3-phase Hybrids-FAQ

Operation mode description of 3-phase residential storage inverter

Applicable to: SHxxRT series

1 Production for self-consumption

The inverter is set to the mode of production for self-consumption, and the control supplies power to the load first (including the backup port load).

1.1 Daytime PV power ≥ load power

As shown in Figure 3-3 below, when the battery SOC is lower than 100%, after the PV input power meets the load power supply, the remaining energy charges the battery and still delivers the remaining energy to the power grid. When the battery SOC is 100%, after the PV input power meets the load power supply, the surplus electric energy is transmitted to the power grid.

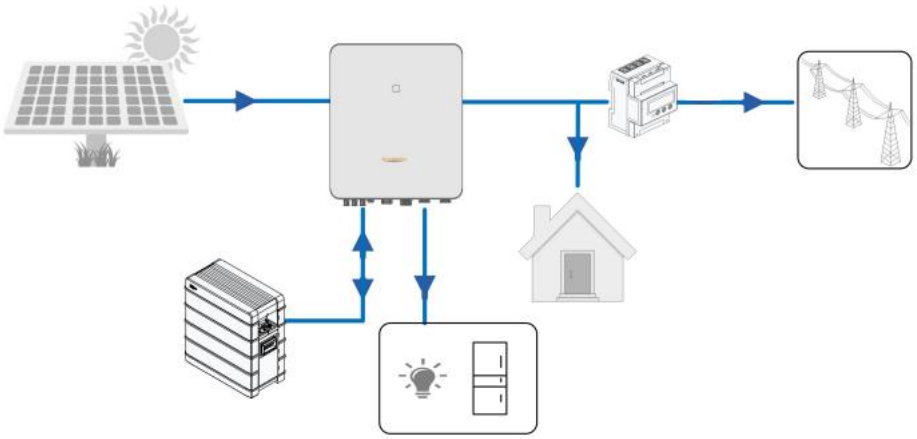
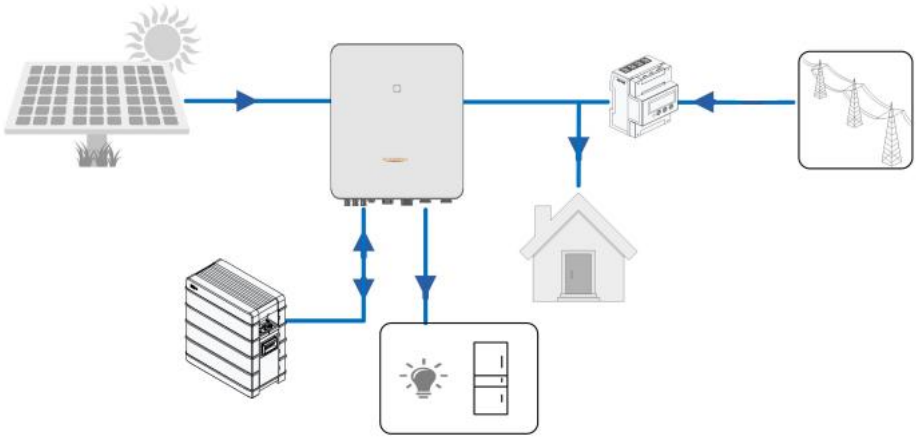


Figure 3-3 Daytime PV power ≥ load power

1.2 Daytime PV power < load power

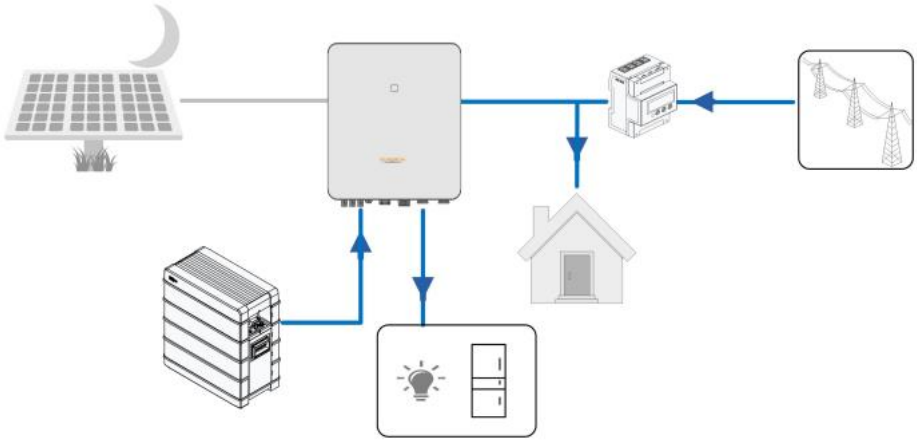
As shown in figure below, when the battery is fully charged, the battery discharges to the load, and the insufficient part is supplied by the power grid. When the battery power is insufficient, the load consumption is supplemented by the power grid.



Daytime PV power < load power

1.3 No-light scenario at night

Under no-light scenario at night, PV power is 0. As shown in figure below, when the battery is fully charged, the battery discharges to the load first. If the battery discharge cannot meet the load consumption or the battery power is insufficient, the required electric energy is provided by the power grid.

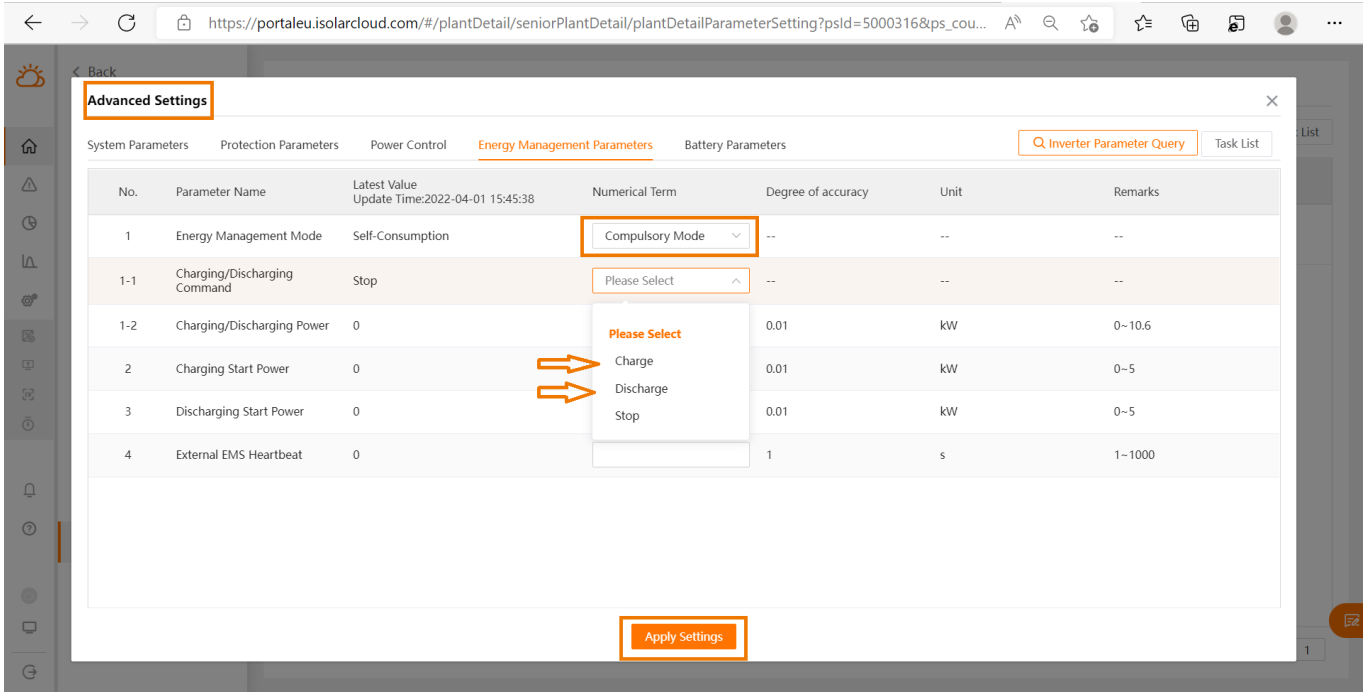


No-light Scenario at Night

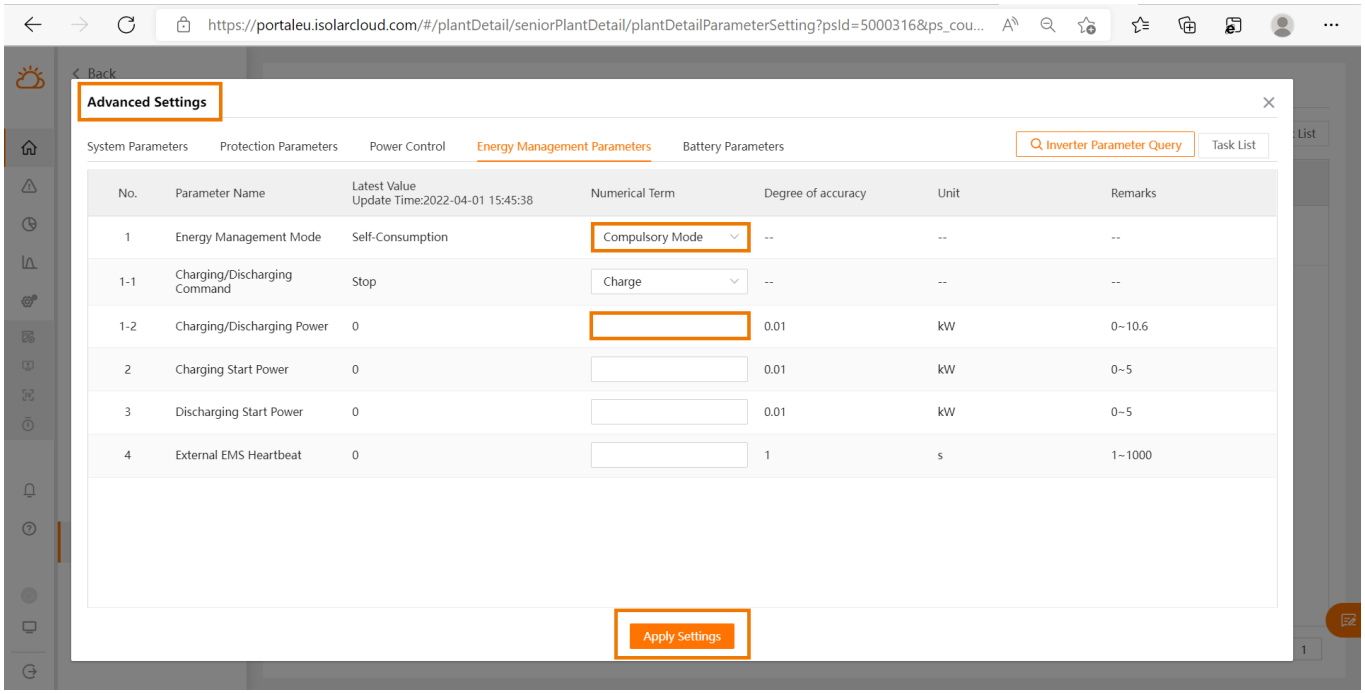
2 Compulsory mode

Two instruction values are issued locally through iSolarCloud APP:

2.1 Control instruction charging, discharging or stop.



2.2 Power instruction charging and discharging power value.



3 Battery maintenance mode

In the following battery versions, the battery automatically enters maintenance mode to calibrate the battery capacity every 180 days. In maintenance mode, the battery exits the maintenance mode automatically after it is fully charged. All battery Settings are invalid in maintenance mode. This maintenance mode will not appear in later versions of batteries. If batteries in maintenance mode already exist, contact technical support.

Module Name	Module Current Version
BAT	SBRBCU-S_22011.01.0a

4 Emergency charging mode

When SOC <= 5%, BMS will upload an emergency charging sign, and the inverter needs to charge the battery, and the charging current should not be higher than the recommended charging current value until SOC reaches 10%. BMS will automatically clear the emergency charging sign, and the inverter can stop emergency charging and return to the previous EMS working mode.

During emergency charging in off-grid mode, the local load will be disconnected, and PV energy will charge the battery first. When the battery emergency charge is completed, the system restarts and supplies power to the load.

5 EMS shutdown mode

When the electric meter is abnormal, if the EMS working mode is set to production for self-consumption and no emergency charging and maintenance instructions are issued, the EMS shutdown mode will be enabled. If the EMS working mode is set to the forced mode, the EMS shutdown mode will not be enabled, the inverter will change the power limit of the feeder network into the power limit of the inverter output, and the battery will only charge but not discharge.

When the battery is found to be abnormal, the EMS will directly enter shutdown mode. In this state, BDC stops working.

When both the battery and the meter are abnormal, the EMS directly enters shutdown mode, BDC stops working.

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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