

INSTRUCTIONS FOR CONNECTION THE BATTERY PACK TO VICTRON INVERTERS

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LITHIUM IRON PHOSPHATE
LIFEPO₄ BATTERY PACK

51,2V 100Ah

KT-LFPES512100



1. PRECONDITIONS

Before connecting the battery with inverter, make sure the following rules are complied.

1. The battery system discharge power/current is proper with the inverter power. It is recommended to configure the inverter capacity with battery in 1: 2 proportion, for example. If you have a 5 kW rated inverter, connect at least 2 batteries (10kWh),
2. If the system is an off-grid system, make sure that configuration can manage to avoid overdischarging the battery. It is strongly recommended to install a smart generator and MPPT modules (brands like Victron that support DC-coupled application).
3. Make sure that the installation environment, setting and sequence is following the User Manual.

2.COMMISSIONING WITH INVERTER

2.1 VICTRON

Victron devices and Kon-TEC KT-LFPES512100 battery can be used for the following system types:

- Energy Storage Systems (ESS) – Self Consumption
- Grid Backup (DVCC or ESS)
- Off-grid (DVCC)

A GX device is required to establish communication. It is essential to use the CAN-bus connection of the GX device (e.g. Cerbo GX) – communicates the keep-alive signal, charge and discharge limits, error codes and state of charge (SOC %) between the batteries and the system.

The minimum required firmware version for the GX Device is v2.40. It is highly recommended to use the latest firmware version on all connected devices, including the GX device Inverter/Charger and MPPTs. Both 250Kbps and 500Kbps are supported. If you use a new VE.Can MPPT, it must also be with a GX device that has more than one CANbus interface, e.g. the Cerbo GX.

Compatible device:

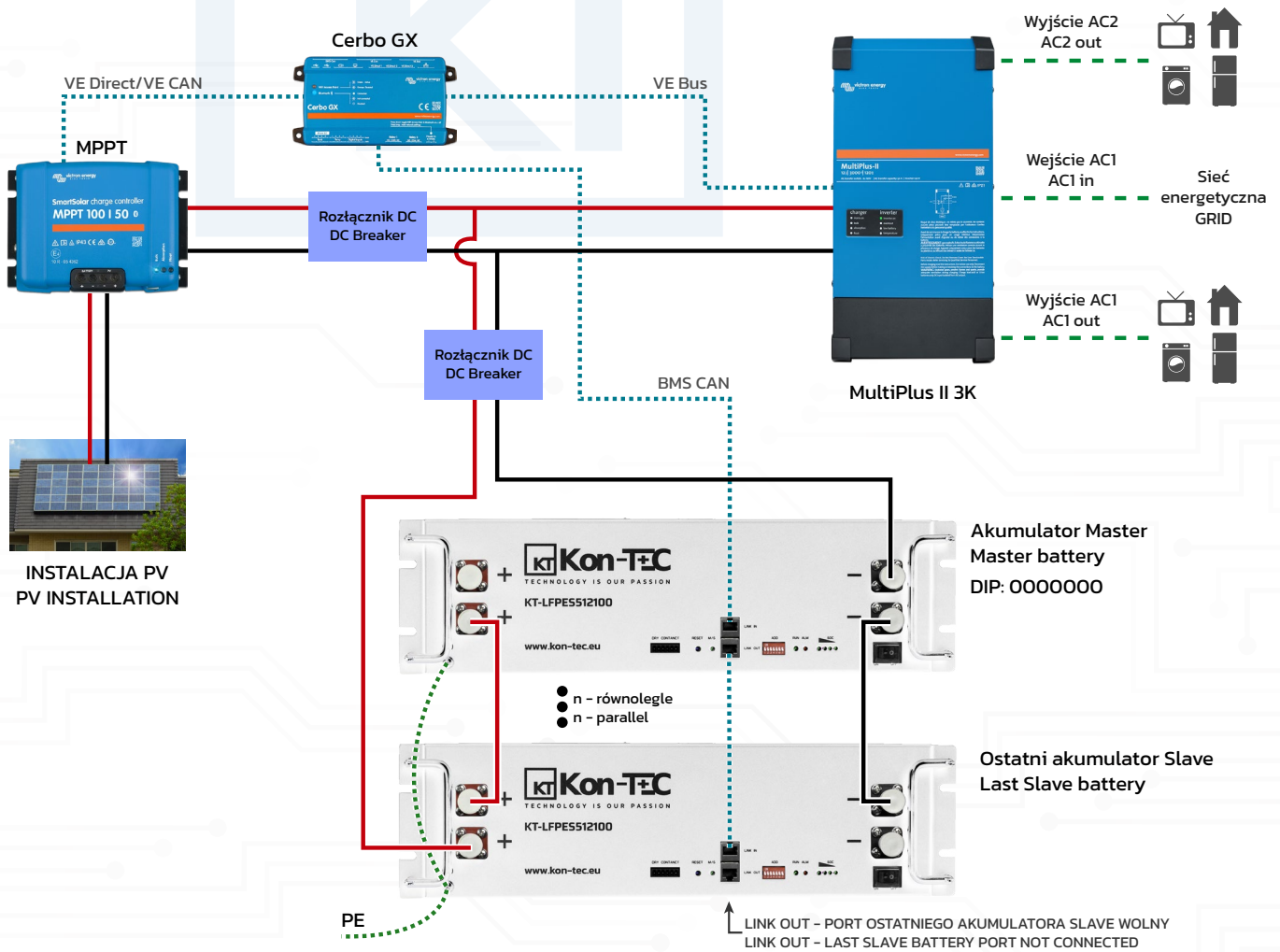
Multi, MultiPlus, MultiGrid, EasySolar-II, Inverter RS & Multi RS and Quattro.
VE.Direct BlueSolar and SmartSolar MPPT Chargers.

2.2.1 CABLE CONNECTION

2.2.1.1. Both inverter and battery completely off.

2.2.1.2. Connect the communication cable to the system according to the following schematic.

Kon-TEC Battery BMS CAN port		Victron GX device (VE. CAN Port / BMS CAN Port)	
Pin 6	GND	Pin 3	GND
Pin 4	H	Pin 7	H
Pin 5	L	Pin 8	L

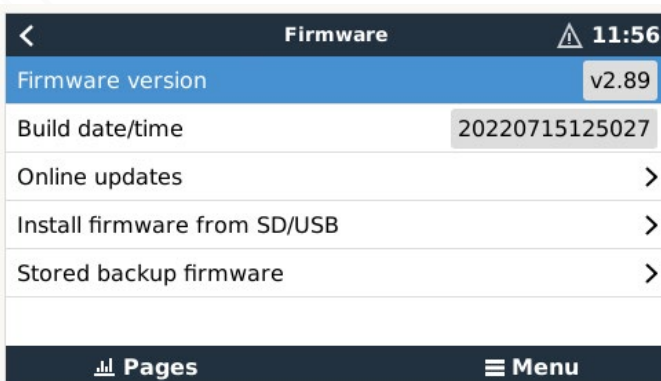


2.2.2 START SYSTEM

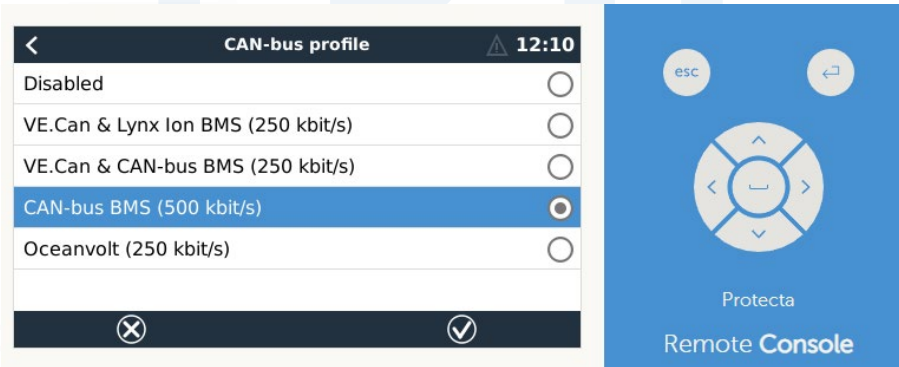
- 2.2.2.1 Set the Master battery (ONLY!!!) DIP address according to the User Manual (Picture above).
- 2.2.2.2 Press the Master battery reset button to switch on all the batteries and then close the battery breaker
- 2.2.2.3 Close inverter switch, then turn on DC breaker to start MPPT.
- 2.2.2.4 Switch on AC input and output breaker

2.2.3 INVERTER SETUP

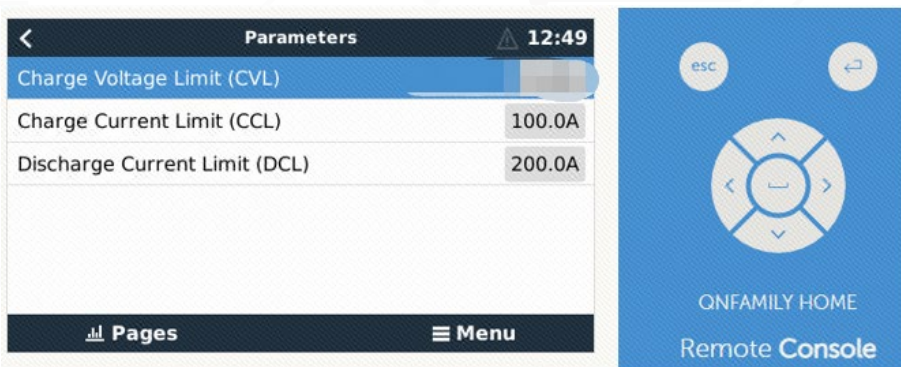
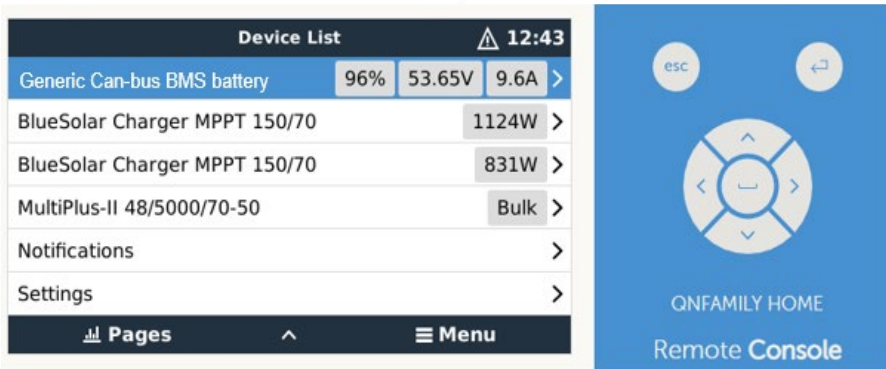
2.2.3.1 Confirm the firmware version



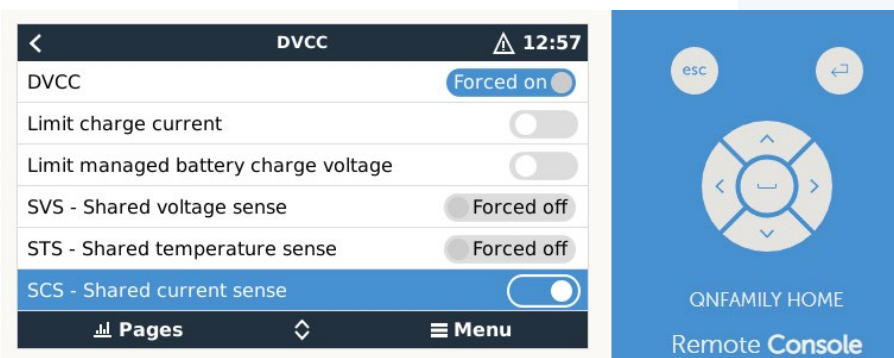
2.2.3.2 Choose the baud rate, setting-services, ve.can port, select the 250/500 according to battery User Manual



2.2.3.3 Odszukać, na urządzeniu GX, akumulator. Sprawdzić parametry CCL i DCL. (50/100A dla jednego akumulatora w normalnych warunkach.)



2.2.3.4 Set DVCC as below



2.2.3.5 Configure MPPT via Victron connect.

MPPT Parameter	Setting
Battery voltage	48V
Absorption voltage	56.0V

3.1.4 VE CONFIGURE SETTINGS

3.1.4.1 General tab

- Check the „Enable battery monitor“ function
- Set the battery capacity to the total capacity of the battery, each model is 100Ah
- The other parameters („State of charge when bulk finished“and “Charge efficiency“) can be left to their default setting.

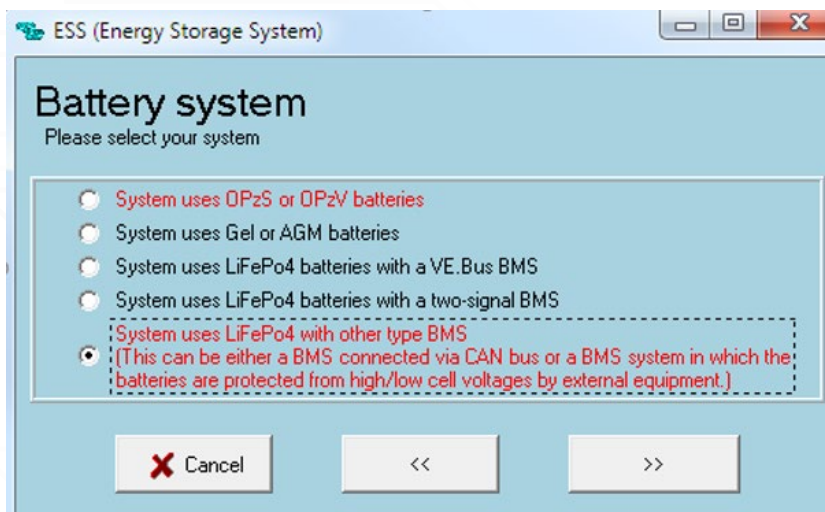
2.2.4.2 Charge tab

VE Configure Charge Parameter	Setting
Battery type	48V
Charge curve	Fixed
Absorption voltage	56.0 V
Float-voltage	54.6 V
Absorption time	1 hr

2.2.4.2 Inverter tab

VE Configure Inverter Parameter	Setting
DC input low shut-down	46V
DC input low restart	51.2V
DC input low pre-alarm	51.2V

2.2.4.3 ESS assistant setting (if you are using your battery in a grid connected system)



ESS Parameter	Setting
Dynamic cut-off	47V
Sustain voltage	50.5V
Restart offset:	1.2V (Default)

Send all the setting to the inverter/charger. Then restart the system.