March 2024

TECHNICAL MEMO

REVO inverters – Battery rescue procedure

The purpose of this guide is to clarify the function of battery awaken function, a step-by-step process on our REVO inverters.

Note: This function is applicable to end-users with a system consisting of PV

In the event of:

- Cut-off Voltage/SOC not properly set, still on default.
- Incorrectly set dip switches, could lead to bank miscommunication
- BMS failure, transmitting incorrect data to the inverter
- Extended load shedding and/or extended power outage

In the above-mentioned events, the battery should either be damaged and/or deeply discharged and possibly the only source of charger you have in hand is REVO inverter.

Keep in mind that a battery with a pack voltage of < 40V, will not be seen by the inverter, meaning the whole system will be off. There are few instances to note, the type of batteries used, should it be Gel/ Lead-acid batteries or Lithium batteries.

Gel/Lead-acid batteries

This will be easy to troubleshoot, to know the actual voltage of the battery using a multimeter.

Lithium batteries

In this type of battery, few things are to be considered such as cell damage, BMS failure and/or just a deeply discharged battery pack.

For example, our Elithium batteries has an alarm mode(Red- alarm LED) indicating that there is either a fault and/or won the battery or the inverter depending on the event occurred.

On this case, it will be an undervoltage alarm, it is very much possible that the inverter will be able to recharge the battery as the voltage should be > 40V.

Worst case scenario, the battery will not switch ON at all, leaving you with two possibilities, either battery is damaged or needs to be revived. This is where the battery awaken function needs to be activated.

Procedure is as follows:

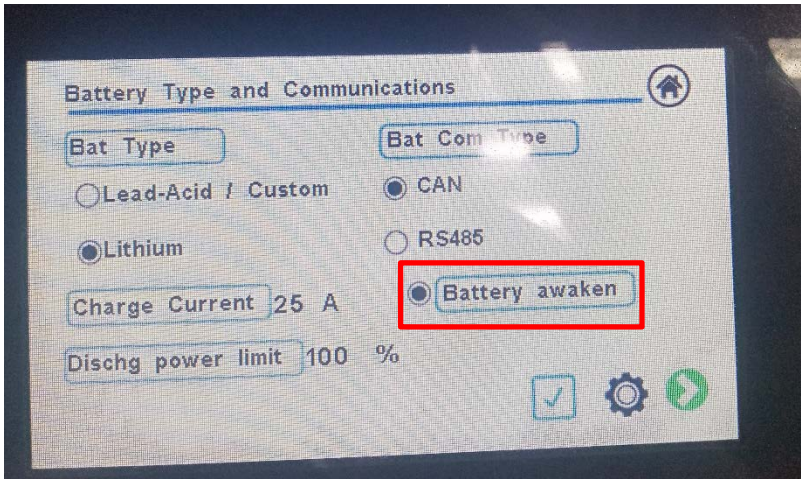
In this scenario, we have some PV power available to carry the procedure

I'll be using our Elithium battery brand as an example, you should be able to implement this procedure on your own different battery.

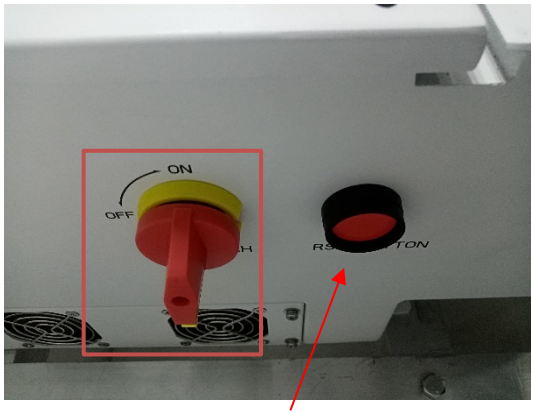
- Switch ON the battery, the on/off button as well as the DC breaker

Illustration above shows how the battery would probably look like, with a red alarm LED ON

- Please make sure you have enabled Battery awaken function



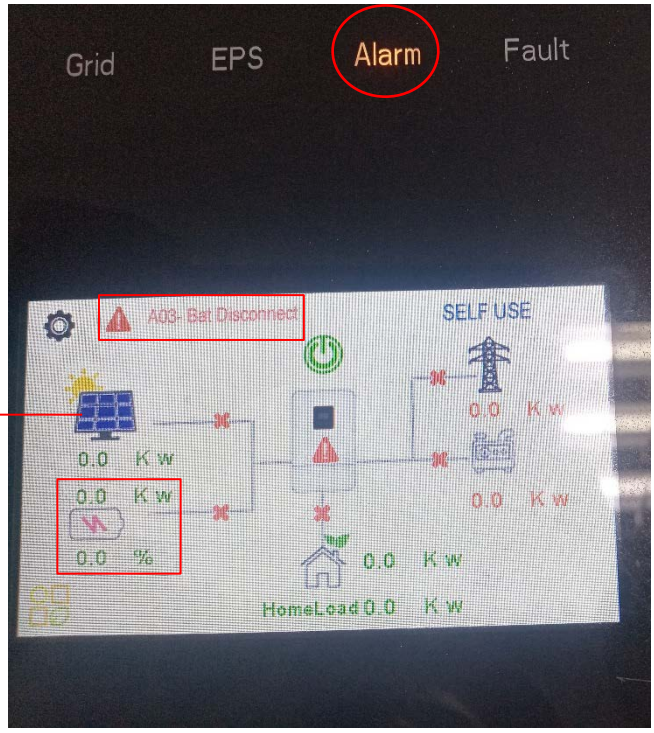
- You'll need to switch the DC combiner (PV) ON, along with the isolator at the side of the inverter



RSD Button must be pushed in!

You will get A03 – bat disconnect waning/fault, all icons crossed off.

This is normal, they will clear after some time

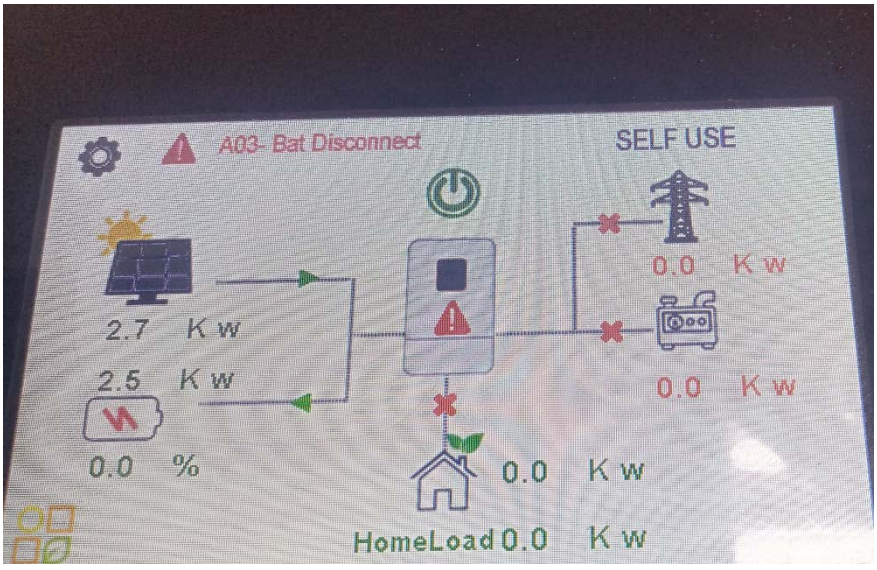


Click on the PV icon to check the PV input DC voltage,

and the battery SOC will read 0%, crossed off.

Using a multimeter, there should be and idling voltage of 10V

You will need to wait 3-10 minutes for the DCDC to be activated!

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