VAX-1030 & VAX-1100

Multifunction meter for the measurement of direct current circuits

1. GENERAL INFORMATION

Dear customer,

thank you for choosing our product. In the following, we will show you how to use your product.
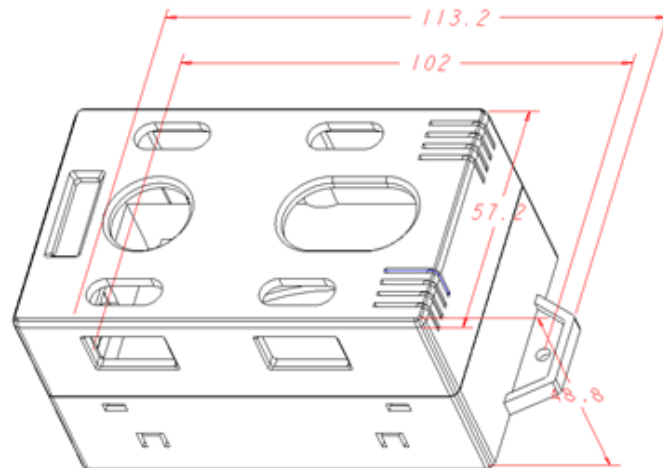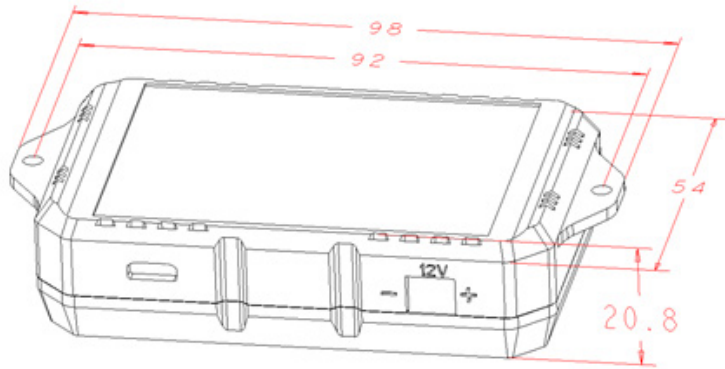Should you encounter any unexpected problems during use, please do not hesitate to contact us.

The measuring instruments of the VAX series are multimeter which transmit the measurement results to the display via a wireless 2.4 GHz technology. A TFT-LCD shows the measured values clearly and enables a comfortable operation.
The measuring instruments are safeguarded against overvoltage, undervoltage and overcurrent. In operation with batteries, these devices can detect automatically the direction of the current flow and displays the battery capacity in real time.

2. TECHNICAL SPECIFICATIONS

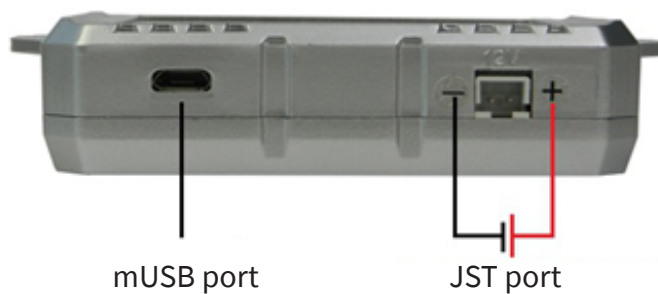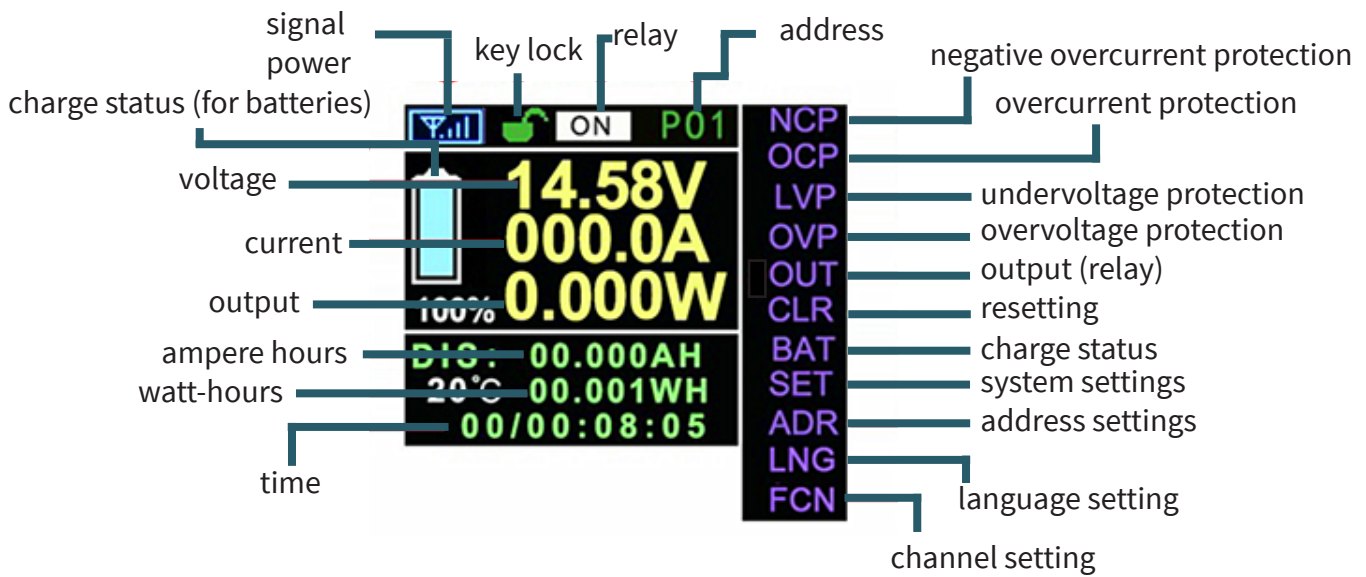| Model	VAX-1030	VAX-1100
Measuring range voltage	0 - 100 V	0 - 100 V
Resolution voltage	0,01 V	0,01 V
Measuring range current	0 - 30 A	0 - 100 A
Resolution current	0,01 A	0,1 A
Relay	Internal	External (optional)
Measuring range temperature	-20 - 120 °C	
Charge indicator	0 - 100 %	
Measuring range power	0 - 200 kW	
Resolution power	0,001 W	
Measuring range ampere hours	0 - 2000 AH	
Resolution ampere hours	0,001 AH	
Measuring range watt-hours	0 - 4000 kWH	
Resolution watt-hours	0,001 WH	
Measuring range time	0 - 99 days	
Resolution time	1 seconds	
Accuracy voltage	± 2 % + 3 digits	
Accuracy current	± 5 % + 10 digits	
Sampling rate	5 Hz	
Range, wireless	Up to 10 m	
Power consumption measuring instrument	ca. 0,4 W	
Power consumption display	0,5 W	
NCP	0 - 300 A (setting of negative overcurrent protection)	
OCP	0 - 300 A (setting of overcurrent protection)	
OVP	0 - 100 V(setting of overvoltage)	
LVP	0 - 100 V(setting of undervoltage)	
delay of protection settings	0 - 10 s	

3. DIMENSIONS IN MM

4. DISPLAY

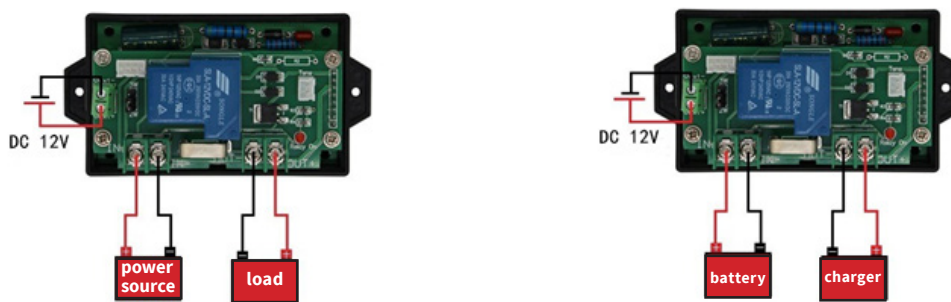The measuring instrument can be connected with the display via a cable or wireless.

If the connection is wireless, there are two opportunities to power the display. You can use the mUSB port (5 V) or the JST port (8 - 16 V).

mUSB port   JST port

signal
power
charge status (for batteries)
key lock   relay   address
negative overcurrent protection
overcurrent protection

voltage
current
output
ampere hours
watt-hours
time

NCP
OCP
LVP — undervoltage protection
OVP — overvoltage protection
OUT — output (relay)
CLR — resetting
BAT — charge status
SET — system settings
ADR — address settings
LNG
FCN — language setting

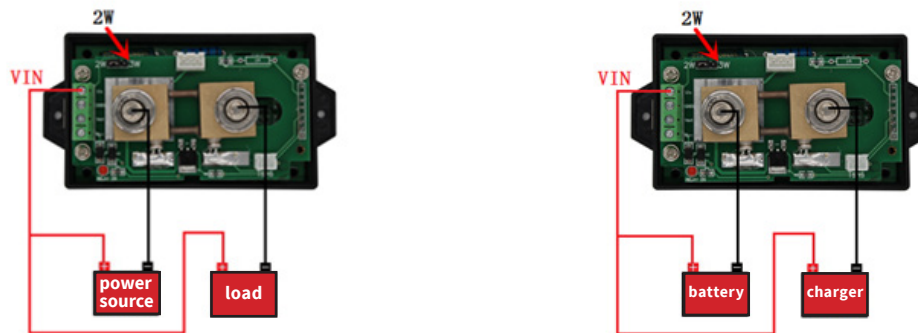channel setting

5. CONNECTION

VAX-1030

If the instrument is integrated in the circuit like in the left illustration, it is possible to measure DC current circuits and the discharge of batteries.
If the instrument is integrated in the circuit like in the right illustration, you can measure the charging process of batteries.
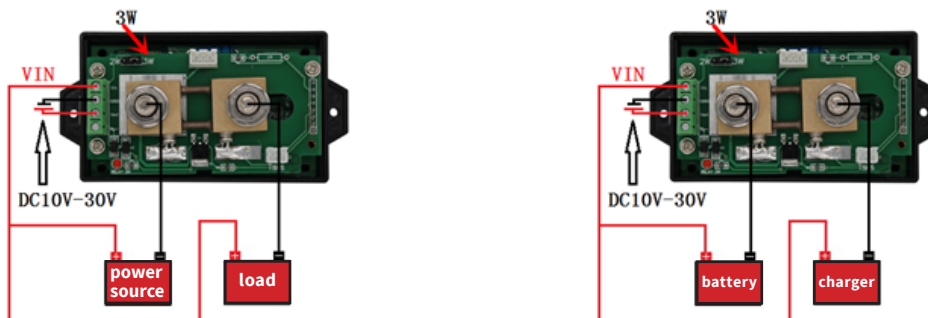
VAX-1100

For a measuring range from 10 to 100 V, the instrument must be connected like that:

These illustrations display how the VAX1100 must be connected for a measuring range from 10 to 100 V. **Please note that the jumper must be pinned on position 2W .**
If the instrument is integrated in the circuit like in the left illustration, it is possible to measure DC current circuits and the discharge of batteries.
If the instrument is integrated in the circuit like in the right illustration, you can measure the charging process of batteries.
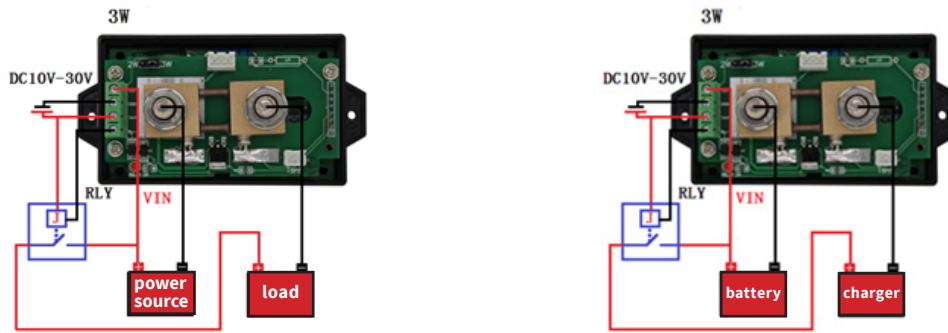
For a measuring range from 0 to 100 V, the instrument must be connected like that:

These illustrations display how the VAX1100 must be connected for a measuring range from 0 to 100 V. **Please note that the jumper must be pinned on position 3W. Moreover, the measuring module must be supplied with a 10 to 30 V DC voltage.**
If the instrument is integrated in the circuit like in the left illustration, it is possible to measure DC current circuits and the discharge of batteries.
If the instrument is integrated in the circuit like in the right illustration, you can measure the charging process of batteries.

Connection between a relay and the VAX1100

You must note among the usage with a relay that the relay must be designed for the expected voltage and current in that specific construction.

6. OPERATION

There are displayed 3 possible symbols which are designed for the verification of the connection. These symbols have this meaning:

 Wireless connection is successfully established

 Corded connection is successfully established

 Connection failed or is not connected

Key	Function
"OUT"	Hereby, you can switch the output. In order that it works, the relay must be controlled.
"NCP"	Hereby, the protection against the negative current can be activated. With "OK" you can change the value, if the value is "0", the function is deactivated. This function shifts the relay to interrupt the circuit.
"OCP"	Hereby, the protection against overcurrent can be activated. With "OK" you can change the value, if the value is "0", the function is deactivated. This function shifts the relay to interrupt the circuit.

"LVP"	Hereby, the undervoltage protection can be activated. With "OK" you can change the value, if the value is "0", the function is deactivated. This function shifts the relay to interrupt the circuit.
"OVP"	Hereby, the overvoltage protection can be activated. With "OK" you can change the value, if the value is "0", the function is deactivated. This function shifts the relay to interrupt the circuit.
"CLR"	This buttons deletes all saved values of Ah, Wh and time. Additionally, the battery status is set on 100 %.
"BAT"	You can adjust here the values of the battery with this button.
"SET"	You can adjust here the fundamental setteings of the device.
"ADR"	With "ADR" the communication address can be adjusted.
"LNG"	You can change here the language.
"FCH"	With "FCH" the communication channel can be adjusted.
"BRI"	You can adjust here the brightness of the display.

Important: **To go to the "LNG" option, you must enter "ADR" and hold down the down arrow key for 3 seconds.**

7. CONNECTING SEVERAL DEVICES TO ONE DISPLAY

To connect several devices to one display, you must first assign different addresses to the devices.

1. To do this, connect your display to your device using the USB cable.
2. Now open the menu by pressing the OK key.
3. Use the arrow keys to navigate to the ADR. menu item and press the OK key.
4. Now you can select the address with the arrow keys. By changing the address you should now see the following symbol in the upper left corner of the display:

5. To confirm the address, press and hold the OK button for about three seconds.
6. If you now release the key, the display should change and the following symbol appears:

In this way, you can assign different addresses to each device.

In order to control the individual devices wirelessly, the address of your display and that of the device you want to control must match.

1. To do this, connect the display to a voltage source.
2. Now open the menu by pressing the OK key.
3. Use the arrow keys to navigate to the ADR. menu item and press the OK key.
4. You can now select the address with the arrow keys.
5. To confirm the address, press the OK button.

If the wireless connection is successful, you should see the following symbol in the upper left corner of your display:

8. DECLARATION OF CONFORMITY

Hereby, the Simac Electronics Handel GmbH declares that the radio equipment type COM-VAX1030 and COM-VAX1100 are in compliance with Directive 2014/53/EU. The full text of the EU declarations of conformity are available at the following internet addresses:
www.simac-gmbh.de/CE/com-vax1030.pdf
www.simac-gmbh.de/CE/com-vax1100.pdf

Information on transmission power and frequency band of COM-VAX1030:
Frequency band: 2412-2472 MHz
Max. transmisson power: 11,67 dBm

Information on transmission power and frequency band of COM-VAX1100:
Frequency band: 2412-2472 MHz
Max. transmisson power: 11,67 dBm

9. SUPPORT

If any questions remain open or problems arise after your purchase, we are available by e-mail, telephone and with a ticket support system to answer these.

E-Mail: service@joy-it.net
Ticket-System: http://support.joy-it.net
Telephone: +49 (0)2845 98469 – 66 (10 - 17 o'clock)

For further information visit our website:
www.joy-it.net

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