POWERTECH

QP2322

Multi-function Battery Meter

Instruction Manual

CONTENTS

WARNINGS & SAFETY INFORMATION

WARNING: The manufacturer is not responsible for any potential injury from misuse

- This module is suitable for indoor, please do not use outdoor.
- Applied load should not exceed the rated voltage, current.
- Wiring order can't be wrong.

BEFORE FIRST USE

Prior to using your product, please read all the safety and operating instructions thoroughly. Please ensure you follow the steps below before using the product. We recommend you keep the original packaging for storing the product when not in use.

Please pay close attention to the section entitled Warnings & Safety Information. Find a safe and convenient place to keep this instruction manual for future reference.

Unpack the product but keep all packaging materials until you have made sure your new product is undamaged and in good working order. Ensure you have all accessories listed in this manual.

BOX CONTENTS

1 x Multi-function Battery Meter
1 X User Manual

OVERVIEW

DC multifunction battery tester, this meter is mainly used to test all kinds of battery's voltage, discharge current. discharge power, discharge impedance, capacity, SOC, energy, running time, and display the measurement data through LCD screen.

Measuring Range 300A (use external shunt, can matched with 50A, 100A, 200A, 300A four kinds of shunt).
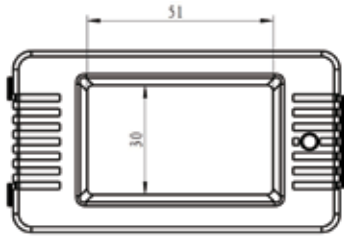
PRODUCT DIAGRAM

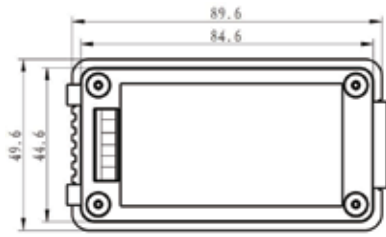Measurements in mm

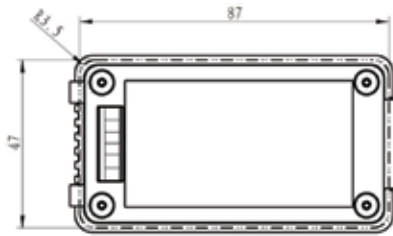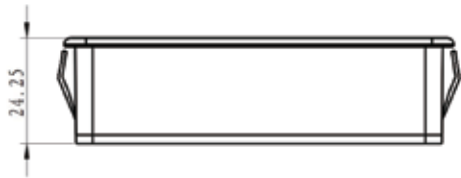Figure 14 LCD Screen size   Figure 15 Out frame size

Figure 16 Hole size   Figure 17 Height size

Figure 18   LCD full display figure

Voltage

Measuring range:	0-200V. (when the test voltage is <8V, please use the independent power supply mode)
Display format:	<10V display as: 9.99V < 100V display as: 99.9V ≥ 100V display as: 199V
Minimum resolution:	0.01V
The starting test voltage:	0.05V
Measurement accuracy:	1%

Current

Measuring range:	0-50A, 100A, 200A,300A four range depend on the external shunt, the factory default is 100A.
Display format:	< 1A display as: 999mA < 10A display as: 9.99A < 100A display as: 99.9A ≥ 100A display as: 199A
Minimum resolution:	1mA
Measurement accuracy:	1%

Power

Measuring range:	0-60000W
Display format:	< 10W display as: 9.99W < 100W display as: 99.9W < 1000W display as: 999W < 10000W display as: 9.99kW ≥ 10000W display as: 19.9kw
Minimum resolution:	0.01W
Measurement accuracy:	1%

Impedance = Voltage/ Current

Measuring range:	0-10008
Display format:	< 1005 display as: 99.952
	$\geq$100 display as: 9999
	When over the test range or the current is zero, it display "--"
Minimum resolution:	0.192
Measurement accuracy:	1%

Capacity

Measuring range:	0-1000AH
Display format:	< 1AH display as: 999mAH
	<10AH display as: 9.99AH
	<100AH display as: 99.9AH
	<1000AH display as: 999AH
Minimum resolution:	1mAH
Measurement accuracy:	1%

NOTE: Battery capacity testing is a cumulative process of discharge current versus time, it need some time, the time is depend on the discharge current; before you test the capacity, you should preset the full voltage and the cut-off voltage depend on the battery type, after it is fully charged you can use it to the discharge test; When the dump energy display blank, it means the discharge is over, this capacity display value is the battery's capacity.

SOC

SOC is display via percentage and battery symbol, battery symbol totally has 10 grids, every grid present 10% energy. SOC is calculated via the current battery voltage value, before test you should preset the full voltage and the cut-off voltage depend on the battery type; every grid voltage = (the highest voltage - the lowest voltage) / 10.

Energy

Measuring range:	0~ 9999kWh
Display format:	<1kWh display as: 999Wh
	< 10kWh display as: 9.99kWh
	< 100kWh display as: 99.99kWh
	< 1000kWh display as: 999.99kWh
	$\geq$ 1000kWh display as: 9999kWh

Over the test range will become zero.

Minimum resolution:	1Wh = 0.001kWh = 0.001 Kilowatt
Measurement accuracy:	1%

Running time

Measuring range: 0 ~ 999 hour (without load the time will not accumulate)

Display format: 0:00:00 ~ 999:59:59

Over the test range will become zero.

OPERATING INSTRUCTIONS

Setting the full and cut-off voltage

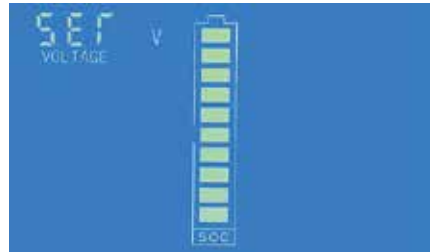Figure 1: the normal display interface

Figure 2: the voltage setting interface

Set the full voltage

1.   In the normal display interface(like fig. 1), long press the button until the LCD screen display the interface like fig. 2, then release the button
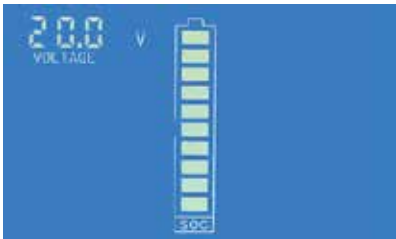

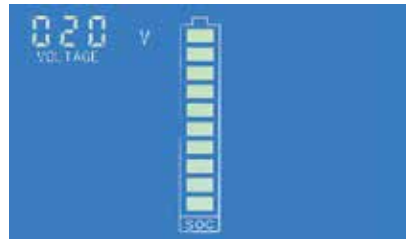Figure 3: full voltage setting interface (low bit)

Figure 4: full voltage setting interface (high bit)

2.   SET character blink present it is the setting status of full / cut-off voltage, long press the button until the LCD screen display the interface like fig. 3, then release the button.

3. At this time, the battery symbol display full grids energy means the full voltage setting status, factory default the full voltage is 020.OV, the numerical code circulation flashing from the low bit to the high bit show that the current setting digit, short press to set the digit; please pay attention that, as the full voltage setting value has 4 digit, but the numerical code has only 3 digit, So the setting is divided into two parts: low bit (fig. 3) thigh bit (fig. 4). For example, the default full voltage is 020.OV, then the display state is 20.0V to 020V low and high cyclic switching display. If you need to set the full voltage is 199.0V, then please set the low bit to 99.0V, when the cycle reaches the high bit, it will display 099V, and only the highest zero bit flicker to prompt it can be setted. Setting the high bit to 199V represents the full voltage is 199.0V.
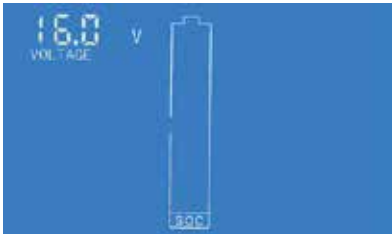

Figure 5: cut-off voltage setting interface(low bit)   Figure 6: cut-off voltage setting interface(high bit)

Set the Cut-off voltage

1. After you set the full voltage, loner press the button until LCD shows the interface of Fig. 5, then release the button;

2. At this time, the battery symbol shows the zero-grid to indicate the cut-off voltage setting state, the default cut-off voltage is 016.0V, the setting method is the same as above; the cut-off voltage is 0.8 times of the full voltage by default, after setting the full voltage, the cut-off voltage is automatically generated in the relationship of 0.8 times; otherwise, you can reset it; After all the above settings are completed, long press the button until the settings are saved and exit the setting status, restore the normal display interface.

Current range setting

1. In the normal display interface, long press the button until the LCD shows the interface of Figure 2, then release the button, short press the button again switch to the interface to Figure 7, it indicates that this state is the current range setting state.

Figure 7 Current range setting interface

2. Longer press the button until the LCD shows the interface of Figure 8, then release the button, short press the button again to switch the current range. This meter provides four current ranges, factory default is 100A, choose the corresponding range according to the shunt.

3. After the current range setting is completed, long press the button until the settings are saved and exit the setting status, restore the normal display interface.

Figure 8 Current range choosing interface

Clear the capacity

1. In the normal display interface, long press the button until the LCD shows the interface of Figure 2, then release the button, short press the button again switch to the interface to Figure 10, it indicates that this state is the clearing capacity setting state.

Figure 9 clear the energy interface

2. Longer press the button until the data has been cleared and exit the setting status, restore the normal display interface.

Clear the running time

1. In the normal display interface, long press the button until the LCD shows the interface of Figure 2, then release the button, short press the button again switch to the interface to Figure 11, it indicates that this state is the clearing running time setting state.

Figure 11 clear the running tim interface

2. Longer press the button until the data has been cleared and exit the setting status, restore the normal display interface.

Working mode

This meter has two modes: normal display mode and dormant mode. In normal display mode, short press the button to enter the dormant mode, in order to reduce the whole machine power consumption, the backlight and LCD display will be turned off in dormant mode. In dormant mode, short press the button will switch to the normal display mode.

> **NOTE: The meter will stop all measurement functions in dormant mode, so please do not switch to dormant mode if normal measurement is performed.**
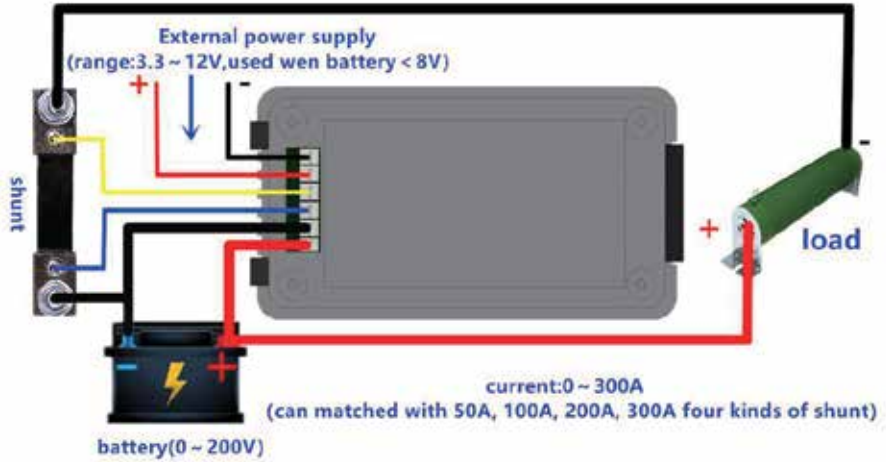
WIRING DIAGRAM

Figure 13 Wiring Diagram

SPECIFICATIONS

Normal Working State	0.03 - 1.2W
Sleep State	0.5mW - 0.5W
Working Temp	-20ºC to 60ºC

The power consumption is related to the test voltage value, the higher the voltage, the greater the power consumption.

WARRANTY INFORMATION

Our product is guaranteed to be free from manufacturing defects for a period of 12 Months.

If your product becomes defective during this period, Electus Distribution will repair, replace, or refund where a product is faulty; or not fit for intended purpose.

This warranty will not cover modified product; misuse or abuse of the product contrary to user instructions or packaging label; change of mind and normal wear and tear.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and failure does not amount to a major failure.

To claim warranty, please contact the place of purchase. You will need to show receipt or other proof of purchase. Additional information may be required to process your claim.

Any expenses relating to the return of your product to the store will normally have to be paid by you.

The benefits to the customer given by this warranty are in addition to other rights and remedies of the Australian Consumer Law in relation to the goods or services to which this warranty relates.

This warranty is provided by:

Electus Distribution
Address 46 Eastern Creek Drive, Eastern Creek NSW 2766
Ph. 1300 738 555