METERBOOST

Quick Start Guide

Rev. 2024-3

MB48LI82.GW

MB48LI50.GW

&

MtB Smart GateWay

Núcleo Empresarial Venda do Pinheiro II - Letra D e E
2665-608 Venda do Pinheiro - Mafra - Portugal

MTB

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Quick Start Guide

I Inverter compability list

Victron Energy	All VE.Bus inverters compatible with a GX device running VenusOS 3.40 or higher
Solis	RHI-(3-6)K-48ES-5G
	S5-EH1P(3-6)K-L
Deye	All single and three phase LV Hybrid inverters
INVT	BD3~6KTL-RL1
INHENERGY	HI-3~6K-SL
	HI-5~12K-TL
SOFAR	HYD 3000–6000-ES

II Start-up procedure

1. Pre-charge the inverter capacitors:

Based on your inverter, check the following table to determine which procedure to follow for the pre-charge.

Brand	Inverter Type	Procedure
Victron Energy	Single-phase ≤ 5 kVA	Follow **procedure A**
	Single-phase >5 kVA	Follow **procedure B**
	Three-phase	
Solis	Single-phase	Follow **procedure A**
Deye	Single-phase	Follow **procedure A**
	Three-phase	
INVT	Single-phase	Follow **procedure A**
INHENERGY	Single-phase	Follow **procedure A**
	Three-phase	
SOFAR	Single-phase	Follow **procedure A**

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Procedure A

Start by waking up one and only one of the batteries (quick press the red switch) and then turn it ON (one sound signal while pressing the red switch). LED1 will turn yellow for some time and then change to green. When it becomes green, the battery is fully ON, and the MtB Smart GateWay should also be ON (Power LED red).

Procedure B

Start by first supplying power to the DC bus bar, either with the MPPT or by starting up the inverters with the grid or the generator so that the inverter's internal capacitors are charged and the MtB Smart GateWay turns ON (Power LED red).

Warning: If you have a Victron system and you are using the MPPT to turn on the system then make sure to reduce the **Max charge current** parameter to 5 A using VictronConnect before turning on any battery.

Now you can wake up **one and only one** of the batteries (quick press the red switch).

2. Pair batteries with the MtB Smart GateWay:

Now that one battery is ON / awake (Procedure A / Procedure B) and the MtB Smart GateWay is powered, it's time to pair the batteries with the MtB Smart GateWay. Ensure that the Ethernet cable is not connected to the MtB Smart GateWay, and connect your smartphone or computer to the Wi-Fi network whose name can be found on the MtB Smart GateWay side sticker (MeterBoost-GW-xxxxxxxxxxxx). Alternatively, you can scan the QR Code to automatically connect to the MtB Smart GateWay's Wi-Fi network. Go to the MtB Smart GateWay web page at http://192.168.33.1 and enable the pairing.

Once the pairing is enabled, starting with the battery that is already ON / awake (Procedure A / Procedure B), press and hold the red switch until two sound signals are emitted. LED2 should become fixed magenta and then fast blinking magenta, and finally slow blinking magenta. This battery is now paired with the MtB Smart GateWay.

Now wake up the rest of the batteries (quick press the red switch) and then press and hold the red switch until two sound signals are emitted on each of the remaining batteries.

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3. Turn ON the rest of the batteries:

When all batteries have LED2 slowly blinking magenta, press the red switch on the batteries that are not yet ON until one sound signal is emitted to turn them ON. Alternatively, the MtB Smart GateWay interface can be used to turn ON all batteries simultaneously.

4. Finishing the batteries installation:

If Procedure A was followed, the process is finished.

If Procedure B was followed, and the **Max charge current** parameter for the MPPT was changed in step 1, restore it to the default value using VictronConnect. With this, the process is finished.

5. Now follow the instructions specific to your inverter.

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III Inverter instructions

III.I Victron Energy

Note: Venus OS 3.40 or newer must be used

1. To connect the MtB Smart GateWay to a Victron system, a Victron VE.Can to CAN-bus BMS cable should be used. Both type A and type B can be used. Please do not use handmade cables, both MeterBoost and Victron don't support installations with handmade cables.

2. The CAN port of the MtB Smart GateWay should be connected to the Battery side of the cable and the Victron VE.Can side should be connected to the VE.Can port of the GX device. A CAN terminator must be used on the leftover port of the GX device. The MtB Smart GateWay already includes a CAN terminator on its CAN port.

3. On the GX device go to Setting→DVCC and make sure **DVCC** and **Shared Voltage Sense** are **Forced ON** while all the other options are either OFF or Forced OFF. If not please update you GX device to the latest release.

4. On the GX device go to Settings→Services→VE.Can port and change the CAN-bus profile to **CAN-bus BMS (500 kbit/s)**.

5. If you have an ESS system, on the GX device go to Settings→ESS and change the mode to either **Optimized (without BatteryLife)** or **Optimized (with BatteryLife)**.

6. On the GX device go to Settings→System Setup and make sure that the Battery monitor is either configured as **Automatic** or **MeterBoost on CAN-Bus**.

7. After this, you should see a new device listed in the main GX device menu named MeterBoost.

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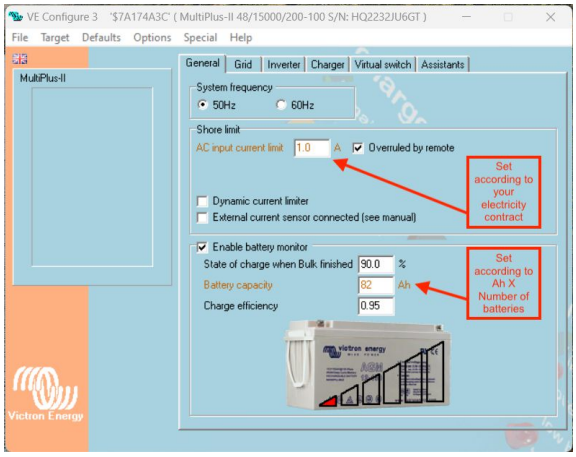
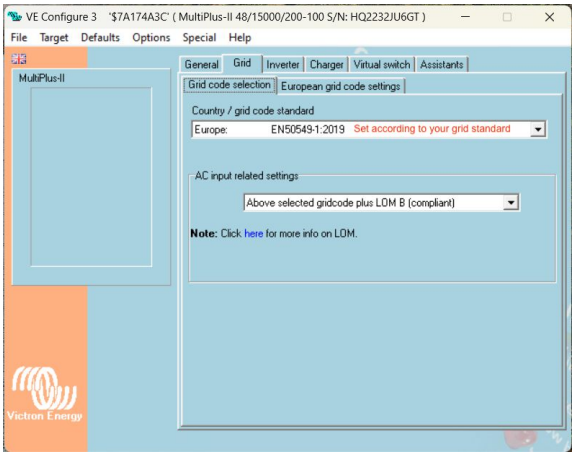
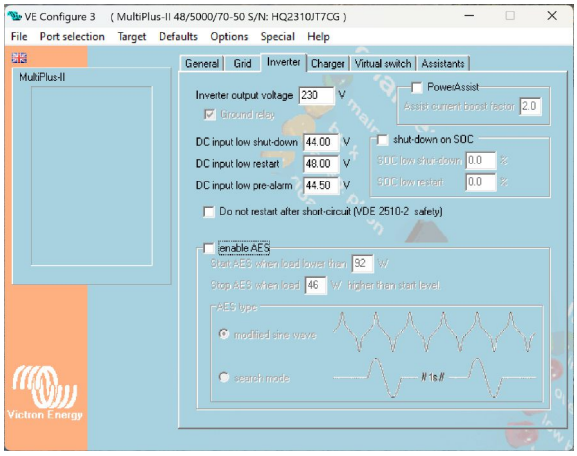
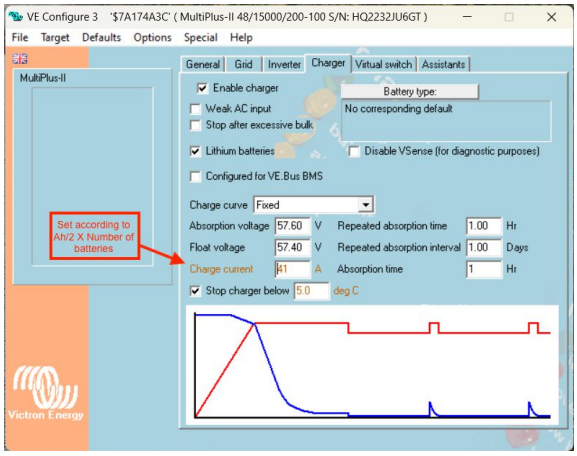
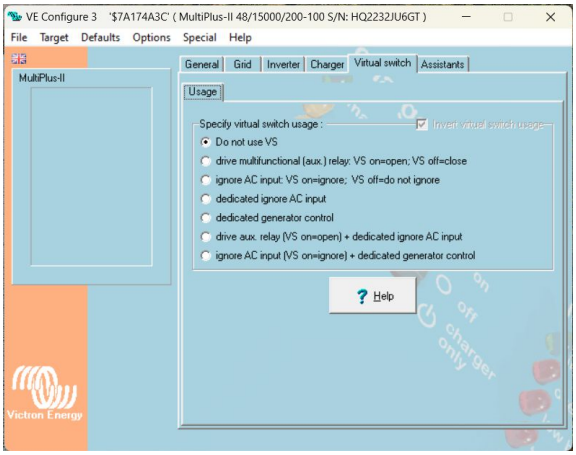
8. Using VEConfigure, set the parameters presented in the figures below.











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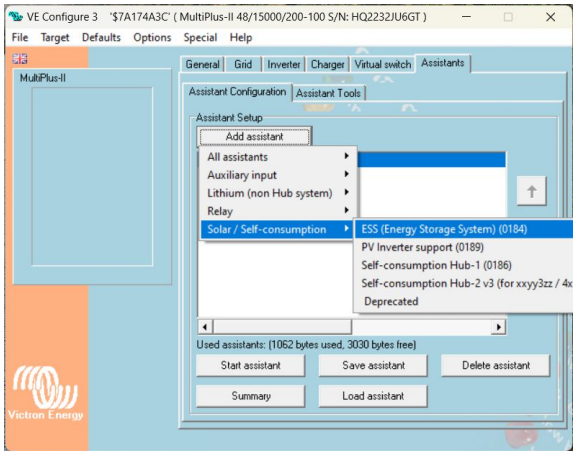
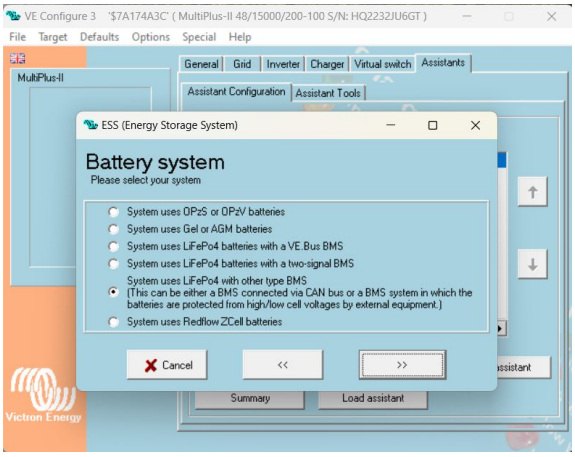
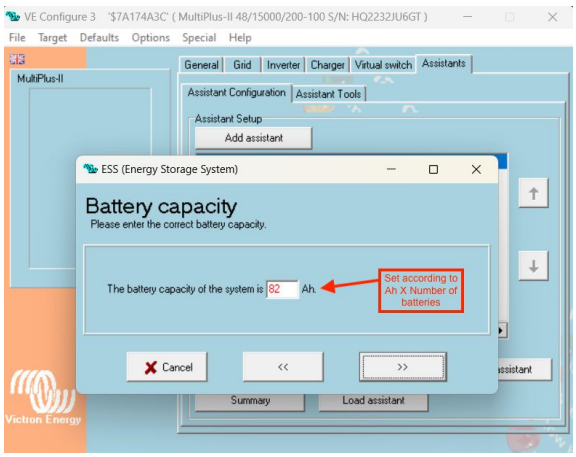
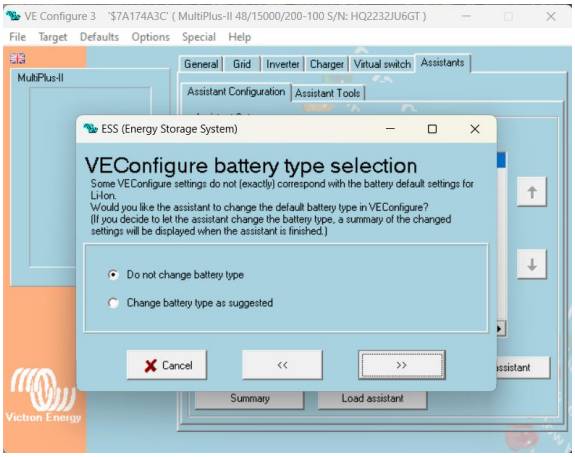
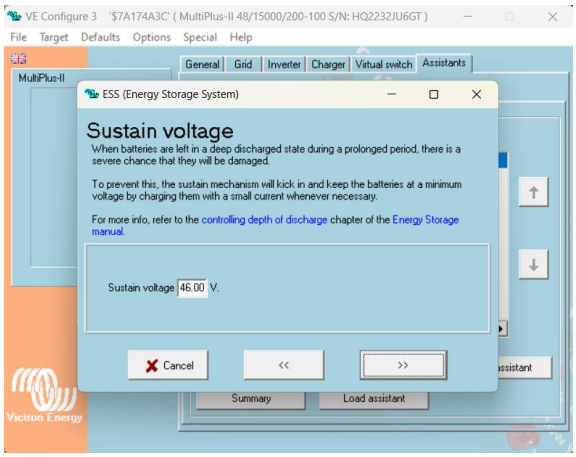
9. In case of the ESS system, configure also the following parameters.

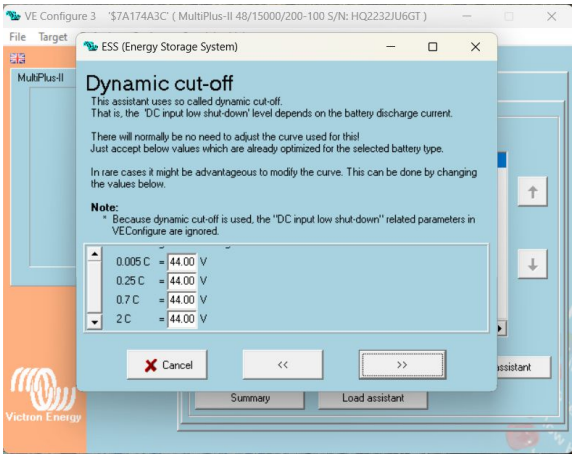












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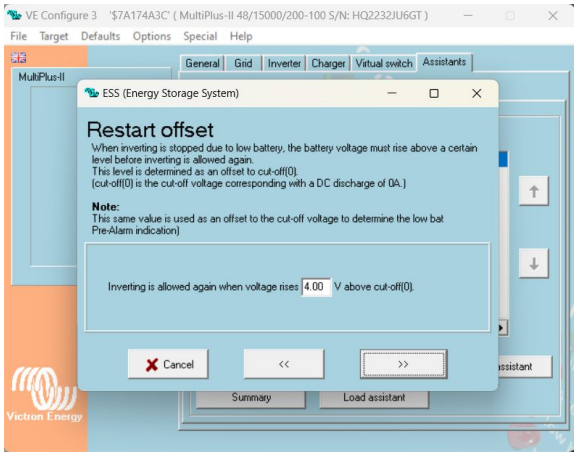
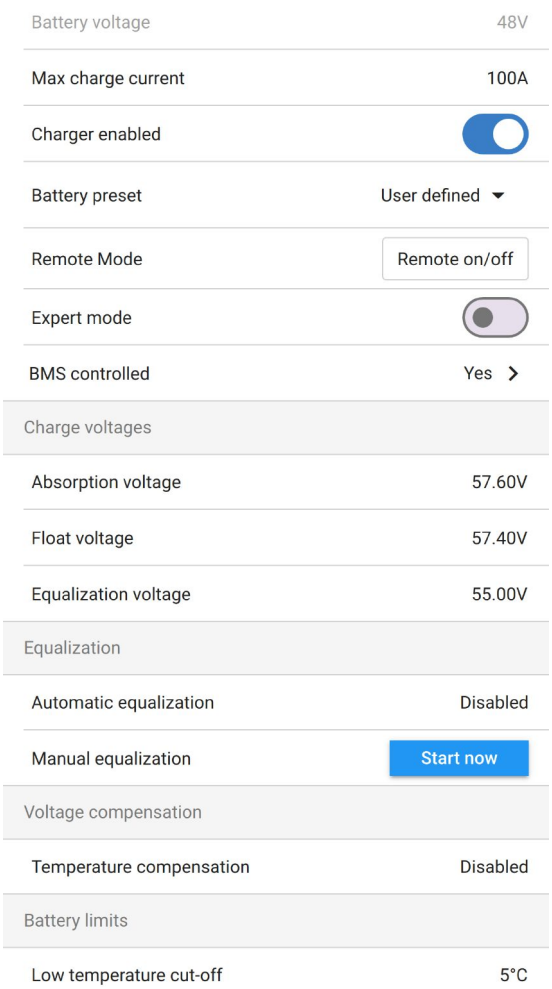


10. If there are Solar Chargers on the system, set the following parameters using VictronConnect. The charge current should be set to the lowest value between $Ah/2\times$number of batteries or the maximum Solar Charger current.



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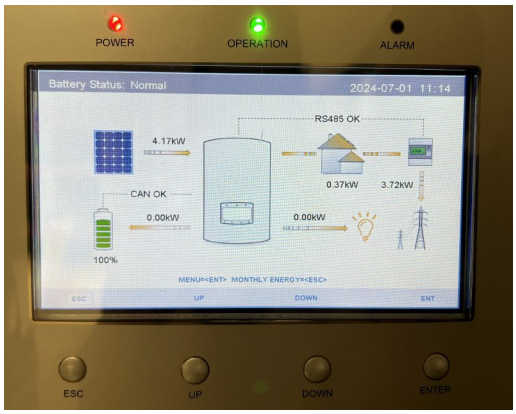
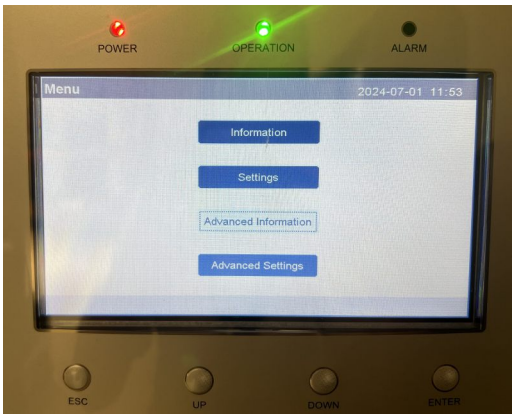
III.II Solis

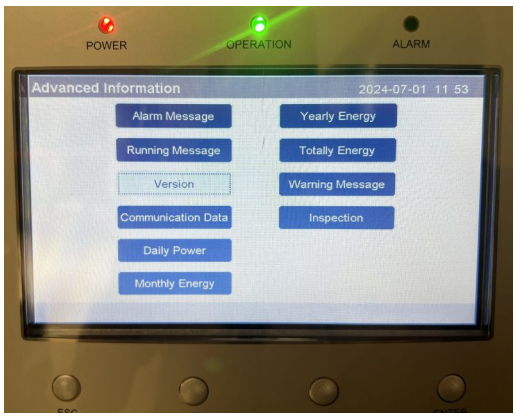
Note: Version - 4A004C or newer must be used. Please make sure that the option "Solis" is selected under "Inverter Settings" on the MtB Smart GateWay settings page. If any of the steps in this guide are not visible the inverter should be updated, please contact MeterBoost or your Solis dealer.

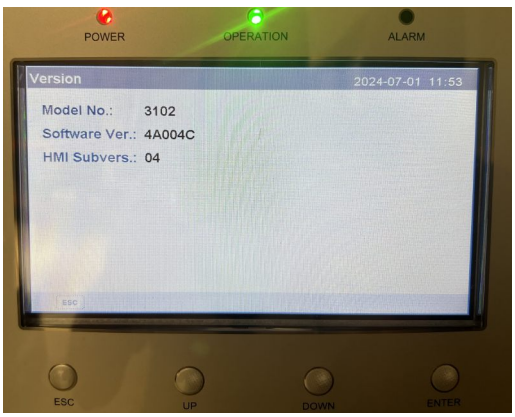
1. The first step is to check the firmware version. First, click the "ENTER" button to show the inverter main **Menu**. Then click the "DOWN" button until the **Advanced Information** option is selected, as shown in the figure below on the right.





Then click the "ENTER" button. Then click the "DOWN" button until the **Version** option is selected, as shown in the figure below on the left. Then click the "ENTER" button.





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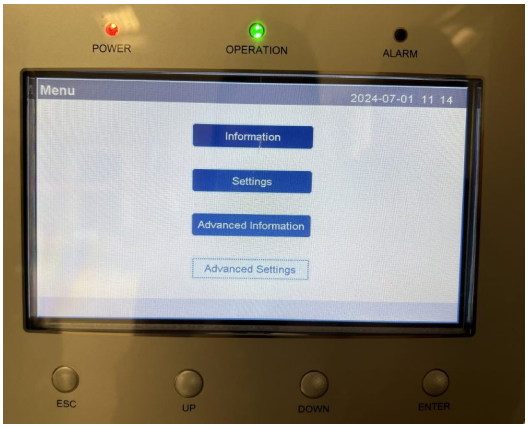
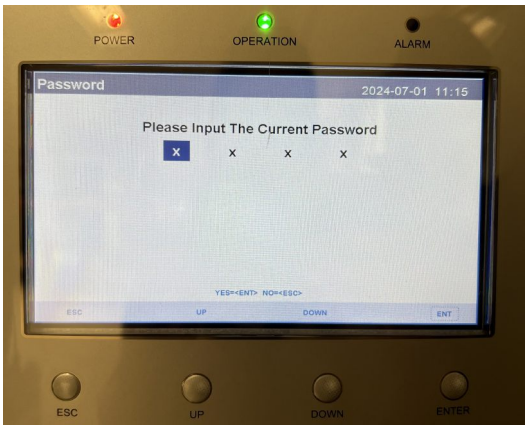
The version displayed should match the ones shown in the image above on the right, or be newer. After that, click the button "ESC" until the inverter **Menu** appears again.

2. Connect the MtB Smart GateWay's CAN port to the inverter's BMS port using the CAN cable provided with the inverter.

3. Then click the "DOWN" button until the **Advanced Settings** option is selected, as shown in the figure below. Then click the "ENTER" button.



4. Before starting the setup configurations a password will be requested. To introduce the default password the buttons: "DOWN", "DOWN", "UP", and "ENTER" should be pressed in the mentioned order.



5. Once in the **Advanced Settings** menu, the configuration's first step is to press the "DOWN" button until the **Storage Energy Set** option is selected, as shown in the figure below. Then click the "ENTER" button.

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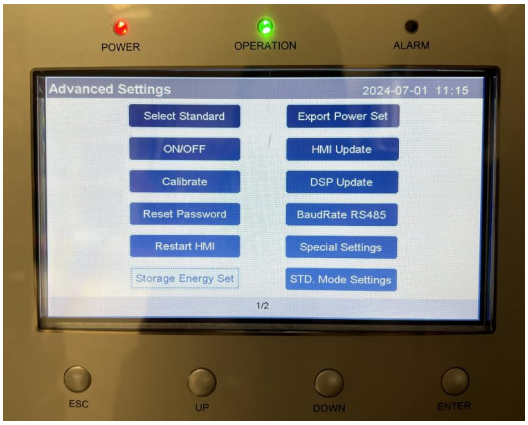
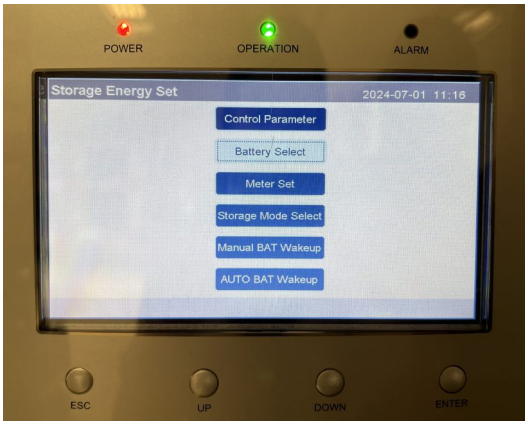
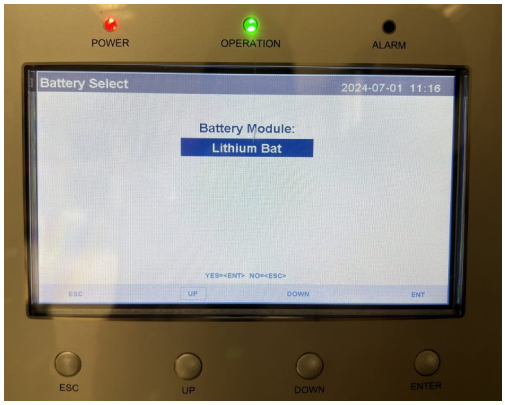


6. Once in the **Storage Energy Set** menu, press the "DOWN" button until the **Battery Select** option is selected, as shown in the figure below. Then click the "ENTER" button.



7. Once in the **Battery Select** menu, a **No Battery** option will appear for the **Battery Module** parameter, and then the button "UP" should be pressed twice until the **Lithium Bat** option is selected, as shown in the figure below. Then click the "ENTER" button. If the **Lithium Bat** option is not listed, please check whether your inverter is updated (see note on the beginning of this inverter section).



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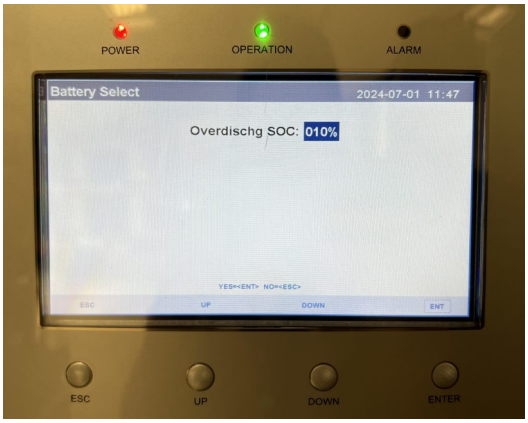
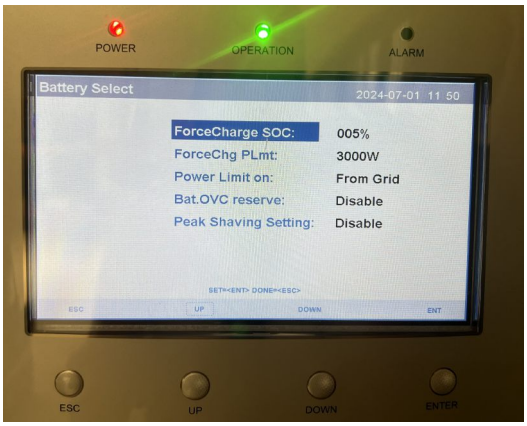
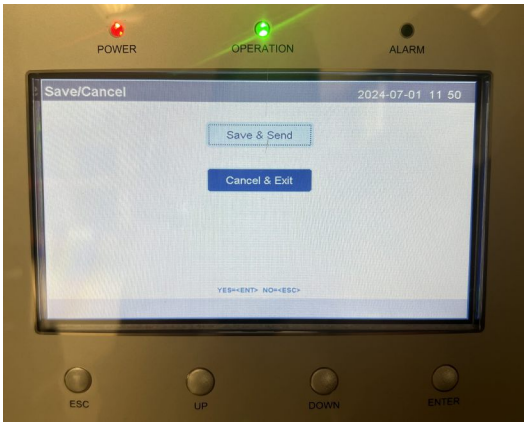
8. A **Overdischg SOC** parameter will appear, click the "ENTER" button and set it to **10%**, as in the figure below. Then click the "ENTER" button.



A new menu like the one in the figure below on the left will be presented. Then click the "ENTER" button. A **ForceCharge SOC** parameter will appear selected, click the "ENTER" button and set it to **5%**. Then click the "ENTER" button and, after that, click the "ESC" button. The **Save/Cancel** menu will appear, select the **Save & Send** option and click the "ENTER" button, as the figure below on the right.





9. Once again in the **Storage Energy Set** menu, press the "DOWN" button until the **Storage Mode Select** option is selected, as shown in the figure below. Then click the "ENTER" button.

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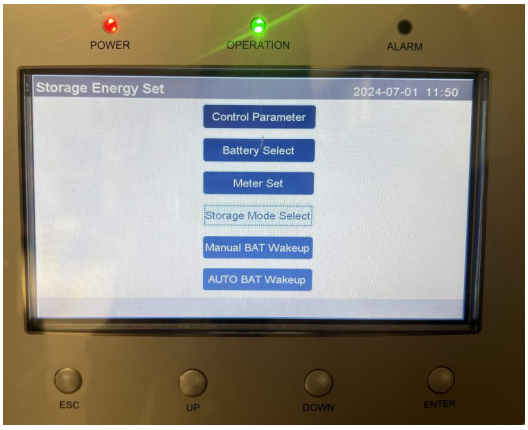
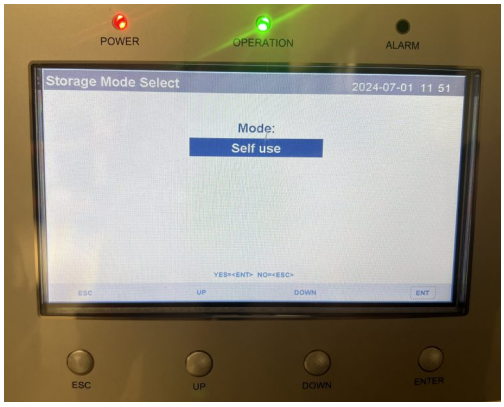
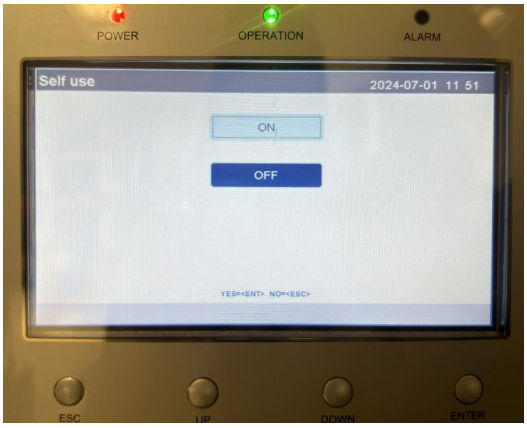
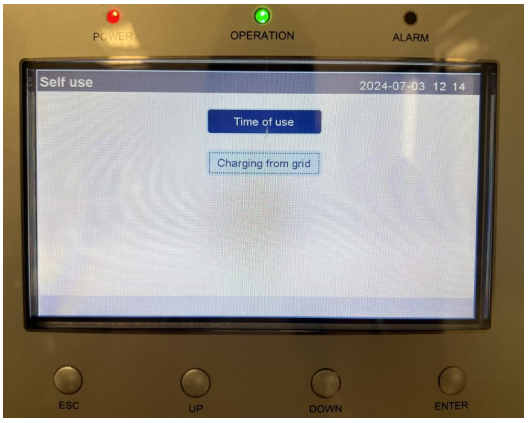


10. For the **Mode** parameter the **Self use** option must be selected, as shown in the figure below. Then click the "ENTER" button.



11. The **ON** option must be selected and click the "ENTER" button, as shown in the figure below, on the left. Then, on the **Self use** menu, select the **Charging from grid** menu and click the "ENTER" button, figure below on the right.





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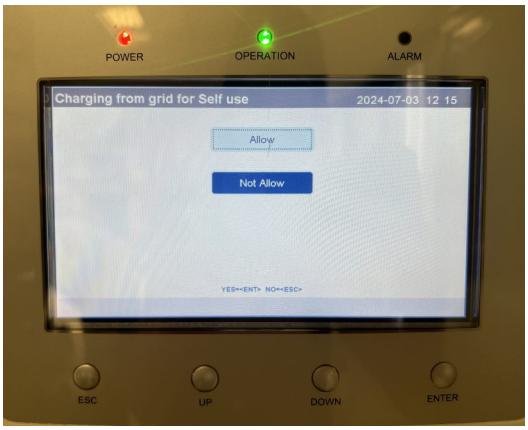
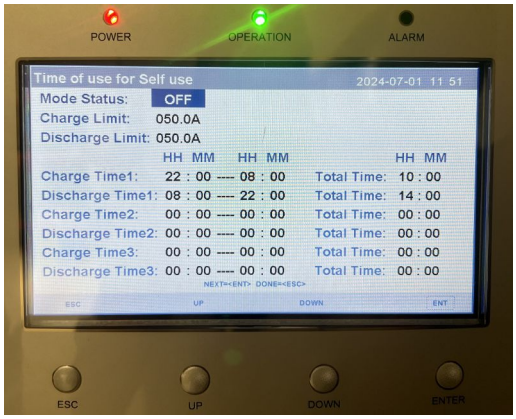
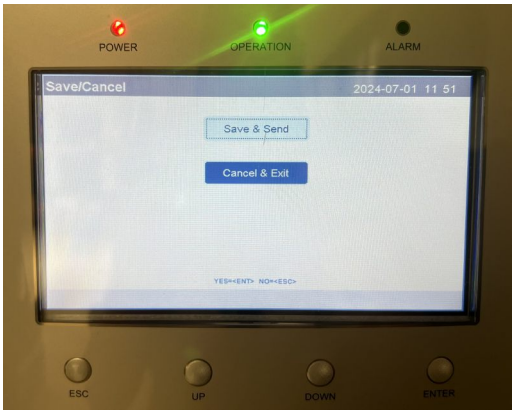
Click the "ENTER" button and, after that, select the option **Allow** and press "ENTER" again.



12. Press "ESC" until the **Self use"** menu appears again. Then select the **Time of use"** option and press the "ENTER" button.

13. A **Time of use for Self use** menu will appear and the **Mode Status** parameter should be **OFF**. First, click the "ENTER" button, then select the **OFF** option and click the "ENTER" button again, as shown in the figure below on the left. Press the button "ESC" to finish. Then a **Save/Cancel** menu will appear, select the **Save & Send** option, and click the "ENTER" button, as in the figure below in the right.





14. The inverter setup is complete and ready to work with MeterBoost batteries.

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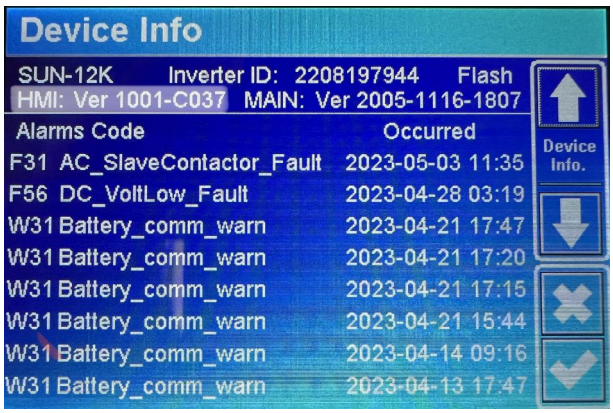
III.III Deye

Note: HMI version 1001-C037 for three phase and C3FA for single phase inverters must be used. Please make sure that the option "Deye" is selected under "Inverter Settings" on the MtB Smart GateWay settings page.

1. The first step is to click on the gear in the top right corner of the display from the main screen and then click on Device Info. As shown in the image below, make sure that the HMI version matches the requirement above.



If your inverter does not respect the above conditions, please contact MeterBoost for support.

2. Connect the MtB Smart GateWay's CAN port to the inverter's BMS port using the yellow Ethernet cable provided with the inverter.

3. The next step is to click on the gear on the top right corner of the display from the main screen and then click on Battery Setting. The parameters should be set as shown in the images below.

The **Batt Capacity, Max A Charge and the Max A Discharge** parameters in the image below should be multiplied by the number of batteries in the installation, considering that MB48LI82.GW batteries are being used. When MB48LI50.GW batteries are being used please consider 50 Ah, 25 A and 25 A respectively instead.

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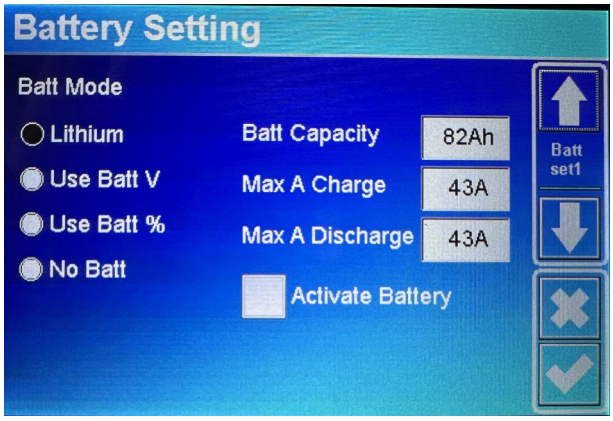
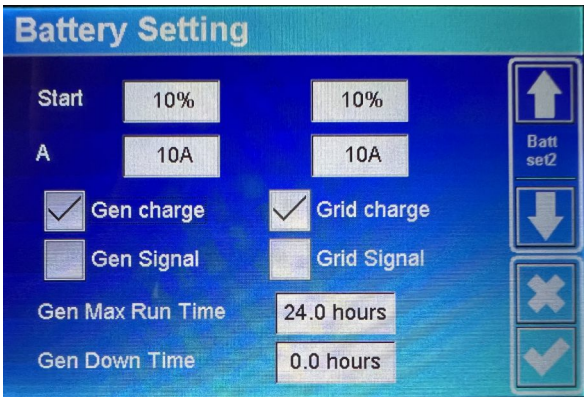
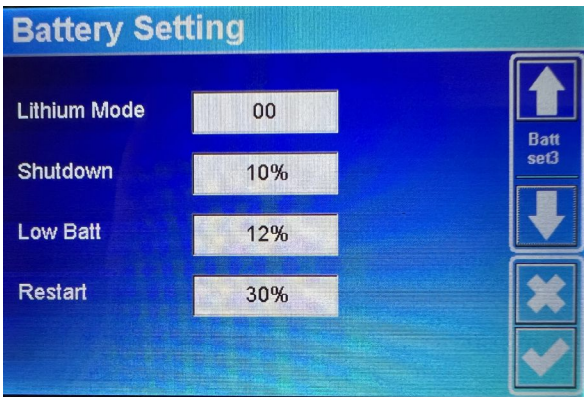
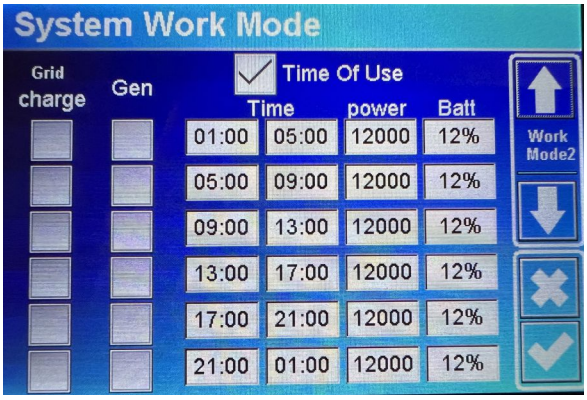
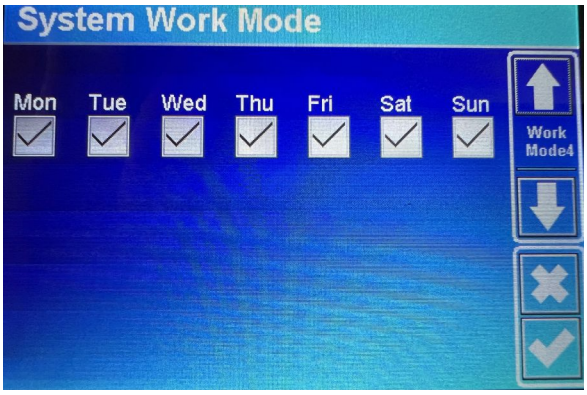






4. The following step is from the main screen to click on the gear located in the top right corner of the display and then click on **System Work Mode**. The parameters should be set as shown in the images below.





5. The final step is to click on Battery Icon from the main screen and then click on Li-BMS in the bottom right corner. Make sure that after **LiBms** field appears MeterBoost. If not, please check your connection and inverter firmware version.

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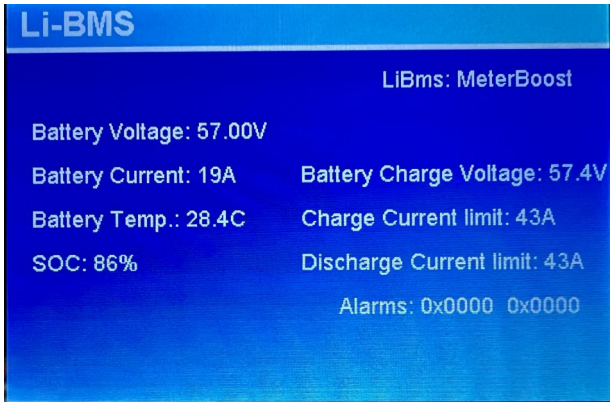

6. The inverter setup is complete and ready to work with MeterBoost batteries.

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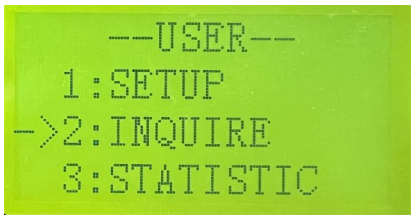
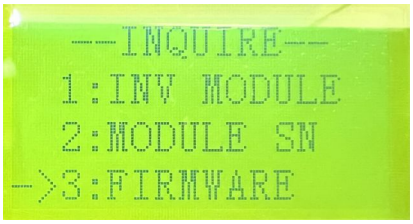
III.IV INVT

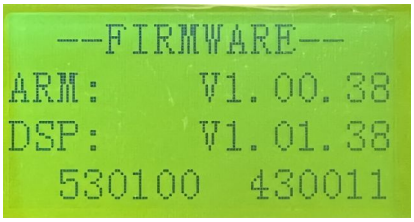
Note: Version - ARM: V1.00.38; DSP: V1.01.38 or newer must be used. Please make sure that the option "Invt" is selected under "Inverter Settings" on the MtB Smart GateWay settings page.

1. The first step is to check the firmware version. First, click ↵ until the inverter **User Menu** is shown. Then click the ∨ button until the **Inquire** option is selected, as shown in the figure below on the left. Then click the ↵ button. Then click the ∨ button until the **Firmware** option is selected, as shown in the figure below on the right. Then click the ↵ button.





The ARM and DSP should match the ones shown in the images below or be newer.



2. Connect the MtB Smart GateWay's CAN port to the inverter's BMS port using a standard Ethernet cable.

3. Press ↵ until the **User Menu** is shown again. Then click the ∨ button until the **Setup** option is selected, as shown in the figure below. Then click the ↵ button.

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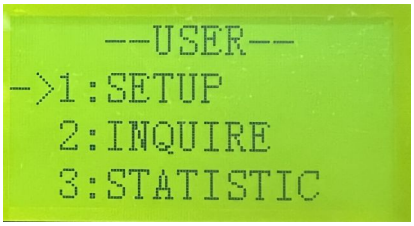
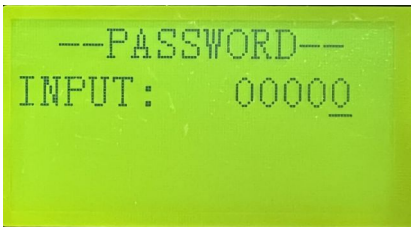
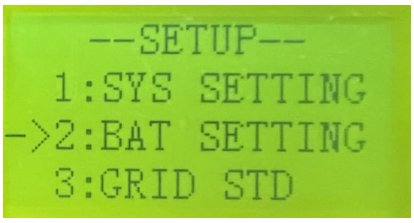


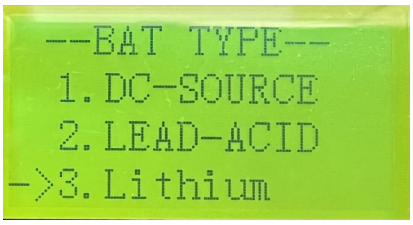
4. Before starting the setup configurations a password will be requested. The default password, "00000", as shown in the picture below, should be introduced using the arrow buttons.



5. The configuration's first step is to press the (V) button until the **Bat Setting** option is selected, as shown in the figure below. Then click the (↵) button.



6. The next step is to press the (V) button until the **Bat Type** option is selected, as shown in the figure below on the left. Then click (↵) button. The **Lithium** option should be selected, as shown in the figure below on the right.



7. Then press the (↵) to come back to the **Bat Setting** menu. The next step is to press the (V) button until the **Bat Disc-Depth** option is selected, as shown in the figure below on the left. Then click the (↵) button. The configuration should match the ones in the figure on the right.

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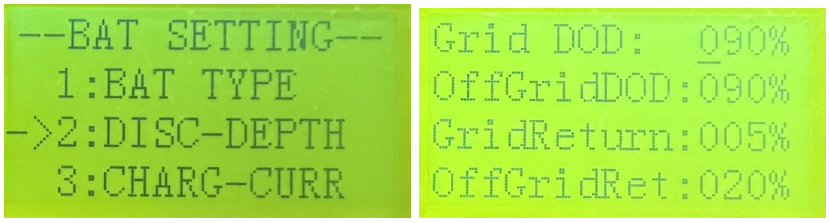
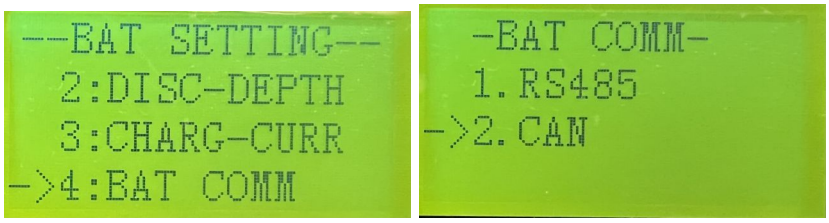


8. Then press ↵ to return to the **Bat Setting** menu. The next step is to press the ∨ button until the **Bat Comm** option is selected, as shown in the figure below on the left. Then click ↵ button. The **CAN** option should be selected, as shown in the figure below on the right.



9. The inverter setup is complete and ready to work with MeterBoost batteries.

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III.V INHENERGY

Note: Version HI1.0; ARM: V04-20231214; DSP: V04-20231208 or newer must be used. Please make sure that the option "Inhenergy" is selected under "Inverter Settings" on the MtB Smart GateWay settings page. If any of the steps in this guide are not visible the inverter should be updated, please contact MeterBoost.

1. The first step is to click the button (↑) until the inverter software version is shown in the bottom part. Then click the (↵) button. The Version, ARM, and DSP should match the ones shown in the images below or be newer.

2. Connect the MtB Smart GateWay's CAN port to the inverter's BMS port using a standard Ethernet cable.

3. Make a long press of at least 3 seconds on the (↵) button and then release to start the configuration, as shown in the image below.

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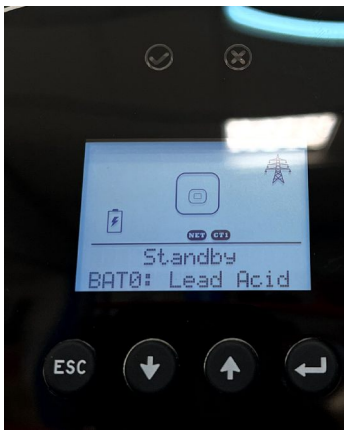
4. Press the button ↓ until the **System Config** option appears and click ↵.

5. Press the button ↓ until the **BAT0: Lead Acid** option appears and click ↵.



6. Press the button ↓ until the **BAT9: MeterBoost** option appears and click ↵. If this option doesn't appear the inverter must be updated, please contact MeterBoost.

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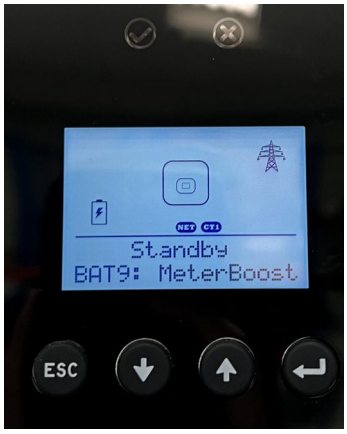

7. The message **Set OK !** should appear in the display and the inverter will reboot. The inverter setup is complete and ready to work with MeterBoost batteries.

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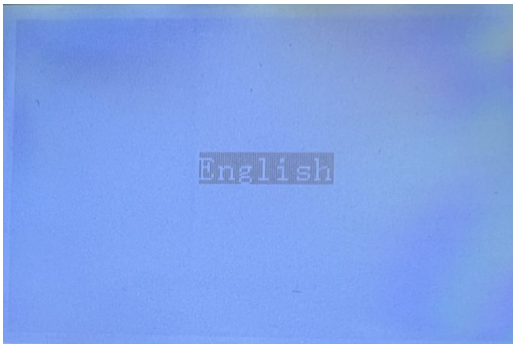
SOFAR

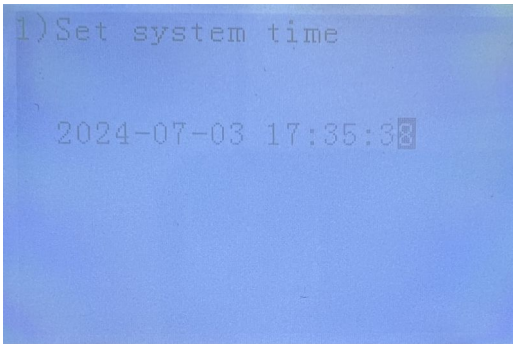
III.VI SOFAR

Note: Version - Software: G3.60; DSP1: V3.60; DSP2: V3.60 or newer must be used. Please make sure that the option "Sofar" is selected under "Inverter Settings" on the MtB Smart GateWay settings page.

1. Once the inverter is ON, the first step is to choose the operating language. Press the ↓ button until the **English** option appears, like in the figure below. Then click on the ↳ button.



2. After that, the next step is to set the system time. Insert the current date and the time with the use of the ↑, ↓ and ↳ buttons, as the example presented below. Once the date and time are correct press the ↳ button.



3. Once that is complete, the next step is to set the country grid code. It must be selected according to local regulations. The figure below shows an

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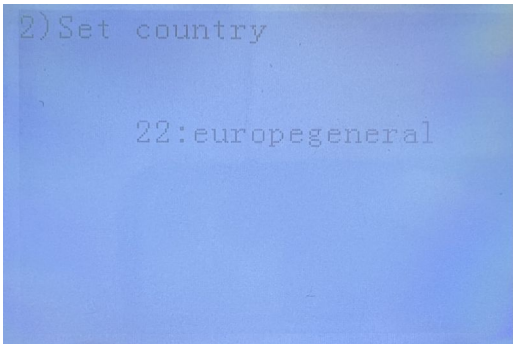
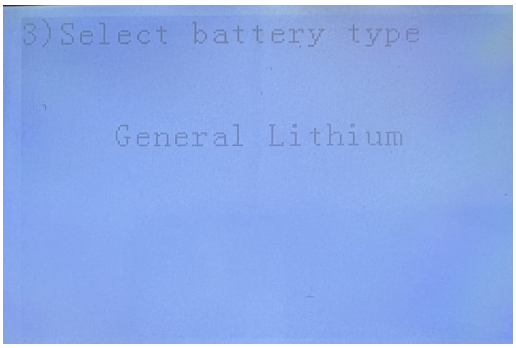
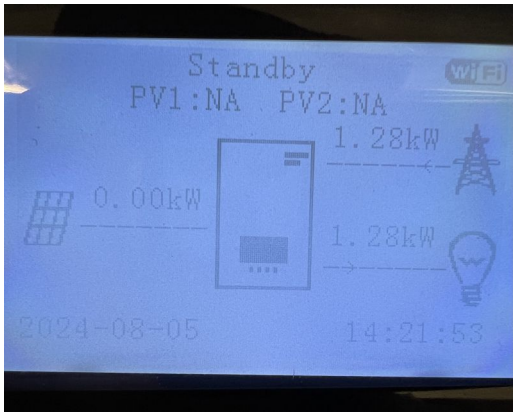
example for Portugal. Press the ↑ and ↓ arrows until you reach the correct code and then press the ↳ button.

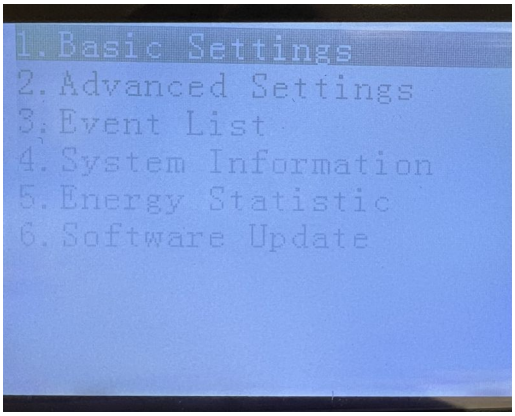


4. Then, for the battery type, select **General Lithium** and press the ↳ button.



5. The next step is to confirm the inverter's version. Start in the main menu presented, like in the figure below on the left, and then press the ↰ button. A menu like the one presented in the right figure appears. Press the ↓ arrow until the **System Information** option is selected. Then press the ↳ button.





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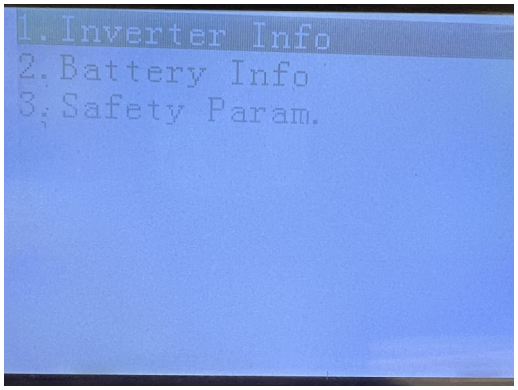
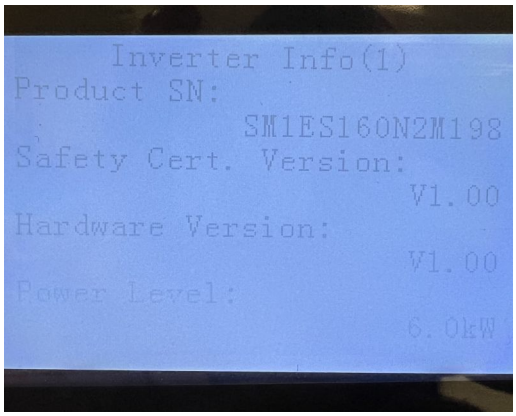
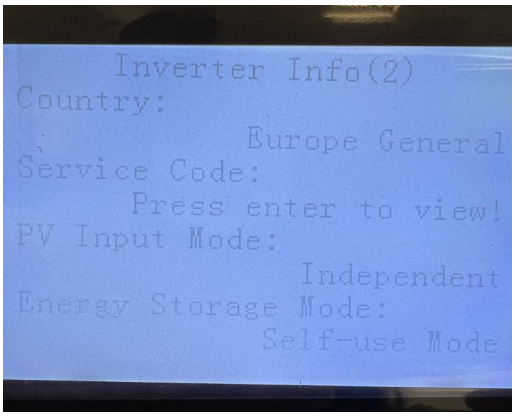
6. Then you should select the **Inverter Info** option and press the ↳ button, figure below.

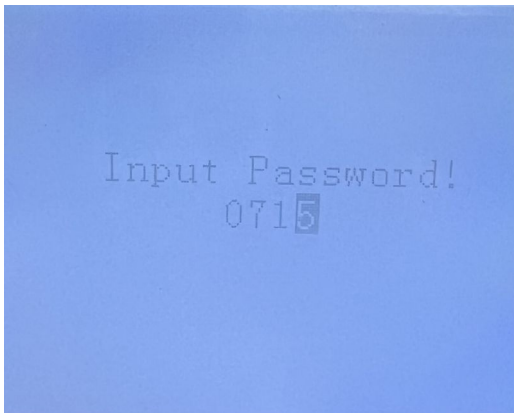


7. Information about the inverter will be displayed as presented in the left figure. Press the ↓ button and the information of the right figure will appear. Press the ↳ button.





8. After that, a password is requested. Introduce the password presented in the figure below, using the ↑ and ↓ arrows and the ↳ buttons.



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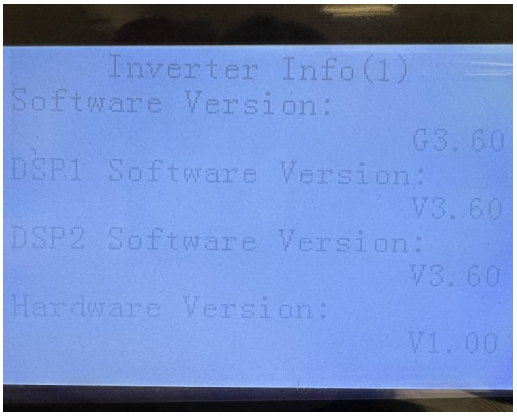
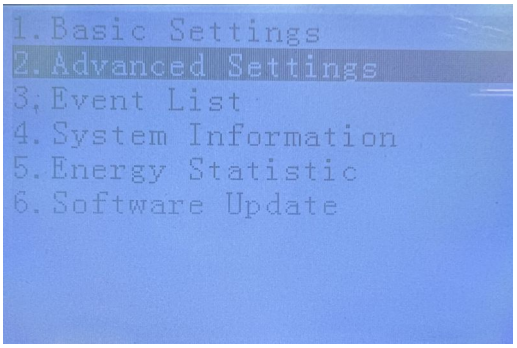
9. The **Software Version**, **DSP1** and **DSP2** should be equal or newer to the ones presented in the figure below.

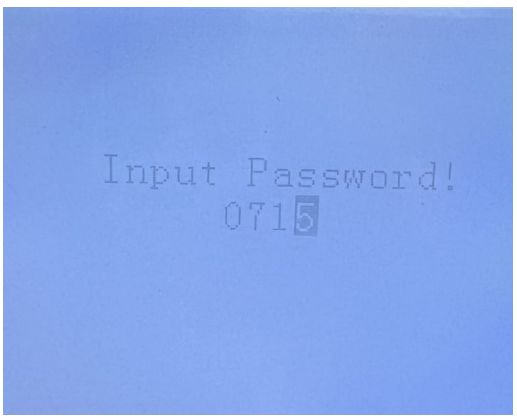


10. Connect the MtB Smart GateWay's CAN port to the inverter's BMS port using the CAN cable provided with the inverter.

11. Press the ↰ button until the main menu like the one presented in the figure below appears. Select the **Advanced Settings** option and press the ↳ button.



12. After that, a password is requested. Introduce the password presented in the figure below, using the ↑ and ↓ arrows and the ↳ buttons.



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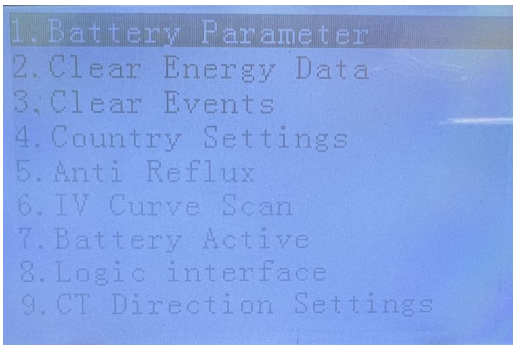
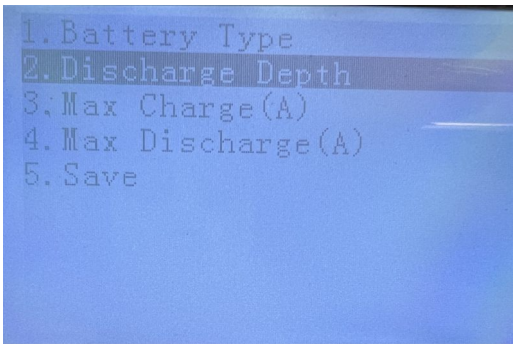
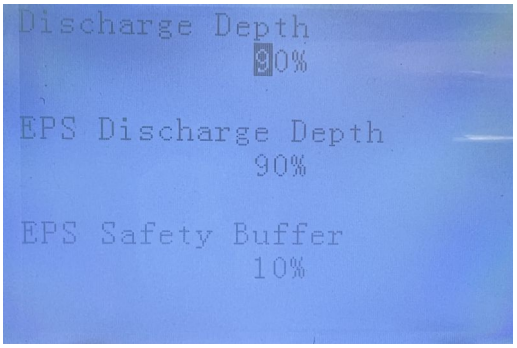
13. Then, select the **Battery Parameter** option, the figure below. Press the ↳ button.



14. Select the **Discharge Depth** option, the figure below. Press the ↳ button.



15. Change the parameters for the values presented in the figure below.



16. The inverter setup is complete and ready to work with MeterBoost batteries.

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