# Introduction to the ESS Application of RiiO Sun II V1.0

Version Record:

| Date | Version | Remark | Author |
|---|---|---|---|
| 2023/04/27 | V1.0 | First version | Yago Shen |
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# Content

**1 Brief introduction ..... 1**
**2 ESS connection diagram ..... 1**
**3 ESS required parameters setting ..... 2**
3.1 ESS parameters setting on NOVA Web or APP ..... 2
3.2 ESS parameters setting on TBB Link ..... 3
3.3 Parameters setting on Meter ..... 4

# 1 Brief introduction

1.1 Instructions

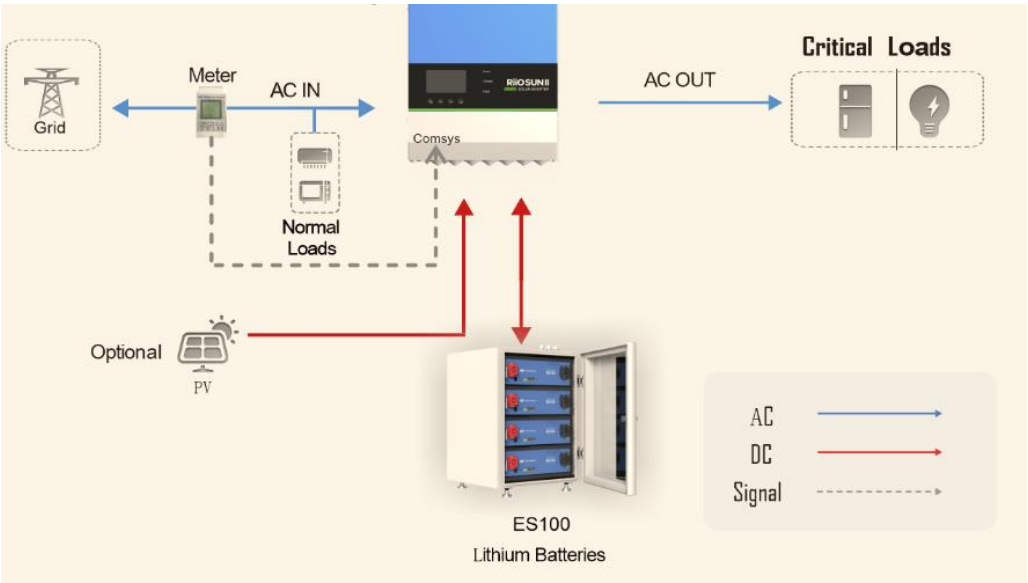
This document is compiled to show our customers how to apply RiiO Sun II ESS function correctly, how to handle relevant setting items, and how to connect each units in the right way. TBB Meter is essential in the application of RiiO Sun II ESS function as displayed in the connection diagram latter. For the record, this ESS application introduced hereby is only suitable for the occasion where there is one single RiiO Sun II at work.

1.2 About ESS application

ESS is an advanced energy system solution in the energy industry. Mainly used in on-grid system, ESS boasts it ability to maximize the use of PV power and minimize the use of grid power. By proper energy allocation, PV power will be used to support loads in the AC in & out of the inverter first. Afterwards, if there is excess energy available, it will be used to charge battery and exported to the grid. In this way, battery will reserve certain SOC to avoid system power failure, which ensures both energy saving and stable system operation.

# 2 ESS connection diagram

As the diagram shows, PV energy will power the loads in the AC in & out of the inverter first and then charge the battery later. If there is excess PV energy available and the energy feedback is enabled, it will be exported to the grid. If the enery feedback is deactivated, no energy will be fed back to the grid.




**Notes:** Meter is connected right to the front side of Normal Loads and communicate with RiiO Sun II via Comsys Port.

# 3 ESS required parameters setting

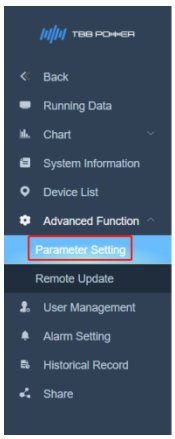
Notes: The complete ESS setting cannot be realized solely on RiiO Sun II Display. Instead, parameters should be set on NOVA Portal or TBB Link, as well as on the screen of Meter. SBU mode is supposed to be the working mode.

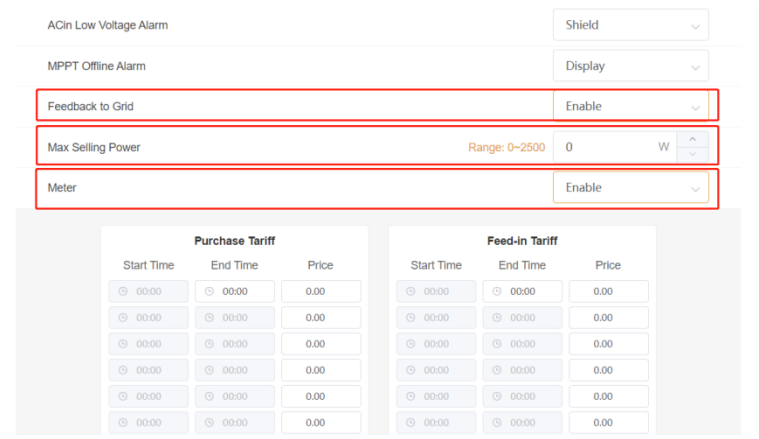
## 3.1 ESS parameters setting on NOVA Web or APP

Meter: Select “Enable” when the Meter is connected to RiiO Sun II

Feedback to Grid: Select “Enable”

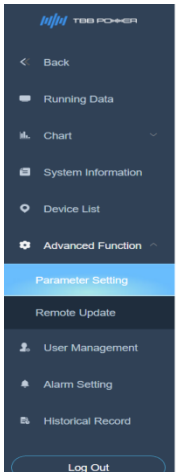
Max Selling Power: Set the maximum feedback power allowed

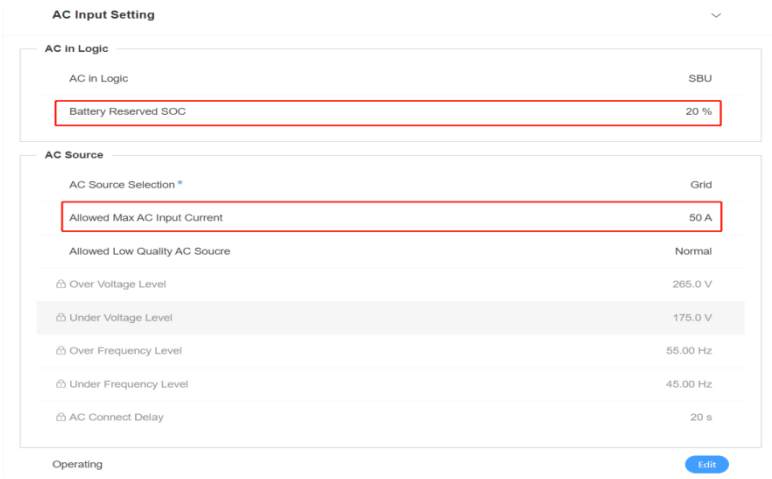



Battery Reserve SoC: Set the reserve SoC threshold of battery to ensure backup power

Allowed Max AC Input Current: Set the allowed maximum AC input current from grid



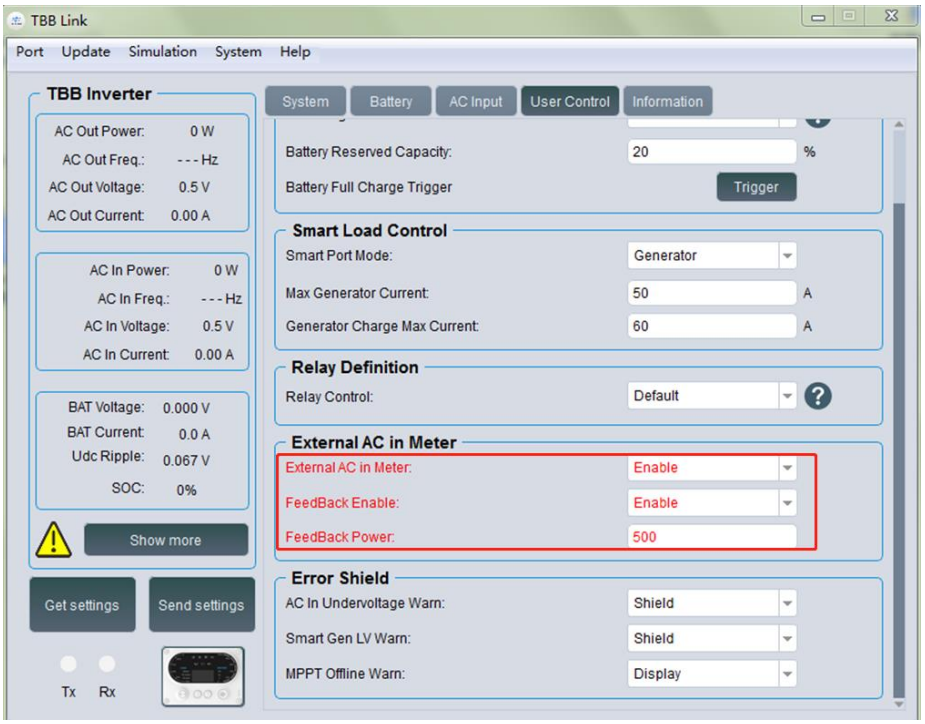



### 3.2 ESS parameters setting on TBB Link

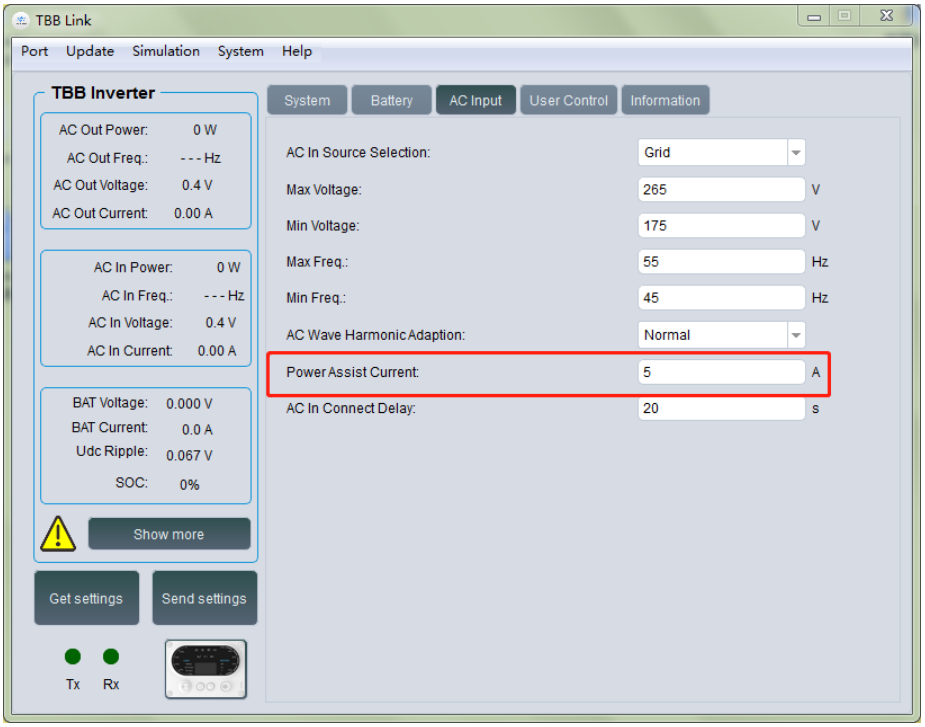
External AC in Meter: Select “Enable” when the Meter is connected to RiiO Sun II

Feedback Enable: Select “Enable”

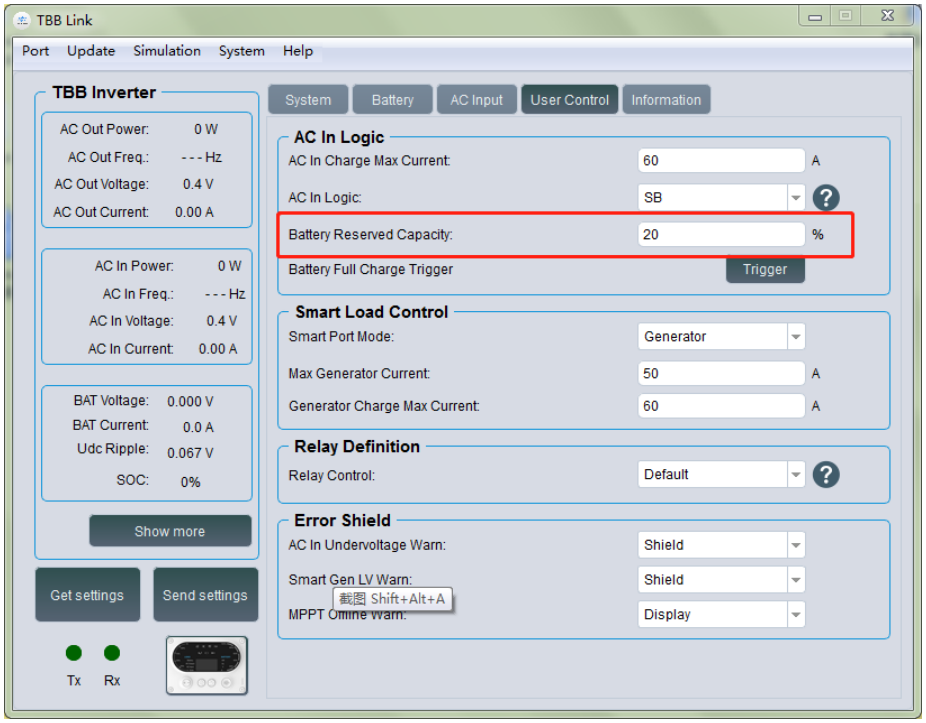
Feedback Power: Set the maximum feedback power allowed




Power Assist Current: Set the allowed maximum AC input current from grid



Battery Reserved Capacity: Set the reserve SoC threshold of battery to ensure backup power




### 3.3 Parameters setting on Meter

This setting is conducted on the screen of the connected Meter. Set Add (Address) as “001” and bd (Baud rate) as 9.6k.

