Leoch Battery Connect Victron Inverter Instruction

This document mainly introduces Leoch 48V Series lithium battery connecting to Victron MultiPlus-II + Cerbo GX.

1. Hardware preparation

LEOCH 48V Li-ion battery	Victron MultiPlus-II + Cerbo GX + Lynx Distributor	PC with windows operating system
VE.Can to CAN-bus BMS cable(Type B)	RS485 cascading communications cable	RS232 communication line for upper computer

2. Software download

📁 10950_x86	2022/7/12 19:28	文件夹	
📁 Config	2022/7/12 19:28	文件夹	
🔴 PbmsTools	2022/7/12 19:27	应用程序	696 KB
🗋 PbmsTools.exe.config	2020/7/15 13:36	XML Configurati...	1 KB

Battery PC monitor software Download link:
https://leoch.com/product/industrialtechnical/download/?productclassid=173
* Please always refer to leoch official website to obtain the latest pbms tool to use.

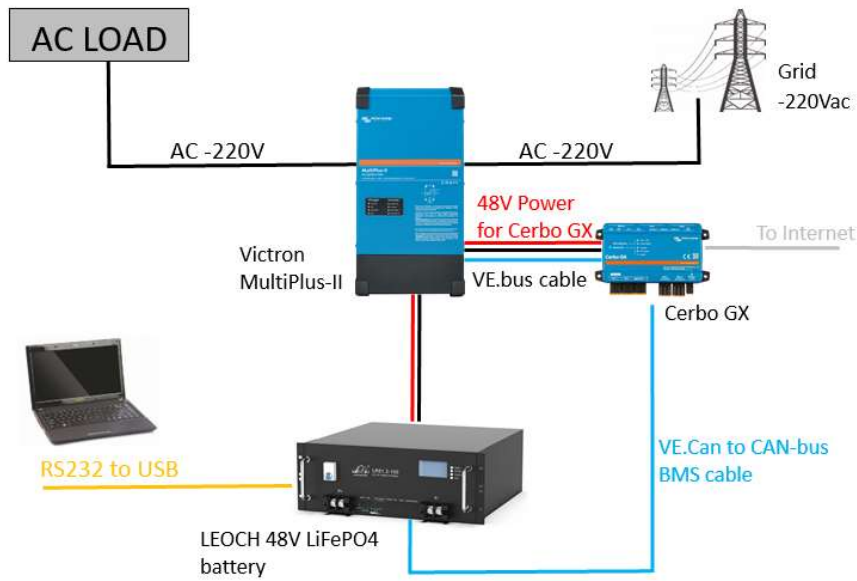# 3. Battery Communication Connection

a. The battery Connect to GX device must set the address to 1.
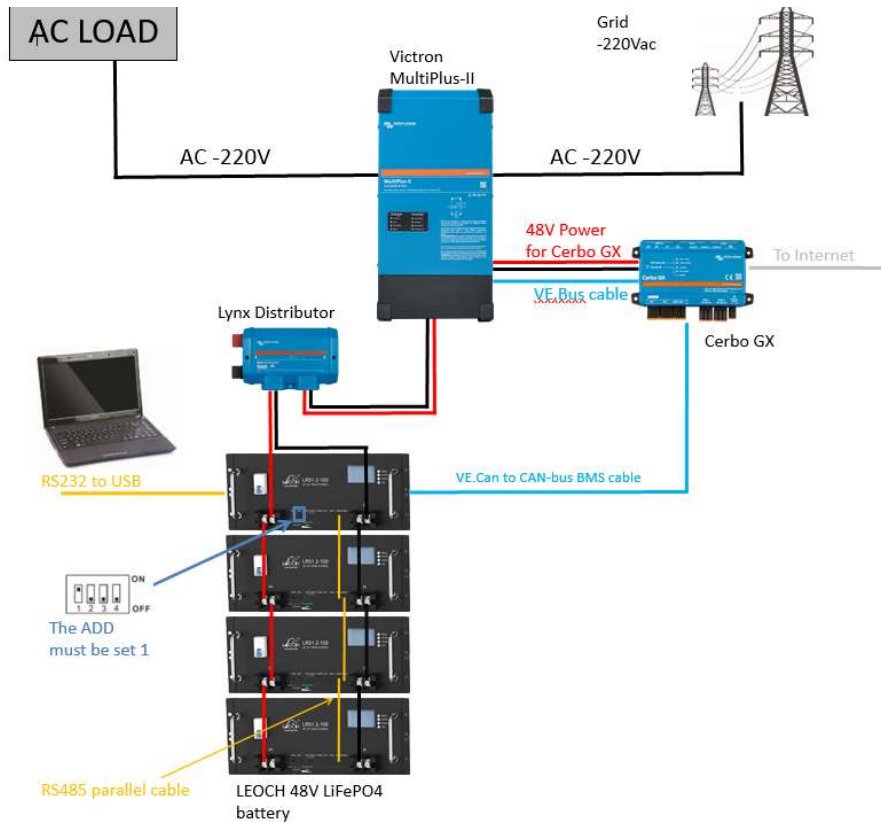b. Use VE.Can to CAN-bus BMS cable connect battery (CAN port) and GX device (BMS.CAN port).

4. GX device Configuration

Select the CAN-bus BMS (500 kbits/s) CAN-profile in the GX device. Menu path: Settings → Services → CAN-profile.

5. Single Battery Connection

6. Multiple Batteries Connection

Remark: When the number of batteries in the battery pack is more than 4, we recommend to implement the busbar to wire up the battery connection. This ensures better current distribution.

Step 1. Make sure all batteries are turned off and the breaker is in off condition. Connector the internal power cable and output power cable. Make sure the screws are tight.

Step 2. Connect the internal communication cable and external communication cable.

For external communication cable, there are battery terminal and inverter terminal difference.

Step 3. Set the battery module ID by DIP switch. The master module which do communication with inverter must be 1.

Change the other modules ADD from 2~...

Step 4. Make sure the inverter had be installed correctly.

Step 5. Switch on the breaker first and then press the master module's RESET button 1~6s to active the battery. The slave modules will be activated automatic.

Step6. Charge the batteries fully in first use.

7. Wiring of communication cables

A cable for the Parallel connection ships with the battery.

You can use Victron Type A or Type B CAN-bus cable connect battery and inverter. The side of the cable with pins 7 and 8 should be plugged into the GX device, and the side with pins 4 (CAN-L) and 5 (CAN-H) goes to the battery.

Without properly connecting this cable, the battery will not show up on the display of the GX device.

8. VE Configure settings

8.1 General tab

- Check the "Enable battery monitor" function
- Set the battery capacity to the total capacity of the battery: the Ah capacity per module multiplied by the number of battery modules.
- The other parameters ("State of charge when bulk finished" and "Charge efficiency") can be left to their default setting: They have no effect in this type of installation.

8.2 Charge Settings

Charger tab

Parameter	Setting
Battery type	Lithium
Charge curve	Fixed
Absorption voltage	56.4 V
Float voltage	55.2 V
Absorption time	1 Hr

8.3 Inverter Settings

In the Inverter tab of VEConfigure

| VEConfigure Inverter Parameter	Setting
DC input low shut-down	44.8V
DC input low restart	48V
DC input low pre-alarm*	48V

* The pre-alarm setting is dependent on your preference and on site specific requirements. You may wish for this to be activated earlier in an off grid situation to allow time to start a backup generator.

8.4 ESS System Settings

If you are using the battery as part of a grid connected ESS system, please review the ESS Quickstart guide and Design and Installation Manual.

The settings that are specific in the VEConfigure ESS Assistant are below:

Select the externally managed Lithium battery option
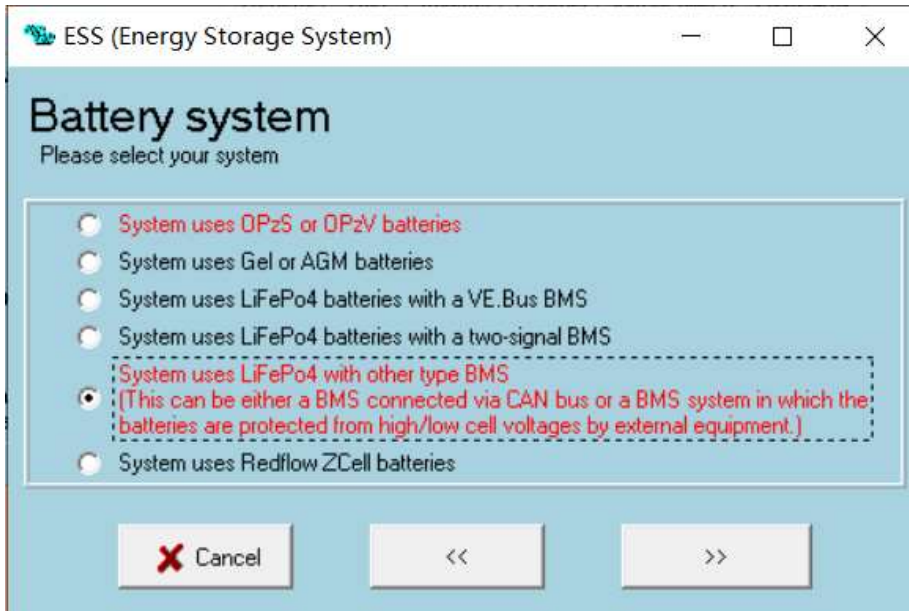
ESS Parameter	Settings
Sustain voltage.	48V
Dynamic cut-off values	set all values to 44.8V.
Restart offset:	2V

9. GX device Configuration

Select the CAN-bus BMS (500 kbits/s) CAN-profile in the GX device.
Menu path: Settings → Services → CAN-profile. Note that this changes the function of a VE.Can port: it is not possible to connect both VE.Can products and a Leoch battery together on a Color Control GX. It is possible on the Venus GX.

● After properly wiring and setting up, the Leoch will be visible as a battery in the device list:
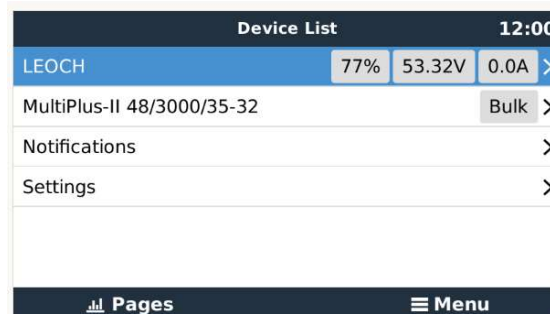
- Next, go to Settings, DVCC, and configure as follows:

Venus Settings → System Setup Parameter	Value
DVCC	ON
Shared Voltage Sense	OFF
Shared Temperature Sense	OFF
Shared Current Sense	OFF

10. MPPT Settings

In normal operation the MPPT charge characteristics are governed by the GX device via DVCC, with instructions from the connected Leoch battery.

This section presumes familiarity with VictronConnect.

The settings below can be set as a precautionary measure, should the MPPT ever end up in standalone mode.

MPPT Parameter	Setting
Battery voltage	51.2V
Absorption voltage	56.4V