Product Introduction:

The module adopts single-chip microcomputer intelligent control, displays the remaining capacity of the battery pack through the ten-level color bar, users can know the working status of the battery in real time. With intelligent charge control, overcharge protection, over-discharge protection, one-key load control output. Intelligent charging and discharging control functions are realized through external relays.

Product Parameters:

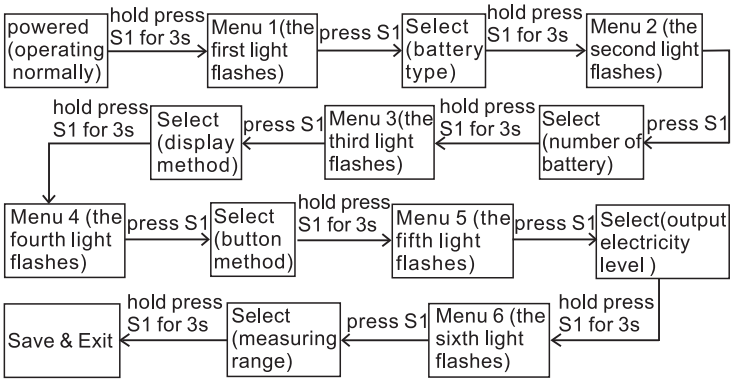
1. Suitable battery types and series number:
Lithium polymer battery (nominal 3.7V): 1-23 cells
Lithium iron battery (nominal 3.2V): 1-26 cells
Storage battery (nominal 12V): 1-7 cells

2. Technical parameters:
Input power supply: 8-100V
Tested voltage range: 2-100V
Working current: 6 mA
Current consumption: 7 uA
Load current on controlling side: 300mA (500mA maximum)
Working temperature: 0-60℃

Menu Setting: (refer to Menu Description)

Instructions: 1. During setting, by holding press S1 for 3s instead of pressing S1, users can make it jump to the next menu from the current menu.
2. Factory defaults to set it for 4 cells of Lithium polymer battery, please choose corresponding parameters as your need.

Parameter Setting Guide:



Menu instructions:

1. Battery type selection		
Lithium polymer battery Nominal: 3.7V MAX 4.2V	Lithium iron battery Nominal: 3.2V MAX 3.6V	Storage battery Nominal: 12V MAX 13.8V

2. Battery cells selection					
1S	2S	3S	4S	5S	6S
7S	8S	9S	10S	11S	12S
13S	14S	15S	16S	17S	18S
19S	20S	21S	22S	23S	24S
25S	26S	Support different battery serial numbers as follows: a.Lithium polymer battery: 1-23 cells b.Lithium iron battery: 1-26 cells c.Storage battery: 1-7 cells			

3. Display method selection		
1)Light up linearly Remaining capacity lights all is on	2)Single light up Only show the present capacity light	When the measured capacity is 0%, 1 and 2 lights flash. Lower than the specified over-discharge voltage, all lights flash for 0.5 second periods.(Polymer battery 32V, Lithium Iron battery 28V, storage battery 10.8V)

4. Key selection		
1)Short press to show the present capacity After a delay of 3 seconds, turn off the display, enter the low power consumption mode, current is 7uA	2)Lights are always on Intelligent charge and discharge function can only be used in this mode	

5. Output level selection
The output level state is corresponding to the 1, 2, 3 lights in the figure. 0 means the light is off, output low level; 1 means the light is on, output high level; all 3 way can be set individually.1light 1 is one-key load control, light 2 is over-discharge protection, and light 3 is overcharge protection. Each time the button is pressed, the light changes in hexadecimal, (000 001 011 100 101 110 111).

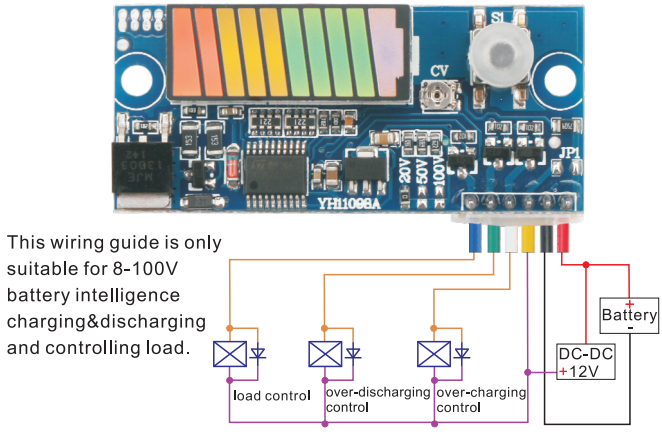
6. Range selection(select the appropriate range according to the measured battery voltage, you can get the highest accuracy of measurement. The span selection jumper on the PCB must also be the same as the one selected in the menu. Otherwise, will cause inaccurate measurement.)		
a. 20V Measure battery within 20V	b. 50V Measure battery within 50V	c. 100V Measure battery within 100V

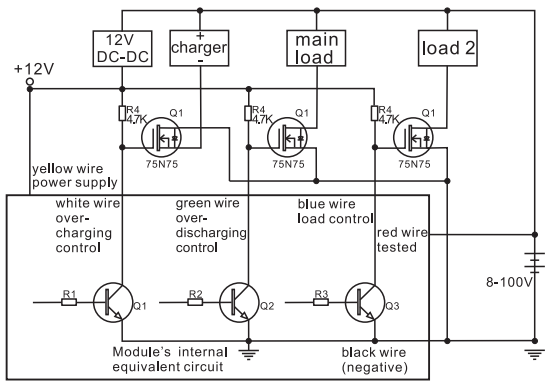
Instruction for controlling output (Menu 4, The control function is effective when it is selected 2 in button method.)

1. OUT1 is one-key load control signal, using S1 can control the load on and off.
2. OUT2 L is the over-discharge protection control signal. The output level is reversed when the voltage is lower than the specified minimum voltage (2.5V for polymer lithium batteries, 2.2V for iron-lithium batteries, and 10.6V for storage batteries).
3. OUT3 H is intelligent charge control signal, which can automatically turn off the charge when the battery is fully charged. When the battery discharge value is lower than the specified voltage value, it will start charging automatically and complete the automatic charge/discharge control cycle.

1). Output level is reversed when the voltage is higher than the specified voltage and the charger stops charging (4.25V for polymer lithium batteries, 3.65V for iron-lithium batteries, and 14V for storage batteries).
2). Output level is turned over again when the voltage is lower than the specified voltage, and the charger is automatically charged to the battery (3.2V for polymer lithium batteries, 3.0V for iron-lithium batteries, and 10.8V for storage batteries).

Wiring Sample:





wiring diagram for MOS tube