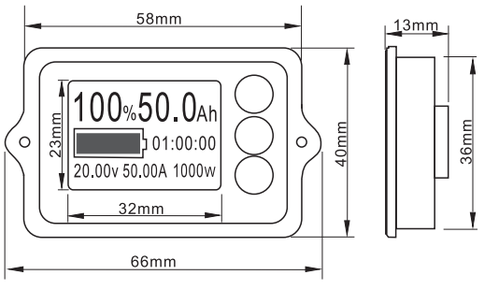
Tk15 Battery Capacity Tester

—Instruction—

Sketch :



Product overviews :

Tk15 is a kind of high precision current type battery capacity tester(also known as coulometer), which can test the voltage, current and capacity of battery to help users know the state of battery in time. Tk15 have memory function. It is suitable for mobile and portable equipments、e-bike、balance cars、cleaning machines、instruments、ups and so on.

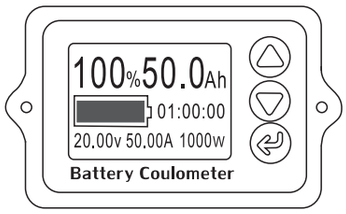
Application :

This product is suitable for lithium batteries, lithium iron phosphate batteries, lead-acid batteries and nickel-metal hydride batteries which working voltage is from 8V to 80V.

Basic parameters :

Parameter	Min	Type	Max	Unit
Working voltage	8.0	50.0	80.0	V
Working dissipation		10.0	12.0	mA
Standby dissipation		0.5	0.8	mA
Sleep dissipation		50	60	uA
Voltage accuracy		±2.0		%
Current accuracy		±2.0		%
Capacity accuracy		±2.0		%
Backlight on current		40	50	mA
Backlight off current		30	40	mA
Preset capacity value	0.1		590	Ah
Current of 50A sampler	0.0	50.0	75.0	A
Temperature range	0	20	35	℃
Weight		20		g
Size		52*36*15.6		mm

Working interface description :

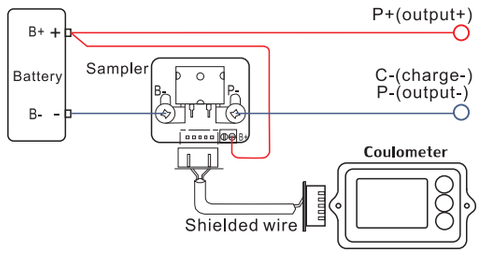


1.Upper left corner display the percentage of the residua capacity;
2.Upper right corner display the initial capacity (Ah/mAh);
3.The battery symbol on the middle left,the residual capacity displayed as a visualized totem;
4.The remained charging or discharging time on the middle right, the max value is 99:00:00,
5.Voltage, current and power displayed on the bottom.

Connect :

We need a shielded wire and a ordinary wire (0.3-0.75 mm²).One end of the ordinary wire connects to positive,another end connects to B+of sampler (any one is ok). The B- of sampler connects to B- of battery. P- of sampler connect to P- of output. Finally connect sampler to coulometer by the shielded wire.

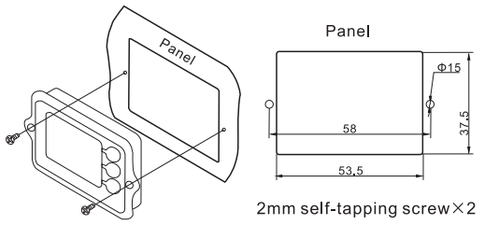
Connection diagram of 50A sampler :



Attention: Please connect as shown strictly. The sampler must be connected to the negative circuit, it is forbidden to connect to the positive circuit. If you want to extend the shielded wire, you must use 4 lines of same specification.

Install :

First, open one rectangular orifice and two screw holes on the panel of the equipment. Then install the coulometer from the front of the panel, and put the shell of coulometer into the rectangular orifice. Finally, fix the coulometer with tapping screws from the front of the panel. As shown below:



Using steps :

1. Connect and check the current: Complete the connection as shown and power on, the screen should display the battery voltage, current, capacity percentage and other information. If the screen has no response, please check the connection. Then charge or discharge and check display current is consistent with actual current whether or not. If the error is large please check the connection.

2.Capacity reset: On first use, the percentage and capacity is not the actual value, you should reset the capacity: discharge the battery totally and hold the"▽"key for 3 seconds to set the capacity zero or charge the battery fully and hold the"△"key for 3 seconds to set the capacity full. The coulometer will be work, and do not need repeat this expect replace the battery.

3.Check and reset the actual capacity: If you find the display capacity don't match the actual capacity during use, please check and reset the actual capacity: discharge the battery totally and hold the"▽"key for 3 seconds to set the capacity zero, then set the preset capacity as large as possible. Then charge the battery fully, and the display capacity is the actual capacity. Finally set the display capacity as preset capacity (Please refer to use setting).

Other description :

1. When charging or discharging, the coulometer must be at work. Otherwise the capacity will not be accurate.

2. Connect the load, when the discharge current higher than 50mA, backlight on (if backlight blinking, the RS+ and RS- are inversely) indicate that the load is discharging. Besides, display the discharge current and remaining discharge time. The time will fluctuate if the current fluctuate greatly.

3. Break the load, and connect the charger. When the charge current higher than 50mA, backlight blinking (if backlight on, the RS+ and RS- are inversely) indicate that the battery is charging. Besides, display the charge current and remaining charge time.

4. When the charge or discharge current value < 40mA, the coulometer enter a low power state and backlight off. Besides, the coulometer will memory the capacity.

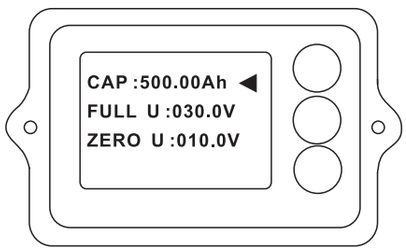
5. Because of high sensitivity, when the coulometer is in standby mode (battery has no input or output current), if it is interfered by electromagnetic radiation (open or close inductive loads, such as the motor) nearly, the backlight will shortly open.

6. When the current changes frequently the date acquisition may produce error, and it will affect the accuracy.

Use setting :

- **Preset capacity and voltage setting :**

1. Press the" ⏎ "key for 3 seconds in the main interface and enter the engineering mode;



2. Press the" △ "or" ▽ "key to select item;
CAP—preset capacity: an initial capacity has been set at factory, please set it according to the real capacity;
FULL U—full voltage: when the voltage is higher than it the percentage will be 100%;
ZERO U—zero voltage: when the voltage is lower than it the percentage will be 0%, and backlight off.

Note: Generally the FULL U and ZERO U do not need to set. The default is 0V, which is the invalid. If you want set, please understand the actual charge and discharge voltage of battery firstly.

3. Select"CAP"and press" ⏎ "key to enter preset capacity setting. The set bit of capacity value flicker, press the" ⏎ "key can set other bits, press the " △ "or" ▽ " key to plus and minus the value;

4. Press the" ⏎ "key for 2s to finish setting; Other items are same with this.

5. Press the" △ "and" ▽ "key at the same time to exit engineering mode.

- **Set capacity zero or full**

Before the first use or after change the battery, the memory capacity should be set zero or full: In the main interface, hold the" ▽ "key for 3 seconds to set the capacity zero, the percentage is 0; hold the " △ "key for 3 seconds to set the capacity full, the percentage is 100. Attention that the operations can not be restored.

Attention and warranty :

- The tester cannot be exposed in the sun for a long time or in the environment with large amounts of ultraviolet radiation when using or storing, particular in winter (<-20℃) and summer (>60℃), otherwise it will shorten the life of LCD.
- Within one year, any fault caused by non-artificial reason we should maintain it freely.