3-phase Hybrids-FAQ

Problems related to battery charging and discharging of SHxxRT and the guidance of troubleshooting

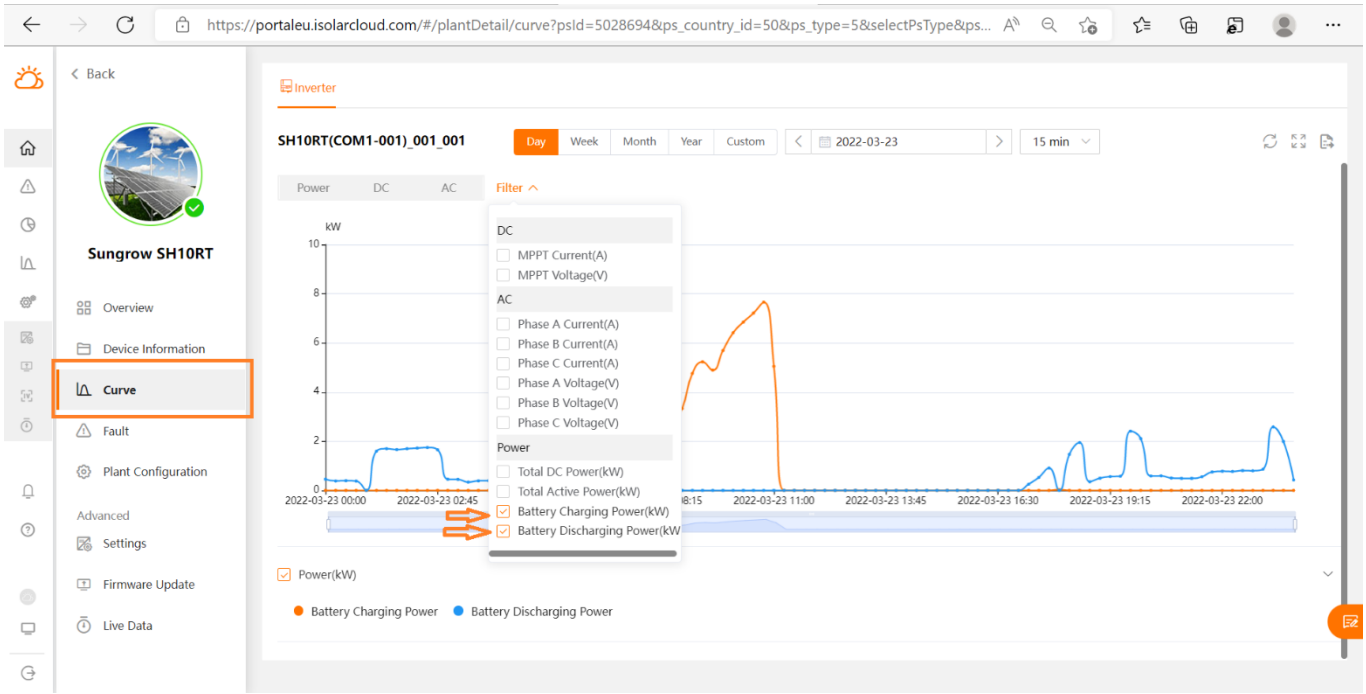
Applicable to: SHxxRT series

Battery charging and discharging problems can occur in residential energy storage inverters. There are mainly three cases: battery does not discharge, battery does not charge, and battery neither charges nor discharges.

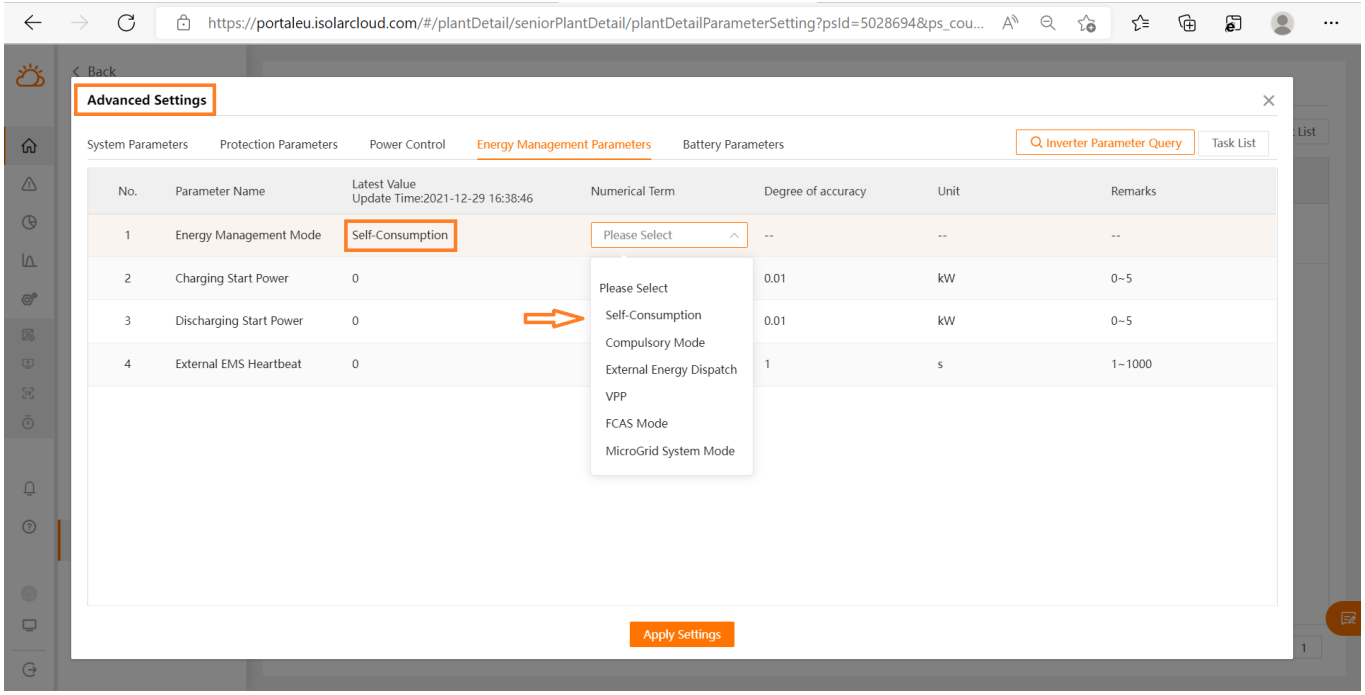
For abnormal battery charging and discharging, the following troubleshooting work is required.

1. Check whether the air switch between the battery and the energy storage inverter is closed (it is recommended to use a multimeter to test the battery voltage on the inverter side. Because the battery voltage value displayed on iSolarCloud is obtained through communicating with the battery.

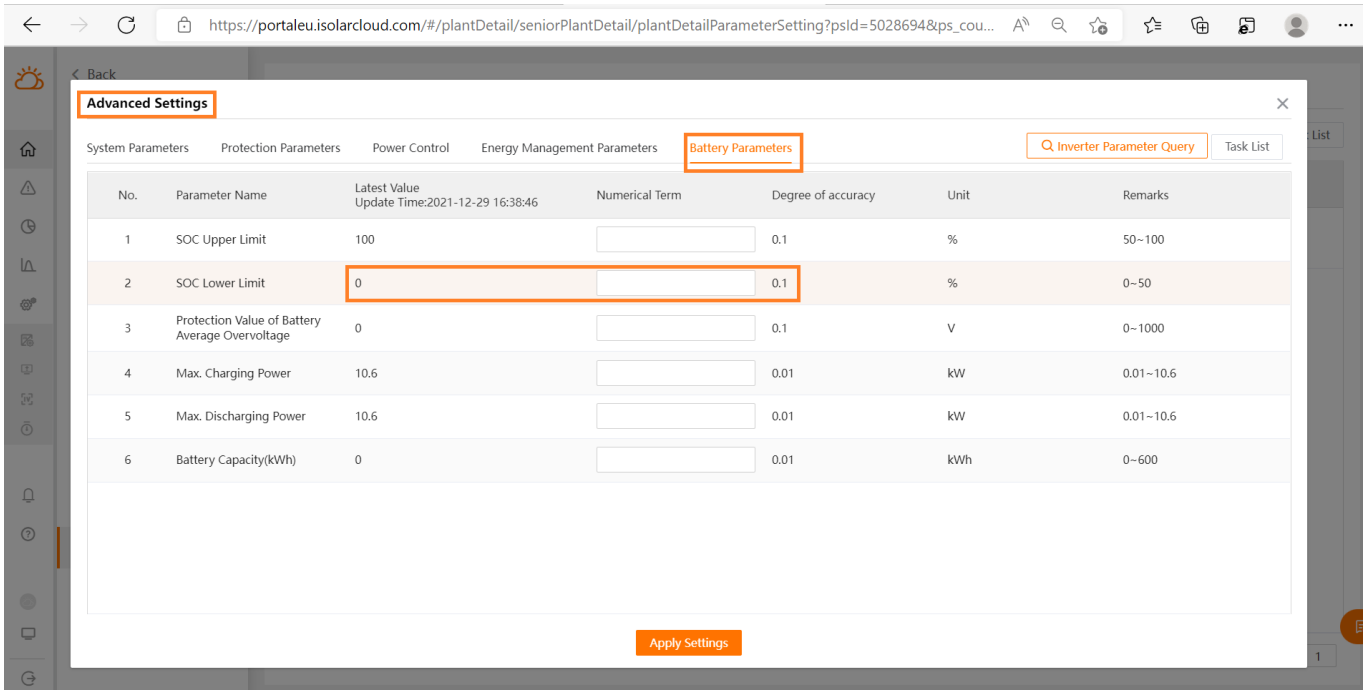
2. Use iSolarCloud curve analysis interface. Check the time period when abnormal battery charging and discharging occurs.



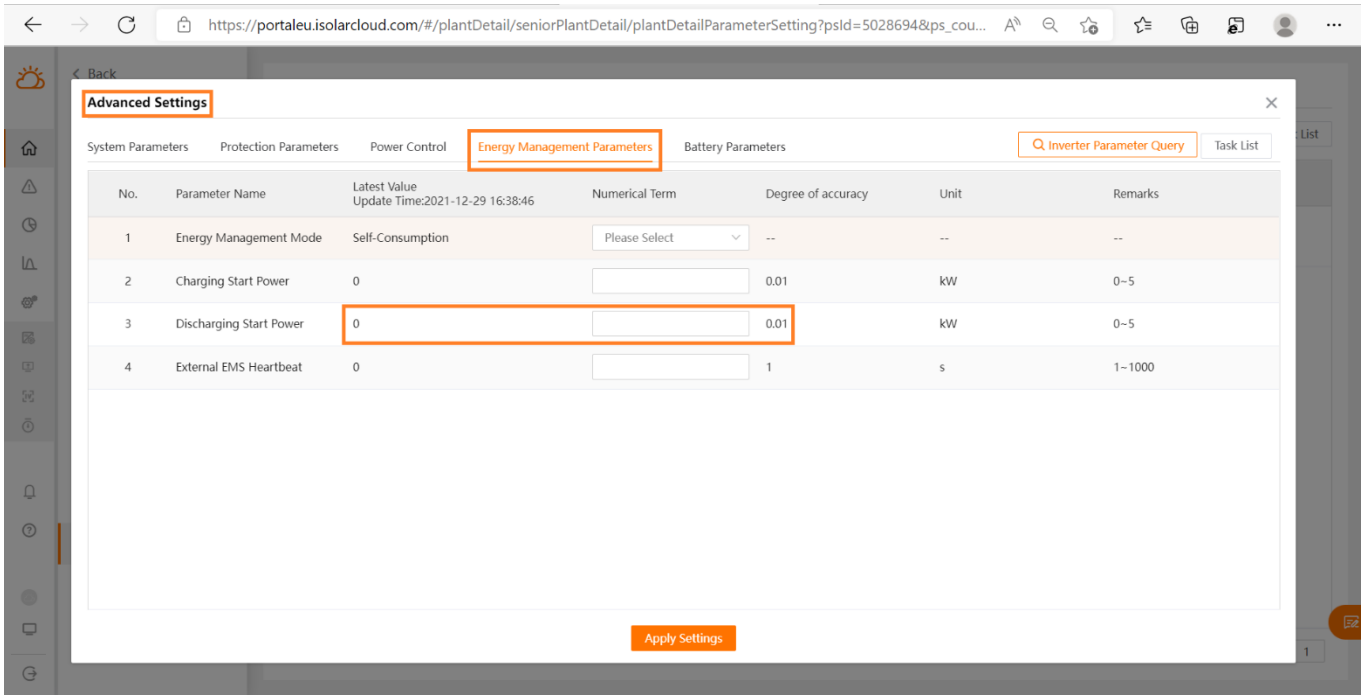
3. Check in the Advanced Settings, whether the Energy Management is set to Self-consumption Mode.



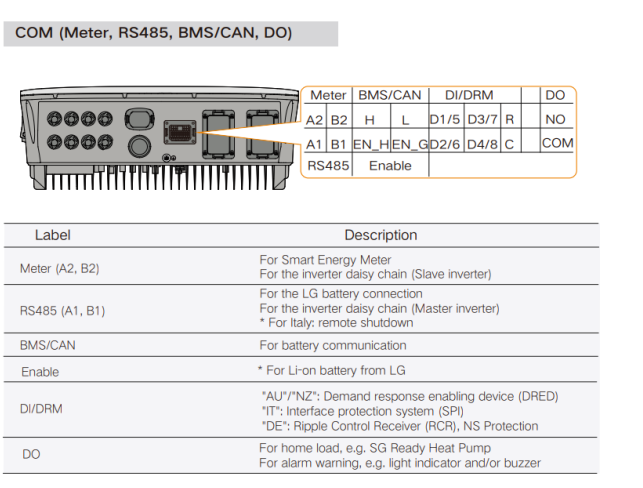
4. Check in the Advanced Settings and Battery parameters if the minimum battery SOC is **not** set to 100%.



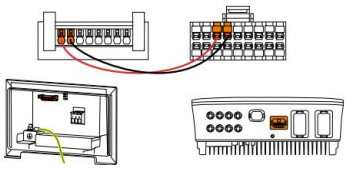
5. Check in the Advanced Settings and Energy Management Parameters if the Inverter Discharge Start Power is **not** set to the nominal power of the inverter. The Discharge Start Power is the house load value at which the inverter will start to discharge the battery.



6. Check, if the communication wiring from batteries and meter is connected properly or the meter is not calibrated, it will lead to abnormal charging and discharging.



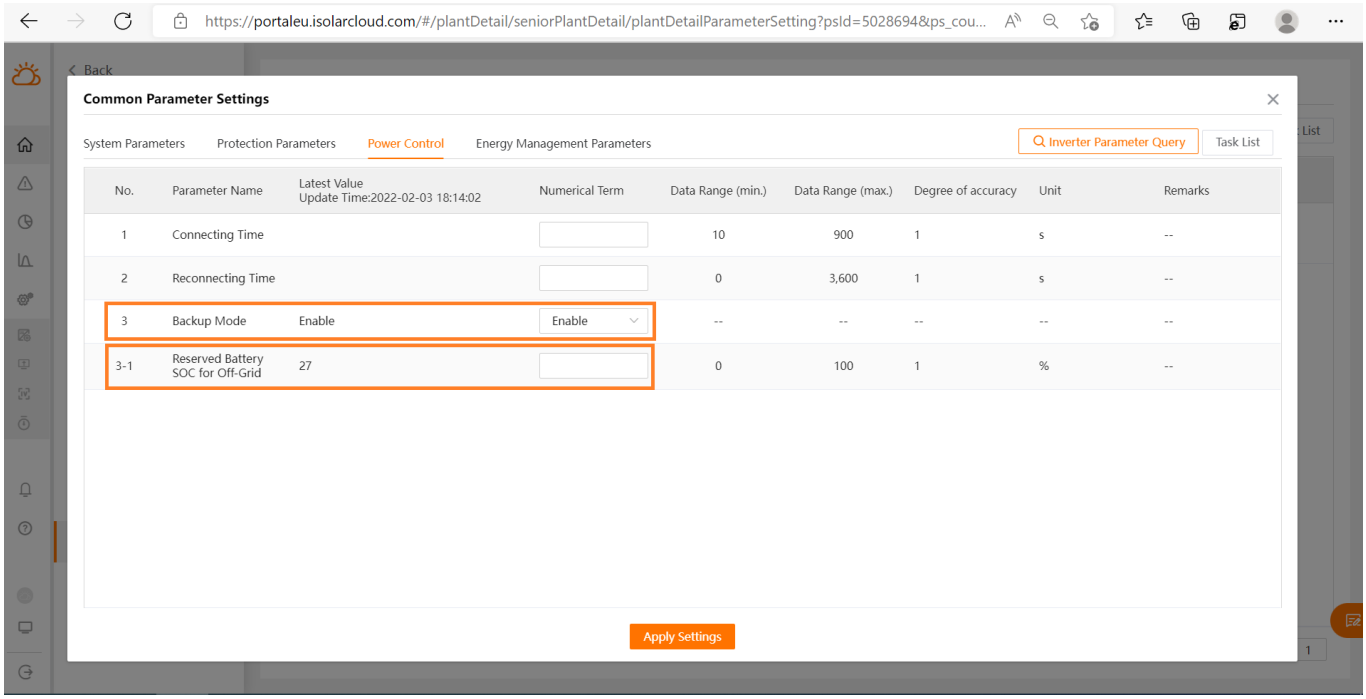
Meter communication



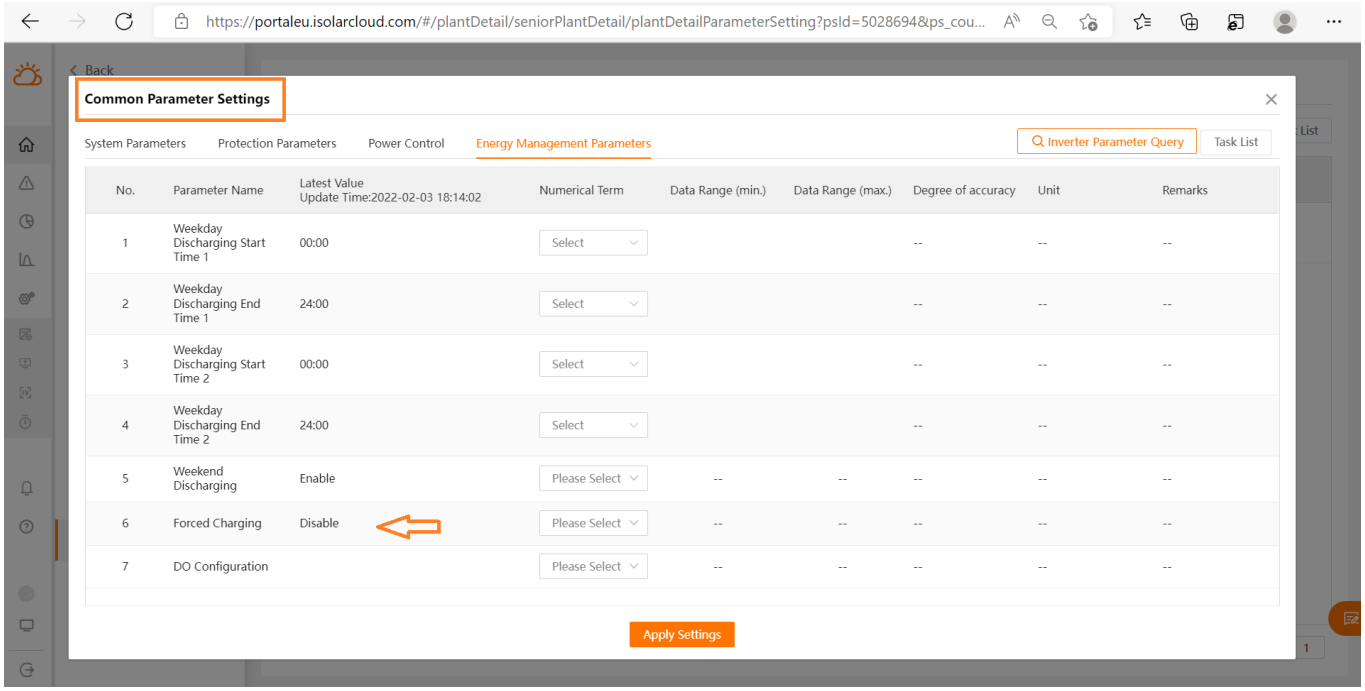
Battery communication

7. Check, if the battery does not discharge only at night, analyse the load power. When the load takes more than 150W from the power grid, the battery is allowed to discharge, otherwise the inverter will not discharge. This is to prevent that the inverter losses become comparable to the house load.

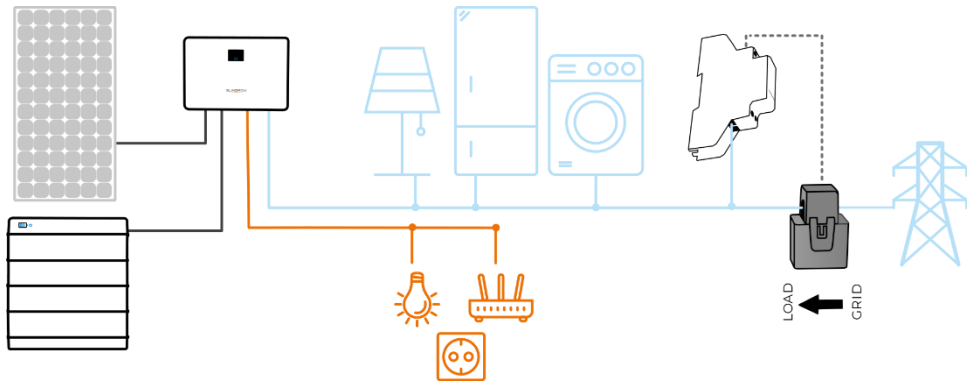
8. Check whether the parameter setting of inverter is correct. In particular Reserved Battery SOC for Off-Grid: When Backup Mode is enabled, this value can be set to indicate the allowable battery SOC in off-grid state. If this value is set to 100%, it means that the reserved battery SOC for off-grid is required to be 100%. Therefore, in the grid-connected state, the battery will not be charged and discharged in order to keep it at full level. In general, this value can be set to 20%.



9. Check whether the set battery discharge time is correct, as shown in Figure below. It includes setting of working day discharge time, setting of weekend discharge time, whether weekend discharge is enabled, and whether forced charging is enabled (for example, if it is found that discharge is not performed only on weekends, weekend discharge is set to be enabled). If the forced charge parameter is enabled, the battery will enter the forced charge state and cannot enter the discharge state.



10. Check the installation position of the electric meter and whether the data of the electric meter is correct. The change of the installation position of the meter or the abnormal value of the meter will lead to the abnormal measured load value. At this time, the battery can be charged, but cannot be discharged. The normal installation position of smart meter should be behind the load and in front of the power grid. If the data of the meter itself is abnormal, it can be solved by calibrating the meter.



For further information, please download the user manual here.

This manual is intended for professional technicians who are responsible for installation, operation, maintenance and troubleshooting of inverters, and users who need to check inverter parameters. The inverter must only be installed by professional technicians.

The professional technician is required to meet the following requirements:

- Know electronic, electrical wiring and mechanical expertise, and be familiar with electrical and mechanical schematics.
- Have received professional training related to the installation, commissioning and troubleshooting of electrical equipment.
- Be able to quickly respond to hazards or emergencies that occur during installation, commissioning and troubleshooting.
- Be familiar with local standards and relevant safety regulations of electrical systems.
- Read this manual thoroughly and understand the safety instructions related to operations.

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