□□□□□OPERATING MANUAL

VA7510S Color Voltage and Current Meter

April 2018
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Chapter 1 □Overview

First, instrument introduction

VA7510S is a basic multi-function instrument□may display the voltage, current, power, capacity, energy, temperature, running time, and other physical parameters in real time,over-voltage, under-voltage, over-current and over-temperature protection can be achieved through reserved relay interfaces.And the meter uses 1.8-inch color LCD as display□display data more comprehensive and clear□easy to observe.This meter is ideal for applications that require monitoring of the output voltage and current as well as charging and discharging batteries.

Second, the main features

1, bidirectional current detection,for detecting charge and discharge users can easily detect bidirectional current properties □ no need to change the

direction of the connection.

2, power off power memory function,after power off, the number of AH and WH before power off can be memorized,Convenient for observation and measurement.

3,time and AH data clearing function，do not affect the next measurement.

4,the percentage of AH can be set without affecting direct discharge measurement；

5,voltage,   current,   AH,   WH,   time,   power,   simultaneously displayed，comprehensive and clear information display.

6,with output disconnect function key, flexible on or off output.

7,with over-voltage, over-current, over-temperature and other extended protection functions.

8,it can be calibrated online, enabling customers to promptly correct the error.

9,in the liquid crystal display can be closed when necessary, reduce power consumption.

Third, technical indicators

model		VA7505S	VA7510	VA7520S	VA7530	VA7550S	VA75A0S
Input voltage		6V~75V(**Self-powered measurement**)					
		0~120V(Voltage measurement range when externally powered)					
Input current measurement		0~50A	0~100A	0~200A	0~300A	0~500A	0~1000A
External supply voltage		6-60V					
display		1.8-inch color LCD display					
Measuring range	voltage	0.01V~120V					
	electric current	0.1A~50A	0.1A~100A	0.1A~200A	0.1A~300A	0.1A~500A	0.1A~1000A
	capacity	0.001AH~65000.00AH					
	energy	0.00KWH~99999.9WH					
	time	**0~100** 小时					
	power value	99KW					
	temperature	1~100°**C**					
Accuracy	Voltage	±1％+2 words					
	Electric current	±2％+5 words					

	temperature	±1°C
Measurement frequency		5 times/second
Type and scope of protection	OVP	0.01V~500V(overvoltage protection range)
	LVP	0.01~500V(undervoltage protection range)
	OCP	0-1000A(charging current overcurrent protection range)
	NCP	0-1000A(discharge current overcurrent protection range)
	OTP	0-100°C(over-temperature protection range)
Display board size		78*42*26（mm）
Measuring board size		87*49*14（mm）

Chapter II Instrument Description

First, the Display Interface
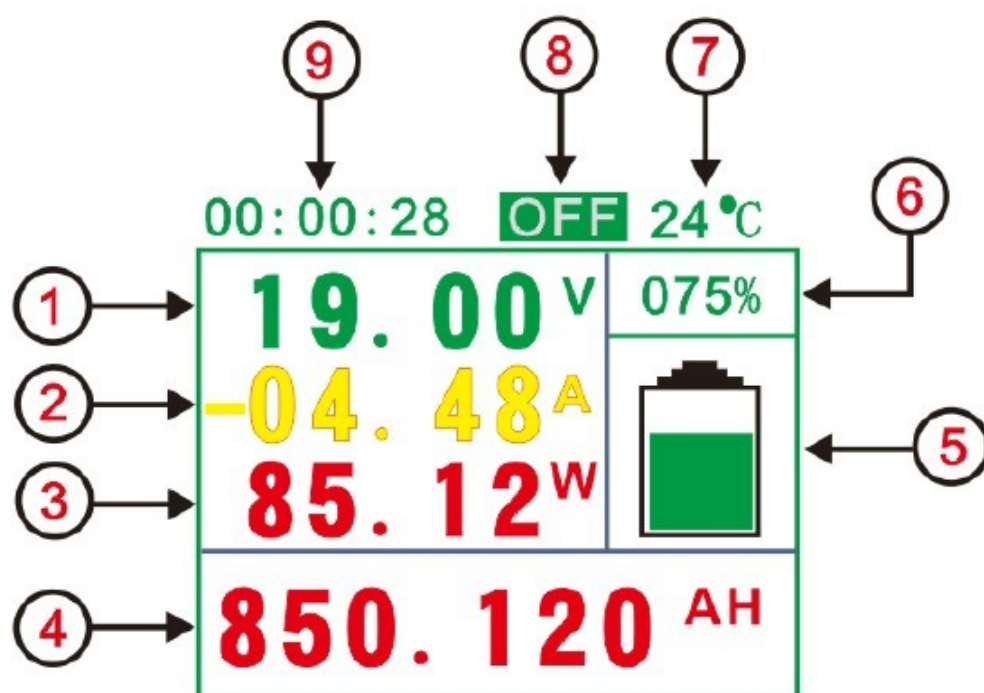
1	Actual measured voltage	6	Percentage of remaining battery capacity
2	Actual measured current	7	Measured temperature
3	The measured power value	8	Output status display
4	Cumulative capacity or energy values	9	Cumulative run time
5	Battery remaining capacity progress bar	10	in vain

Second, the operating instructions

1, AH, WH display switching，click on ⬇key for switching the displayed value WH，click on ⬆key for switching to display AH.

2,When the parameter is the number of display AH, long press OK parameter setting interface system，then press OK key to switch the type of setting parameters,the parameters that can be set are BAT, BPC, OVP, LVP, NCP, OCP, OTP, ADS, TTL, CLR, DTE ，click on ⬇⬆ to change parameters，after the parameter setting is completed, press the OK button for a long time to exit the parameter setting interface.

Third, function introduction

1, "BAT" battery capacity value setting, this parameter is to set the battery measured total capacity.

2, "BPC" battery remaining capacity percentage, can be set according to the value of the remaining battery AH.

3, "OVP" set over-voltage protection value, if the OVP value is set, when the actual measured voltage value is greater than the set value, it will prompt over-voltage, and cut off the relay，Need customers to own。）

4, "LVP" set overvoltage protection value, if you set the LVP value, when the actual measurement of voltage is less than the set value, it will prompt the undervoltage, and cut off the relay，Need customers to own。）

5，"NCP" sets the overvoltage protection value. If the NCP value is set, when the actual measurement charging current value is less than the set value, it will prompt overcurrent and cut off the relay.，Need customers to own。）

6,"OCP" sets the overvoltage protection value. If the OCP value is set, when the actual measurement discharge current value is less than the set value, overcurrent will be prompted and the relay will be cut off.，Need customers to own。）

7,"OTP" sets the over-temperature protection value. If the OTP value is set, when the actual measured temperature value is greater than the set value, the over temperature will be prompted and the relay will be cut off. ，Need customers to own。）
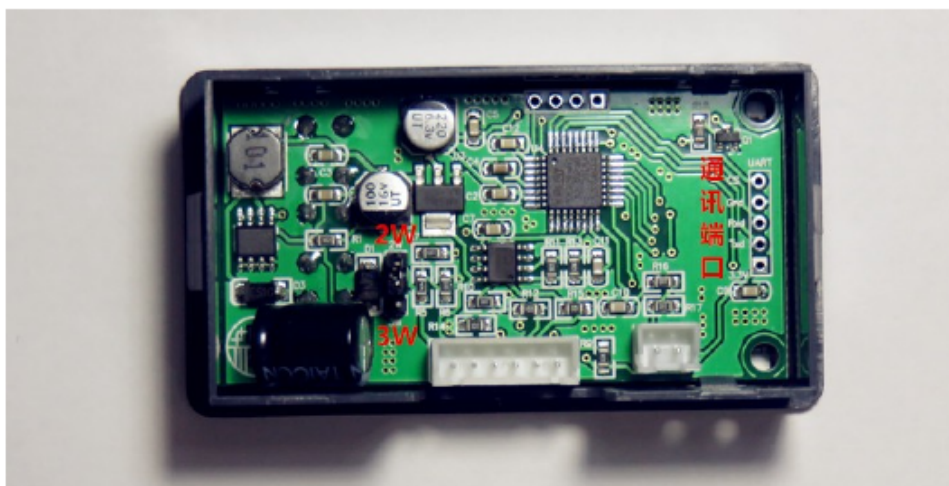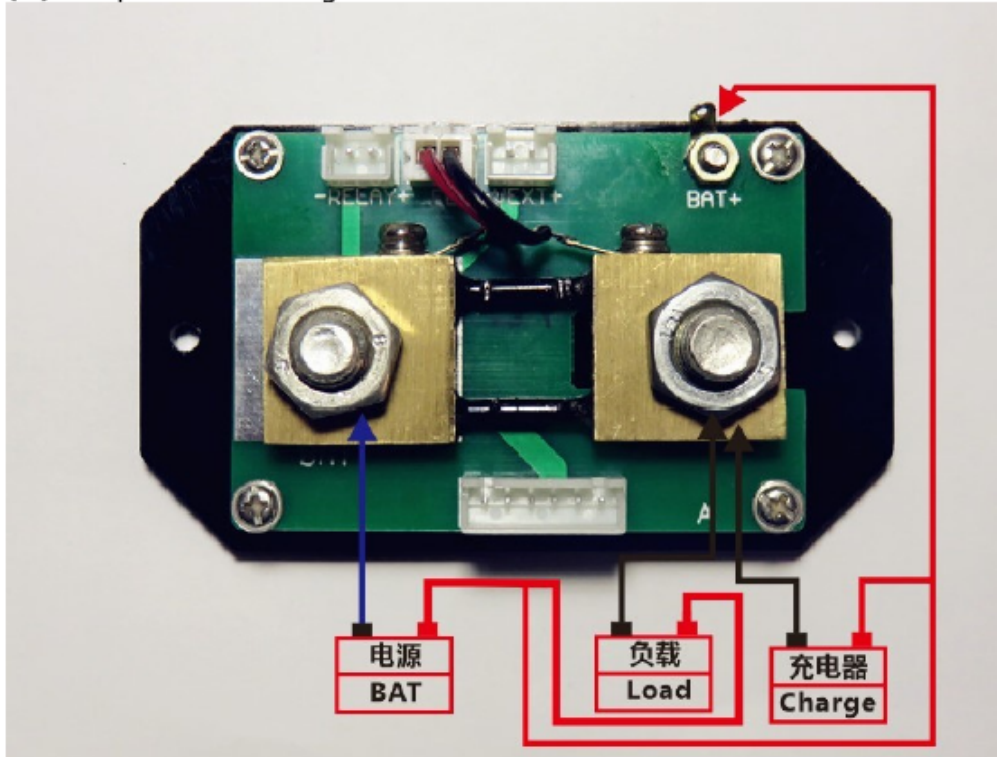
8,"ADS" communication address code setting.In multi-machine communication, multi-machine communication is achieved by setting the address code.

9,"TTL" instrument powers up the output state of the default relay, normally open or normally closed.

10,"CLR" no-load current correction function, if the actual load current is zero

Second, the wiring

(1) self-powered wiring

　　explanation:if the battery under test (power supply) operates in the normal operating voltage range (6-75V), it can use its own power supply wiring.　First

adjust the jumper cap of the power supply selection interface to "2W"，then connect the positive terminal of the battery (power supply) to the voltage measurement port "Bat+" and the negative terminal of the battery (power supply) to the shunt "BAT-" when wiring.　The positive and negative poles of the power supply must not be connected incorrectly or reversed.Connect the positive pole of the battery (power supply) to the positive pole of the load.The negative pole of the battery (power supply) is connected to the negative pole of the load through the other end of the shunt;The positive pole of the charger is connected to the positive pole of the battery, and the negative pole of the charger is connected to the battery (power source) through the other end of the shunt.
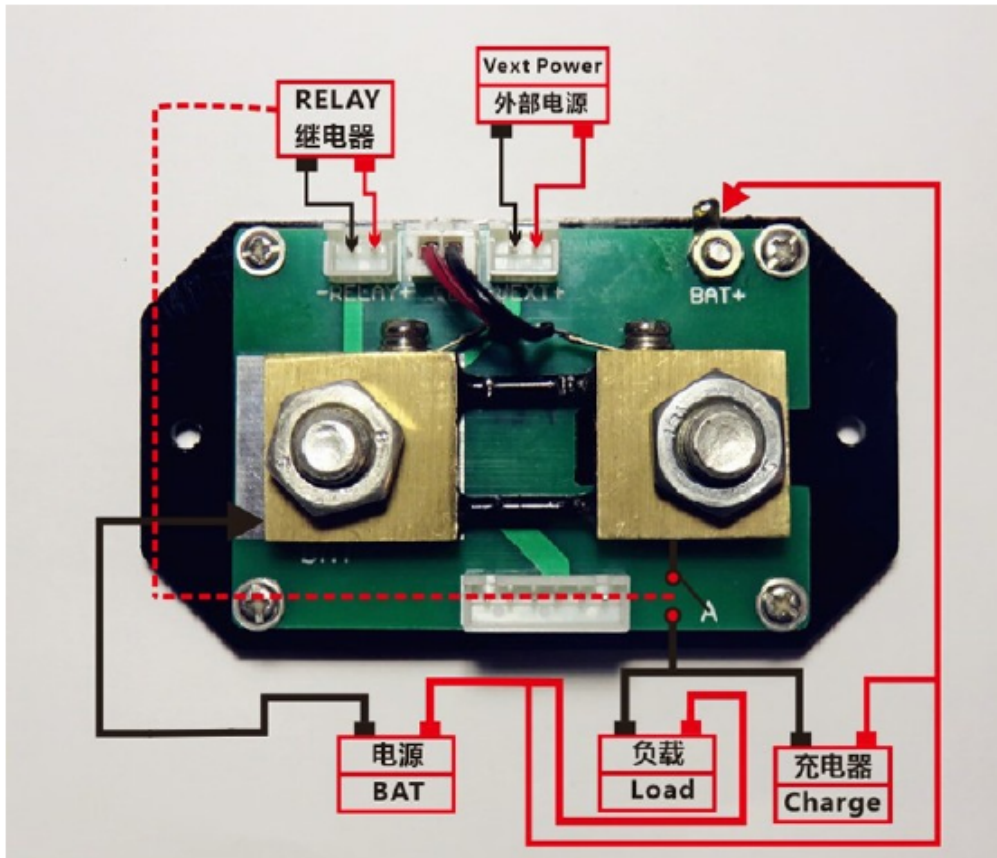
(2) External power supply wiring
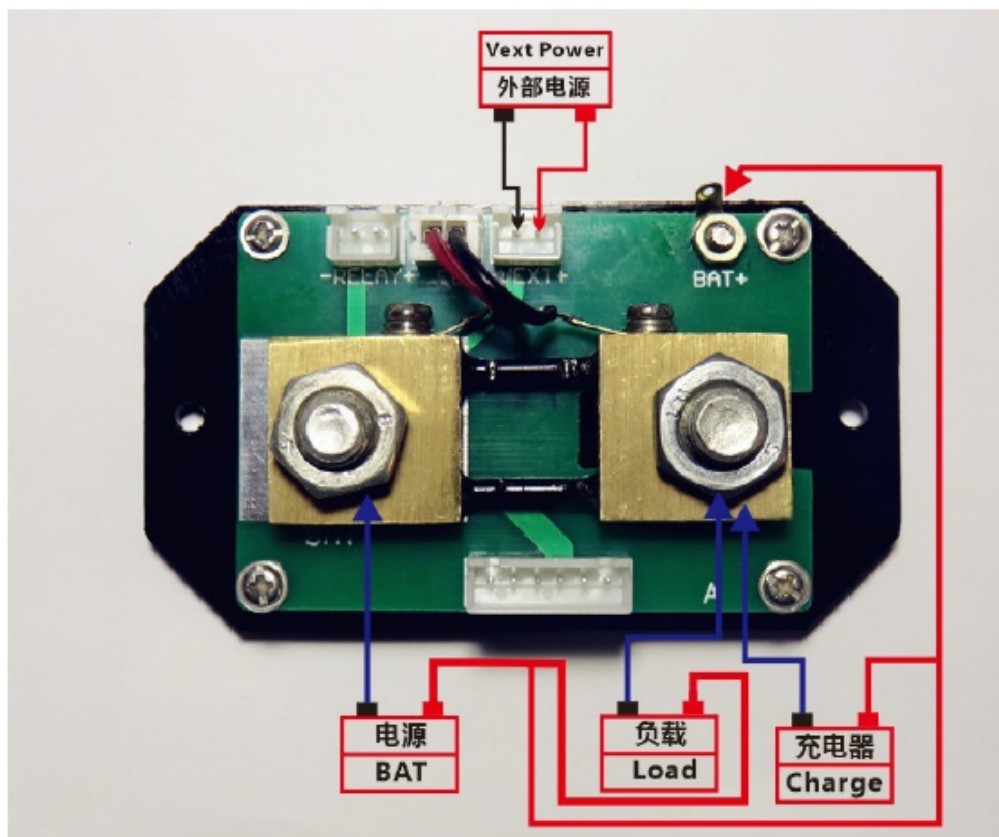
explanation:If the voltage range of the tested battery (power supply) during normal operation is not between (6-75V), the external power supply connection mode can be used，external supply voltage range (6-75)V,First adjust the jumper cap that selects the power supply interface to "3W",then connect the positive terminal of the battery (power supply) to the voltage

measurement port "Bat+"when wiring,connect the negative pole of the battery (power supply) to the shunt "BAT-",the positive and negative poles of the power supply must not be connected incorrectly or reversed.Connect the positive pole of the battery (power supply) to the positive pole of the load,The negative pole of the battery (power supply) is connected to the negative pole of the load through the other end of the shunt;the positive electrode of the charger is connected to the positive electrode of the battery,the negative pole of the charger is connected to the negative pole of the battery (power) phase through the other end of the shunt.

(3)Relay wiring instructions

    explanation:the operating voltage of the relay is provided by an external power supply□if the relay is configured, an external power supply with the

same operating voltage as the relay must be provided ，and make the instrument's power supply state adjusted to "3W" state.Connect the control port of the relay to the controller interface,then connect the negative pole of the power supply to the shunt's "BAT-" position through the normally open or normally closed port of the relay,the wiring in other parts is unchanged.

Warranty and after sales service

Thank you for purchasing cyan electronic products.To maximize the use of the features of your new product,we recommend that you take the following simple steps:

1. Read the safe and effective use guide.

2. Read the warranty terms and conditions.

Warranty conditions:

The warranty period is one year from the date of shipment.During the warranty period, the company chooses to repair or replace the faulty instrument according to the situation.For repair, please mail this product to our company.

The following conditions are not covered by the warranty:

Damage caused by improper operation or maintenance by the user;Use the software or interface provided by the user;without authorization from the after-sales service center, the damage caused by disassembling or repairing without authorization.