

Product Introduction:

VAT series is a multi-function meter based on 2.4G wireless data transmission technology. It can measure parameters such as voltage, current, power, charge and discharge capacity, watt-hour, time, and temperature and with over-current protection, under-voltage protection, and limited time protection and other protection functions. The instrument can automatically identify the direction of the current, and the battery capacity can be monitored in real time, the instrument uses TFT LCD display, display information is comprehensive and user-friendly.

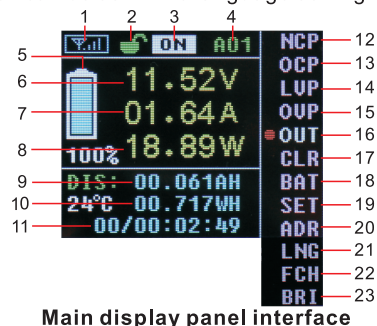
Parameters:

Module: VAT-1200
 Voltage measurement range: 0-100V
 Voltage resolution: 0.01V
 Current Measurement range: 0-200A
 Current resolution: 0.1A
 Relay: external relay (not equipped)
 Temperature measurement range: -20~120 °C
 Capacity display range: 0%~100%
 Power measurement range: 0-200kW
 Power resolution: 0.001W
 AH measurement range: 0-2000KAH
 AH resolution: 0.001AH
 Watt-hour measurement range: 0-4000kWH
 Watt-hour accuracy: 0.001WH
 Time measurement range: 0-99days
 Time resolution: 1 second
 Communication channel range: A~Z (26 channels)
 Communication address range: 01~ 99
 Voltage accuracy: $\pm 2\% + 3$ words
 Current accuracy: $\pm 5\% + 10$ words
 Sampling rate: 5 times/second
 Communication distance: up to 10 meters
 Measurement module power consumption: about 0.4W
 Display module power consumption: about 0.5W
 NCP: 0-300A (negative over-current protection setting)
 OCP: 0-300A (positive over-current protection setting)
 OVP: 0-100V (over-voltage protection setting)
 LVP: 0-100V (under-voltage protection setting)
 Protection delay time: 0-10s

Instrument Description:

1. Display Instruction

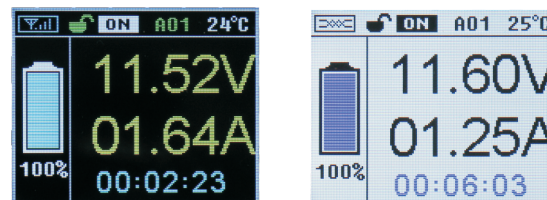
1). The instrument is divided into two parts, including the display module and measurement module, the display interface in both Chinese and English, which can be set in the language setting.



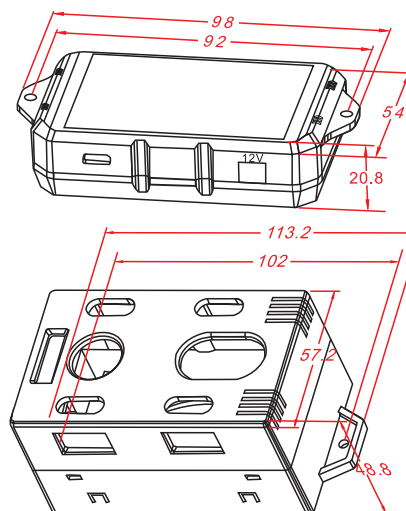
- Signal indication
- Key lock
- Output status
- Address
- Capacity
- Voltage
- Current
- Power
- AH
- Watt hour
- Time
- Negative overcurrent protection
- Overcurrent protection
- Undervoltage protection
- Overvoltage protection
- Output
- Clear
- Capacity setting
- System setting
- Address setting
- Language setting
- Channel setting
- Brightness setting

2). The large font interface:

The main parameters such as voltage and current are displayed in the large font interface for easy observation. After a few seconds, the main interface will automatically jump to the large font display interface, and the time can be set in the system settings. White backlight display interface easy to observe in the light, please read the "Operating Instruction" for details.



3). VAT series display module and measurement module size (in mm)



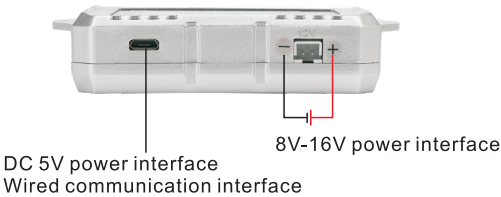
2. The display module and measurement module wiring diagram

The instrument can be "wired communication" and "wireless communication". When wired communication is used, the display board and the measurement module can be connected using the USB cable in the package. When wireless communication is used, the display board needs to be powered separately.

1). Display power supply wiring diagram is as follows:

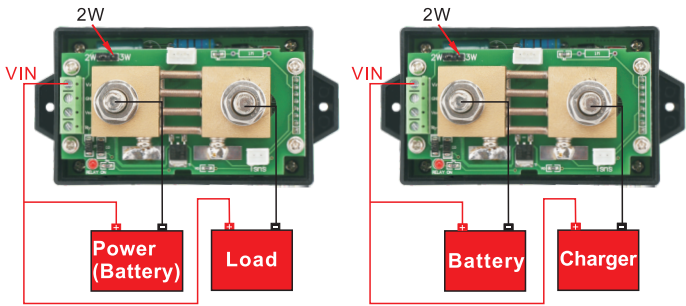
When the display board is powered separately, there are two power

supply interfaces, which are the USB 5V power supply interface and the 2P socket interface (8-16V) power supply.



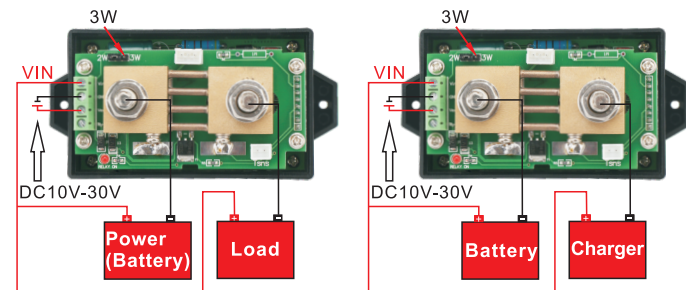
2). Measurement module wiring diagram is as follows:

a. Wiring diagram of VAT1200 measuring voltage is 10-100V:



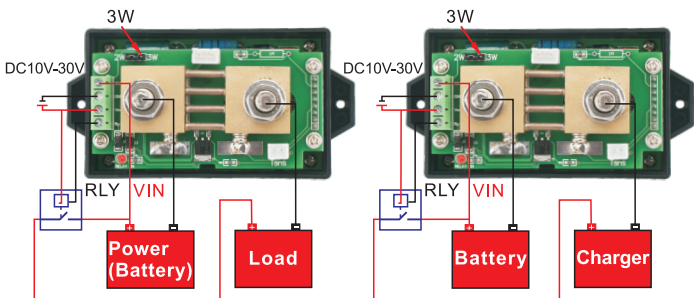
The above figure applies to VAT1200 measurement circuit voltage of 10-100V; please note that the jumper cap connected to 2W at this time, the left wiring method is suitable for battery discharge measurement and DC circuit measurement; The wiring method on the right is only suitable for battery charge measurement.

b. Wiring diagram of VAT1200 measuring voltage is 0-100V:



The figure above applies to batteries or circuits where the VAT1200 measures 0-100V; at this time, note that the jumper cap must be connected to 3W and need to use DC 10-30V power supply. The DC voltage supplies power to the measurement module; the wiring method on the left is suitable for the discharge measurement of the battery and the measurement of the DC circuit; the wiring method on the right is only suitable for the charge measurement of the battery.

c. Wiring diagram of VAT1200 with external relay:



The wiring method on the left is applicable to the discharge measurement of the battery and the measurement of the DC circuit; the wiring method on the right is only applicable to the charge measurement of the battery. When selecting the relay, pay attention to the relay's contact can withstand the maximum current in the circuit, such as the current in the test current is 80A, then select the relay, you must select the contact current can withstand 100A relay, the relay supply voltage can choose 12V or 24V. When the 12V relay is selected, the external power supply voltage must be set to 12V, which is the same as the relay supply voltage.

Operating Instruction:

1. The communication connection

Before operation, please carefully check the wiring is correct. The connection status is displayed on the top of the screen.

- Wireless communication connection is successful
- Wired communication connection is successful
- Communication connection is failed or not connected

2. The operating instruction

Item	Introduction
OUT	Output status control: Short press "OK" to output voltage and current, and turn on measurement function at the same time. Press again, the measurement function is turned off automatically and the parameters are saved. (Shutdown function requires relay coordination)
NCP	Negative over-current protection: Press "OK" with arrow keys can set the value. The function will be turned off when set to 0. (this function requires the cooperation of the relay)
OCP	Positive over-current protection: Setting method is the same as NCP.
LVP	Low-voltage protection: Setting method is the same as NCP.
OVP	Over-voltage protection. Setting method is the same as NCP.
CLR	Clear function: Short press "OK" can clear AH、WH and time value immediately, the set battery capacity value in "BAT" will become 0, real-time battery capacity will be set to 100%.
BAT	Capacity setting function: After turning on this function, short press "OK", "Battery capacity setting" will switch back and forth with "Real-time capacity setting", set the value with the arrow keys.
SET	System setting: Can set the power-on default state, delay time, relay level, screen switching time (value is zero is not turned on this function), white backlight screen.
ADR	Address setting: Short press "OK", with the arrow keys to set address.
LNG	Language setting: Select Chinese/English interface, short press "OK", with the arrow keys to set.
FCH	Channel setting: Short press "OK", with the arrow keys to set.
BRI	Brightness setting: Short press "OK", with the arrow keys to set brightness.

Note: Leave the cursor at the "ADR" position and long press "DOWN" key for 3 seconds to switch to the "LNG" option. NCP, OCP, LVP, OVP function requires the cooperation of the relay.

Package Including:

- 1x Display Module
- 1x Measurement Module
- 1x Data Cable
- 1x Temperature Sensor
- 1x Extension Interface 2P Line