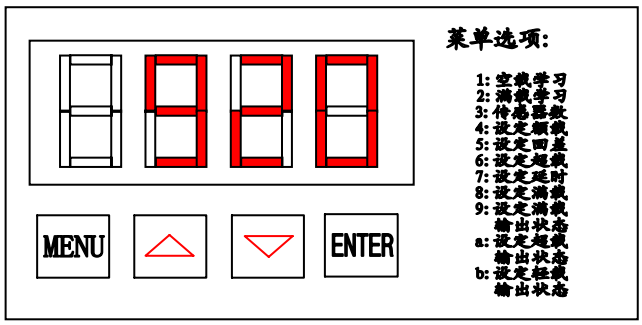
If use the output time delay function, the value is usually set as about 5 seconds. If not use the function , the value is usually set as “0”.

8、 Set the full load

Press MENU button , select 8 as follow:



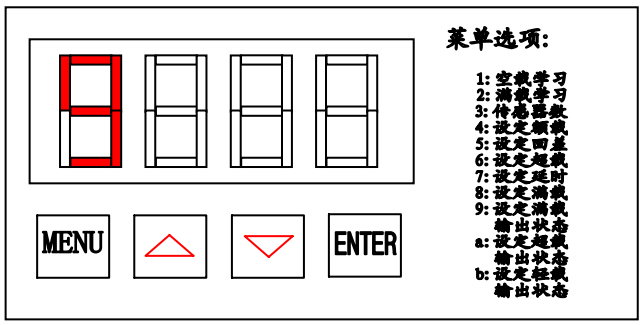
Press ENTER button, press▲and ▼button to set lift over load as 920Kg,as follow:



Press ENTER button to save the value and return.

9、Set the output(NC or NO of the relay) of full load

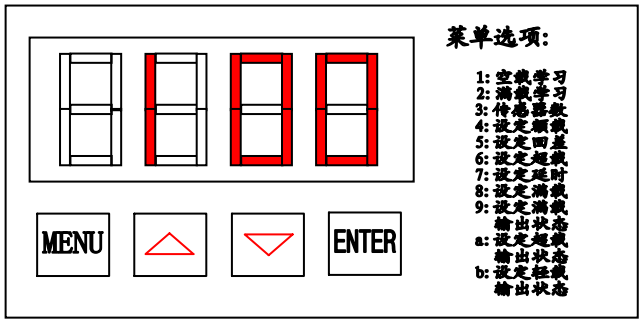
Press MENU button , select 9 as follow:



Press ENTER button, press▲and ▼button to set the value .

If the value is zero, the output of full load is NC (normal close),

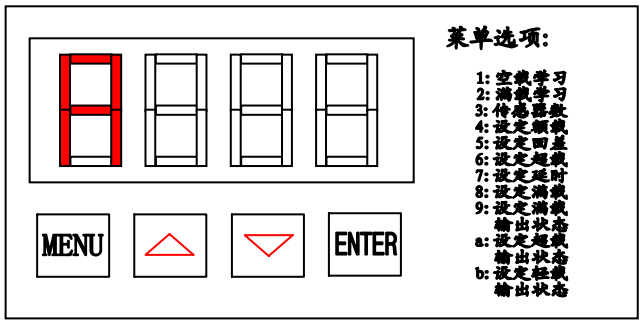
If the value is not zero, the output of full load is NO (normal open).



Press ENTER button to save the value and return.

a . Set the output (NC or NO of the relay) of over load

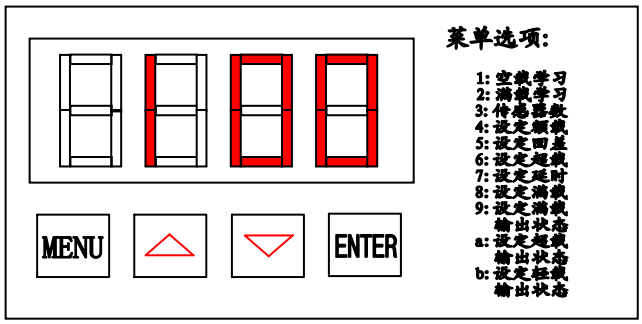
Press MENU button , select “a” as follow:



Press ENTER button, press▲and ▼button to set the value

If the value is zero, the output of over load is NC (normal close)

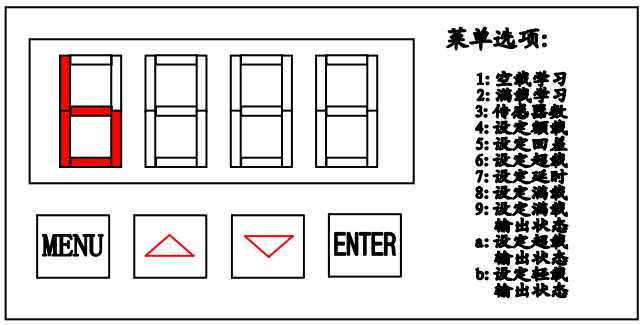
If the value is not zero, the output of over load is NO (normal open)



Press ENTER button to save the value and return.

b、Set the output(NC or NO of the relay) of light load (not use)

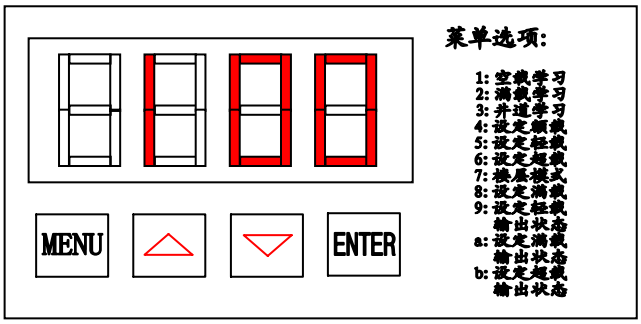
Press MENU button , select “b” as follow:



Press ENTER button, press▲and ▼button to set the value

If the value is zero, the output of light load is NC (normal close)

If the value is not zero, the output of light load is NO (normal open)



Press ENTER button to save the value and return.

F. Adjusting Process

As the following process:

First set four parameters:

Menu 3: set sensor number （set as “2”）

Menu 4: set rated load!

Menu 6: set over load!

Menu 8: set full load!

After setting the four parameters. Let the car to be empty!

Menu 1: empty load studying!

After empty load studying, Let the car to be rated load!

Menu 2: rated load studying!

Menu 5: set gap

Menu 7: set delay time

Menu 9: Set the output(NC or NO of the relay) of full load

Menu a: Set the output (NC or NO of the relay) of over load

G、Deal with fault

1. LED display 9999，the output of relay are not right.

Cause A： Have not studied empty load and rated load.

Or have not set the values of rated load, empty load, light load and full load Cause .

2. LED display 0000，the output of relay are not right.

Cause A： The output of sensor is not right.

Please check the sensor wire or replace it with a good one

Cause B： The power of the sensor is not right .it should be DC12V.

Please check whether the voltage between the terminal 10 and 8 is DC12V.

Please check whether the voltage between the terminal 18 and 16 is DC12V.

H. Recommend Fixing map