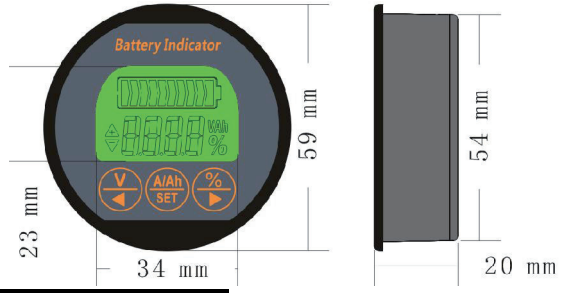
GWL/M-BC21 Battery Capacity Tester

—Instruction—

• Sketch :



•Product overviews :

★ BC21 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. BC21 have memory function. It is suitable for mobile and portable equipments、e-bike、balance cars、cleaning machines、instruments、ups and so on.

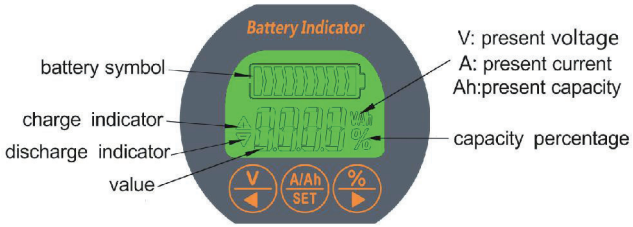
• Application :

★ BC21 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		80.0	V
Working dissipation		10.0	12.0	mA
Standby dissipation		0.5	0.6	mA
Sleep dissipation		50	60	uA
Voltage accuracy		±1.0		%
Current accuracy		±1.0		%
Capacity accuracy		±1.0		%
Backlight on current(50A)	30.0		60.0	mA
Backlight on current(>50A)	80.0		120.0	mA
Preset capacity value	0.1		999	Ah
Current of 50A sampler	0.0	50.0	75.0	A
Current of 100A sampler	0.0	100.0	150.0	A
Current of 350A sampler	0.0	350.0	400.0	A
Temperature range	0	20	35	℃
Weight			g	
Size	ø59*20		mm	

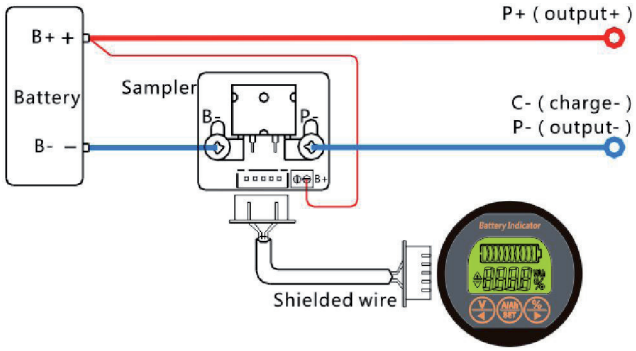
• Working interface description :



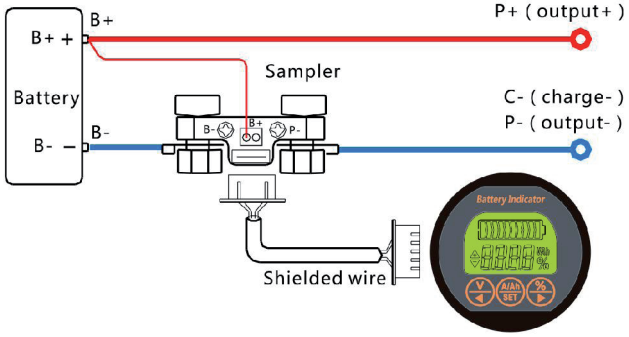
• Connect :

★ We need a shielded wire and a ordinary wire (0.3-0.75 mm²).One end of the ordinary wire connects to positive of battery , 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.(Notice: The diagram is not equal proportion)

★ **Connection diagram of 50A sampler :**



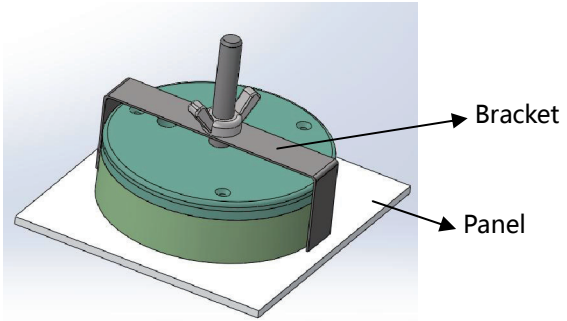
★ **Connection diagram of 100A/350A sampler :**



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 a round holes of 54.5mm on the panel of the equipment. Then install the coulometer from the front of the panel. Finally , tighten the bracket on the back. As shown below:



• Using steps :

1. Connect and check the current : Power on after complete the connection as shown , the screen should display capacity percentage. If the screen has no response , please check the connection. **Then charge or discharge the battery, and check whether the display current is equal to the actual current. If the deviation is large please check the connection.**

2.Capacity reset : On first use , the percentage and capacity are not the actual value ,you should reset the capacity :discharge the battery totally and hold the "V" 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. And it doesn't need to do this again later, except replace the battery.

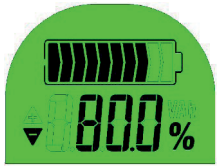
3.Check and reset the actual capacity : If you find the display capacity don't match the actual capacity , please check and reset the actual capacity : discharge the battery totally and hold the "V" key for 3s to set the capacity zero , then set the capacity value as large as possible. Then charge the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

•Other description :

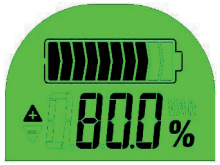
1. When charging or discharging , the coulometer must be at work. Otherwise the capacity will not be accurate.

2. Connect the load , when the discharge current is higher

than backlight on current, the backlight on (if backlight blinking , the RS+ and RS- are inversely), and display discharge indicator ,indicate battery is discharging.



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



4. When the charge or discharge current is less than backlight off current, coulometer enter a low power state and backlight off. And TR16 can memory the capacity.

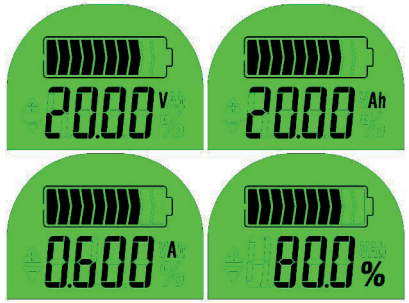
5. Because of high sensitivity , when the coulometer is in standby mode (battery has no input or output current) , if it is interfered by electromagnetic radiation (open or close inductive loads , such as the motor) nearly , the backlight will shortly open.

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

● Use and setting :

★ **Change display interface :**

After power on, display capacity percentage. Click "V" key, display voltage; click "AH" key, display capacity, click "AH" key again, display current; click "%" key, display percentage.



★ **Preset capacity and voltage setting :**

1. Under voltage display, press the "AH" key for 3s to enter zero capacity voltage setting. The set bit flicker, click the "V" or "%" key to plus and minus the value, then press the "AH" key to complete setting. When the voltage is lower than the value the percentage will be 0% , and backlight off.

2. Under capacity display, press the "AH" key for 3s to enter capacity setting. The set bit flicker, click the "V" or "%" key to plus and minus the value, then press the "AH" key to complete setting.

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

★ **Set capacity zero or full :**

When on first use or change the battery , the memory capacity should be set zero or full: In the main interface ,hold the "V" 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.