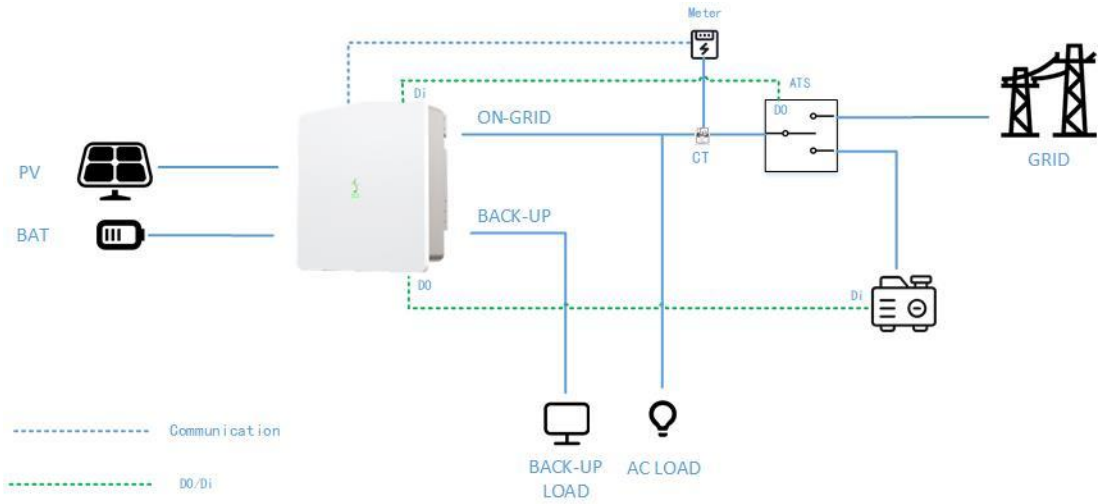
Isuna6000S Generator Control User Manual

This user manual aims to help you understand and properly operate the system. Please read this manual carefully before use and follow the instructions.

1. Product Overview

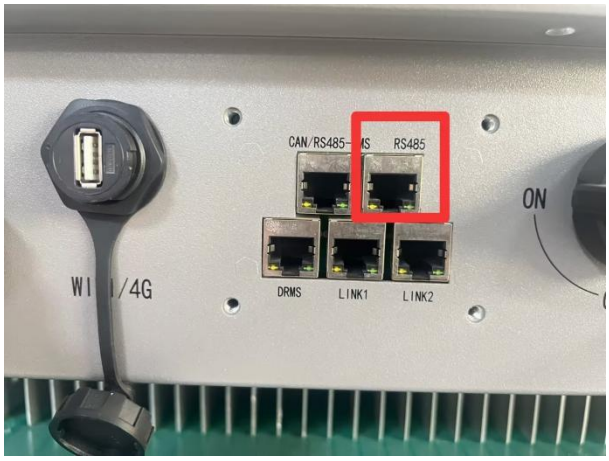
This generator compatibility solution is designed to meet the needs of regions like South Africa, where over 10% of household energy storage users require backup generators due to unstable power grids. Users can select appropriate modes and configurations based on actual needs.



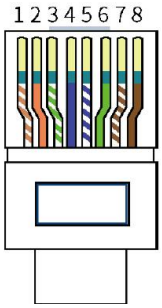
2. Installation Guide

2.1 Inverter DO Communication

The DO (Digital Output) is located at the inverter's [CT/RS485] network port.



Wiring sequence for the network port:



Note: The inverter has two DO ports for generator control: **SG** and **EVU**, which operate in opposite logic. Users must select one group based on their generator control method.

SG Port: Controls pins PIN1 and PIN2 (orange-white and orange).

When the inverter triggers generator **startup**, the SG relay closes, **conducting PIN1 and PIN2**.

When the inverter triggers generator **shutdown**, the SG relay opens, **disconnecting PIN1 and PIN2**.

EVU Port: Controls pins PIN3 and PIN4 (green-white and blue).

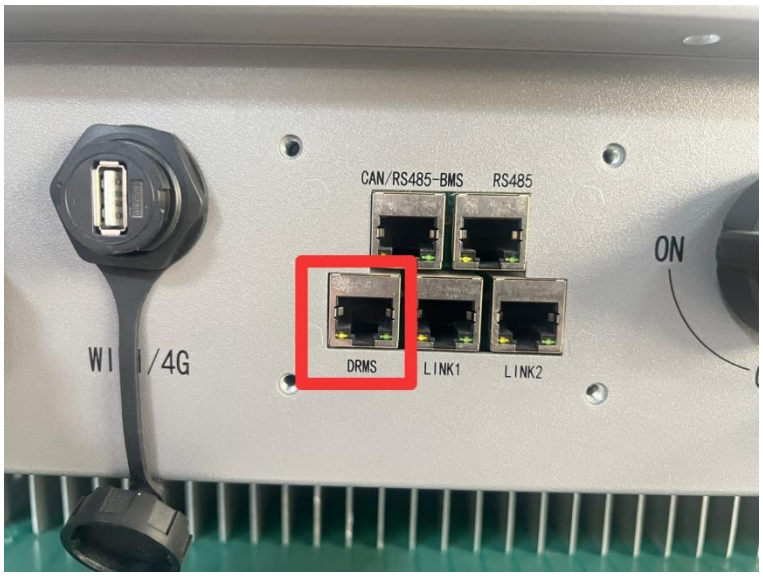
When the inverter triggers generator **startup**, the EVU relay opens, **disconnecting PIN3 and PIN4**.

When the inverter triggers generator **shutdown**, the EVU relay closes, **conducting PIN3 and PIN4**.

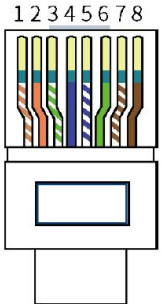
Important: Ensure the DO is set to "Generator" mode. If set to "Heat Pump" or "Disabled," the generator may malfunction.

2.2 Inverter DI Communication

The DI (Digital Input) is located at the inverter's **[DRMS]** network port.



Network cable wiring:

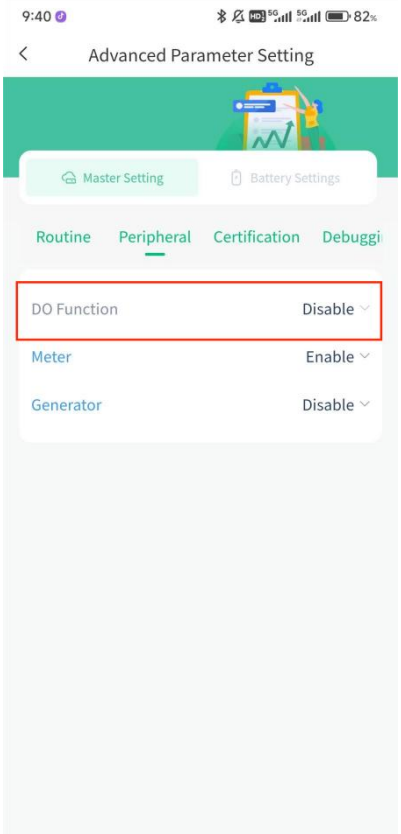


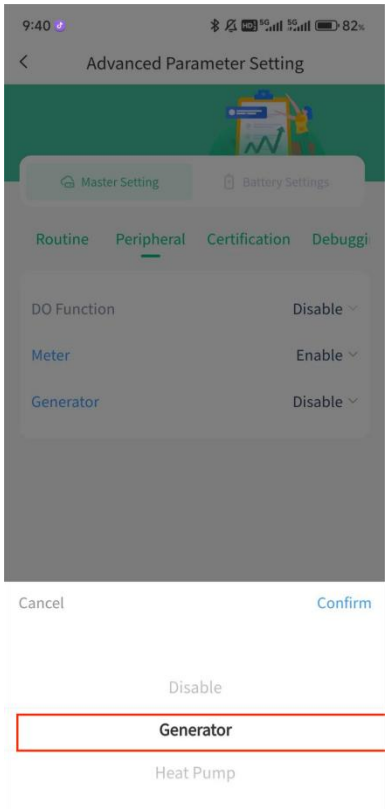
DI signals correspond to pins PIN4 (blue) and PIN6 (green). PIN4 is the ATS (Automatic Transfer Switch) signal input, and PIN6 is GND.

Connect the ATS signal to the main power supply’s normally closed (NC) and common (COM) contacts.

3.APP Configuration and Operation Modes

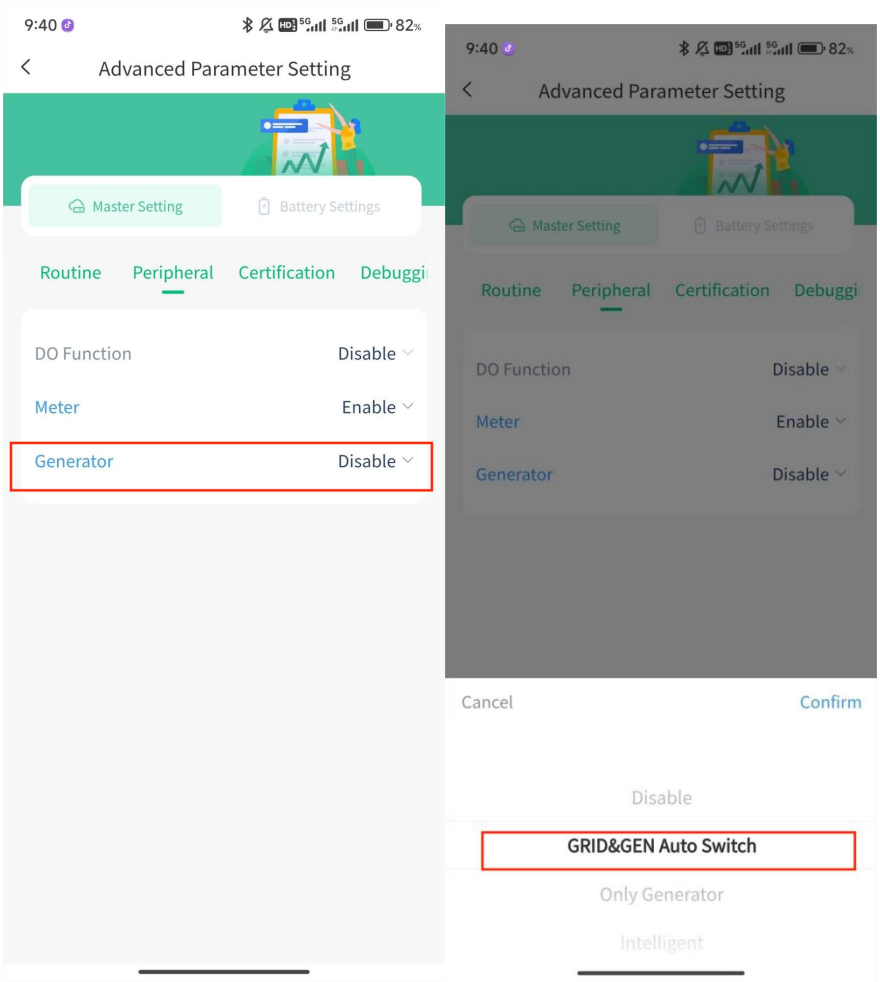
Enable Function: To activate the generator, set the DO function to "**Generator**."





According to the application scenario, it is divided into the following three modes：

3.1 GRID&GEN Auto Switch



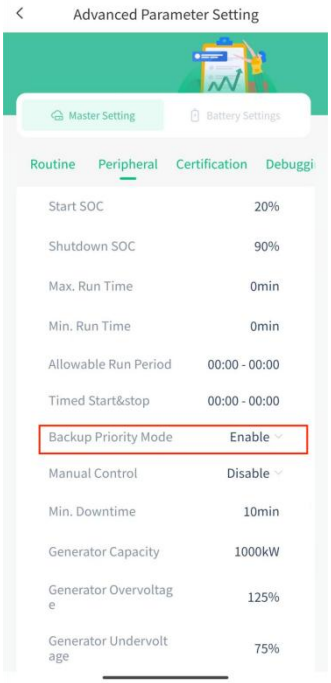
Note: The GRID&GEN Auto Switch needs to be used with an external ATS. When using automatic switching, be sure to turn off the PV before making relevant settings to prevent the oil generator from backflow due

to incorrect settings, which may cause damage to the oil generator. After ensuring that the system automatically switches normally, turn on the PV circuit breaker.

The following are the generator related settings：

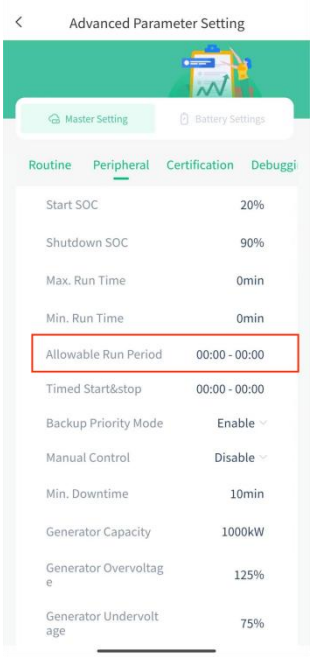
Backup Priority Mode:

Enabled by default (allows charging batteries via the generator). Disable to prohibit charging.



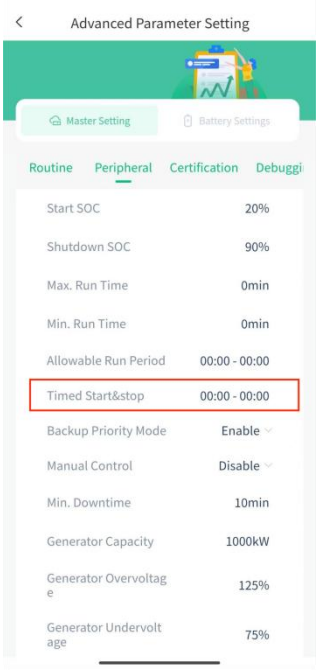
Allowable Run Period

The default time is 0:00-0:00, and the generator is allowed to run throughout the day. Note: The subsequent oil engine scheduled start and stop or soc start and stop function will only take effect during the allowed working time period.



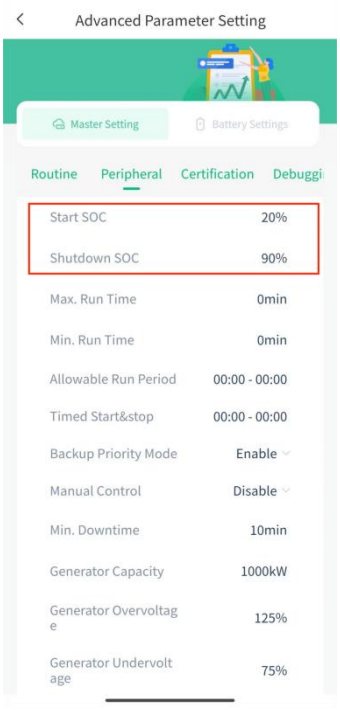
Timed Start&stop

The default time is 0:00-0:00, that is, the Timed Start&stop function is not effective. If the start and stop soc is set, it will work according to the set start and stop soc



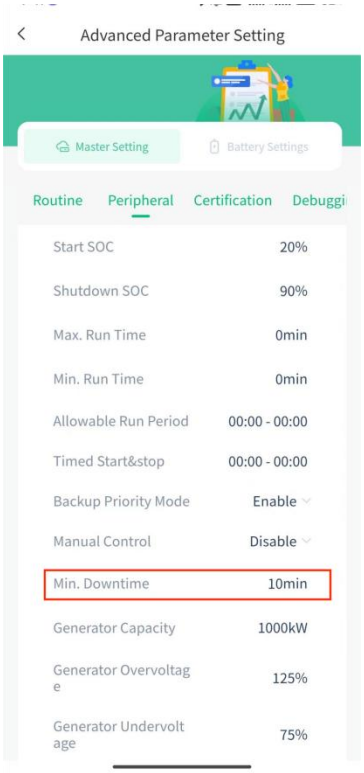
Start SOC&Shutdown SOC

When the soc is less than or equal to the start soc, the generator starts to work, and when the soc is greater than the set maximum soc, it stops working.



Min DownTime

Since frequent start and stop will cause great damage to the generator, the default minimum downtime is 10 minutes. Only when the downtime is greater than 10 minutes can it be restarted. This time can be set by yourself.



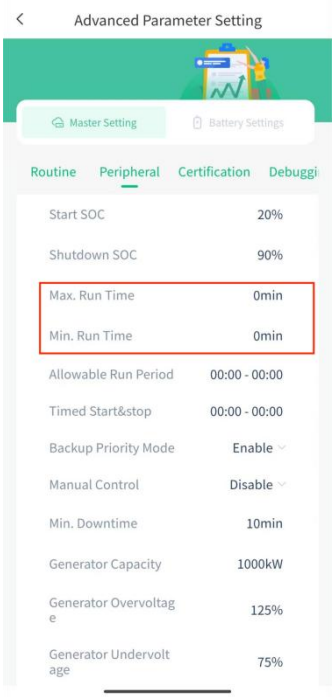
6.Max/Min Runtime

This mode allows you to set the maximum and minimum operating time of the oil engine. The default values are both 0, which means that there is no limit on the oil engine operating time. When the single operating

time is greater than the maximum operating time, it cannot run anymore, the oil engine shuts down, and will not be started again on the same day. When the single operating time does not reach the minimum operating time, the oil engine will not shut down even when the timing end time or shutdown soc is reached.

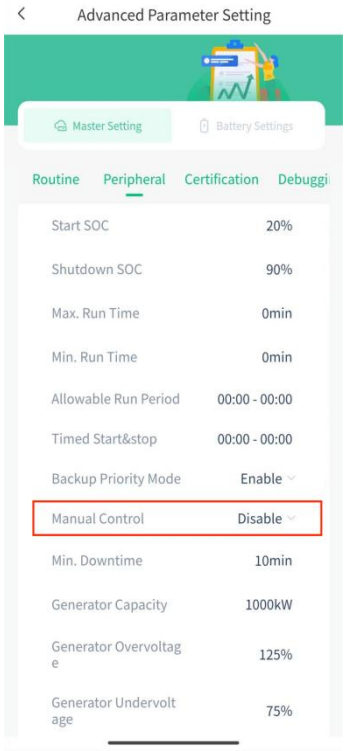
Note: The maximum operating time and the minimum operating time must follow

Maximum operating time > minimum operating time. If the set minimum operating time is less than or equal to the maximum operating time, and the maximum operating time is not 0 at this time, the setting will fail.



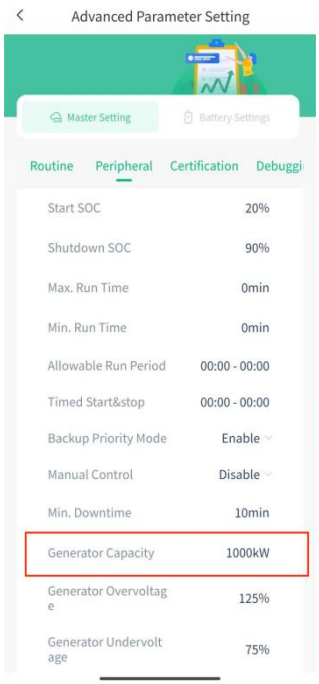
Manual Control

The default value is disabled, manual start and stop are not enabled, and the set timed start and stop and soc start and stop are followed. When set to start, the oil engine starts and no longer follows the set timed start and stop and soc start and stop. When set to stop, the oil engine shuts down and no longer follows the set timed start and stop and soc start and stop.

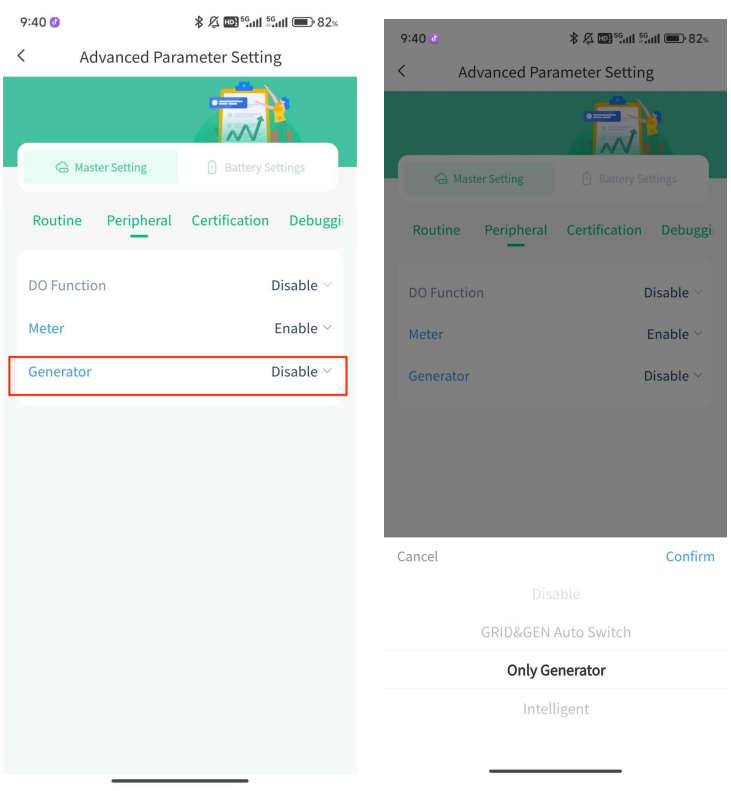


Generator Capacity

The user can set the generator capacity by himself, and the inverter will not exceed this power during operation.



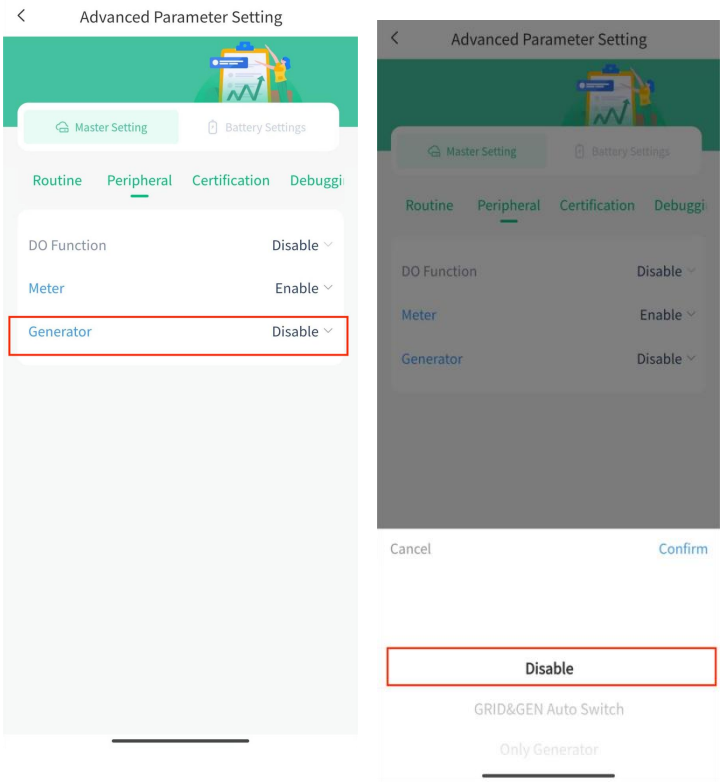
3.2 Generator Only



When there is no ATS and the oil generator is directly connected to the inverter grid port, this option needs to be selected. The relevant

setting logic of the oil generator under this option is the same as that of GRID&GEN Auto Switch

3.3 Disable



In addition to the above two modes, there is also a disable option. In this mode, the inverter defaults to the grid access mode.

Note: When connecting to the generator, it must not be set to disable