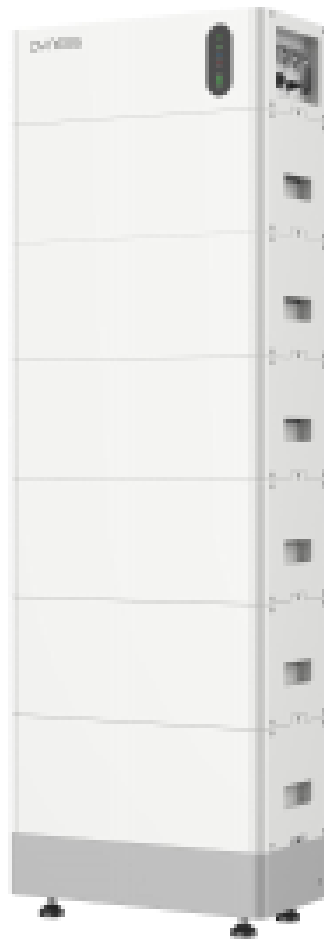


Dyness Tower Pro

EXPANSION INSTRUCTIONS



Important:

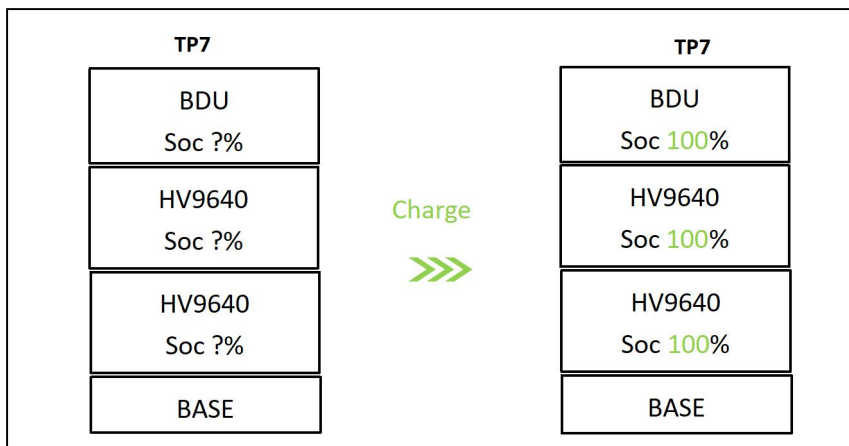
The installation and all other kinds of works or measurements in combination with the Tower Pro are only allowed by professional and qualified electricians. This manual is a brief help for battery expansion, and cannot replace the original user manual.

Tower Pro is hereinafter referred to as TP. There are many ways to expand TP. The following are three expansion methods classified by their convenience, and corresponding explanations are provided for each expansion method.

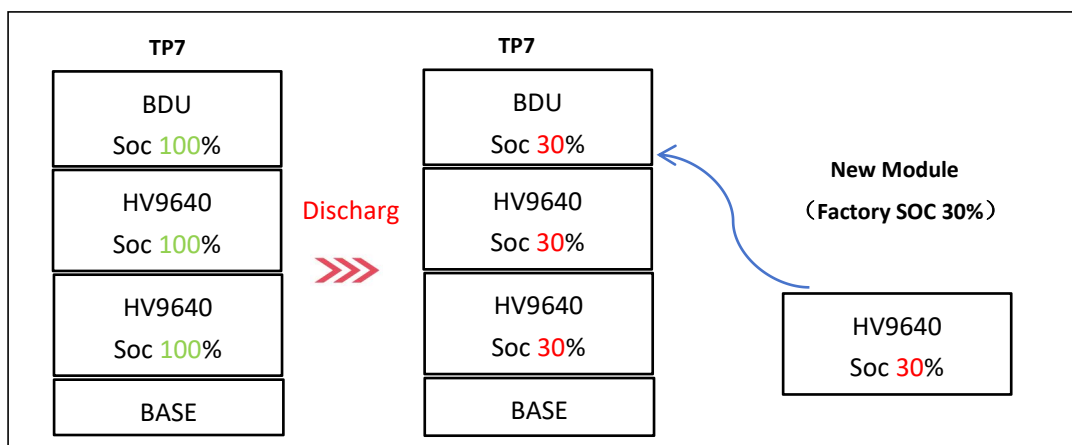
1. Directly add modules for expansion.

Taking the Expansion of TP7 to TP11 as an Example.

- ◆ First of all, before expanding the capacity, we need to fully charge the modules with unknown capacity to 100% using an inverter. Calibrate the SOC of the battery.



- ◆ Set the inverter to discharge the system to 30% SOC, Then directly add the modules that need to be newly added.



Advantages: simple operation and minimal time consumption

Disadvantages: The newly added battery module has lower activity than the original battery module of the system. Coupled with self-discharge, the actual capacity may

be less than 30%. During subsequent use, SOC jumps will occur. After 5 to 10 cycles of use, the passive balancing of the battery will gradually reduce the difference to a normal state.

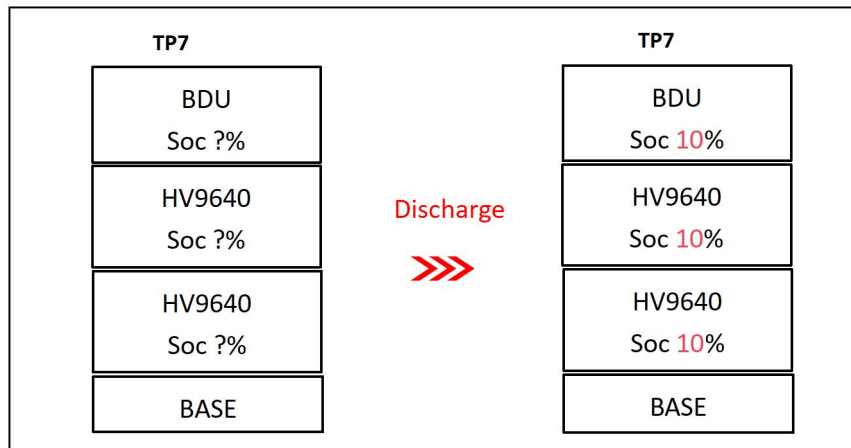
Note:

When directly expanding capacity, the difference between the battery capacity in the original system and the newly added battery capacity should not exceed 10%; otherwise, it will cause a severe jump in SOC, a long balancing cycle, and affect the customer experience.

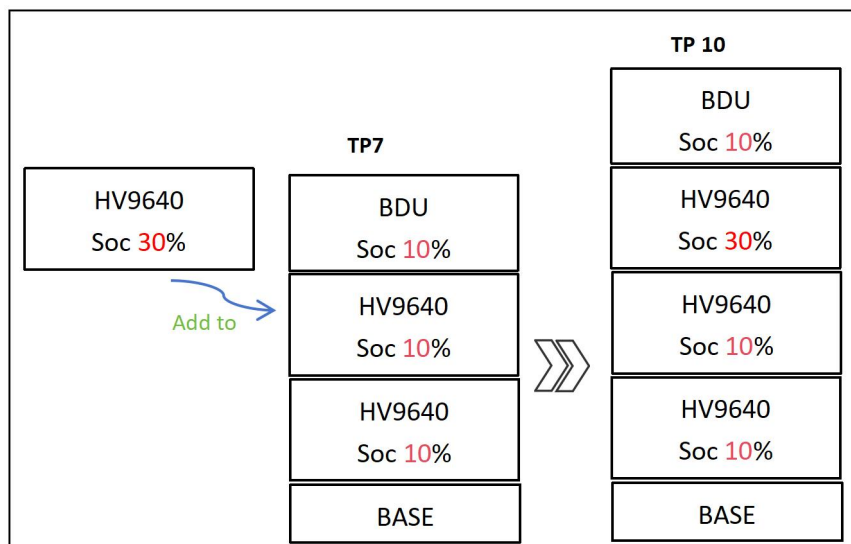
2. Using an inverter for module expansion.

Taking the Expansion of TP7 to TP11 as an Example.

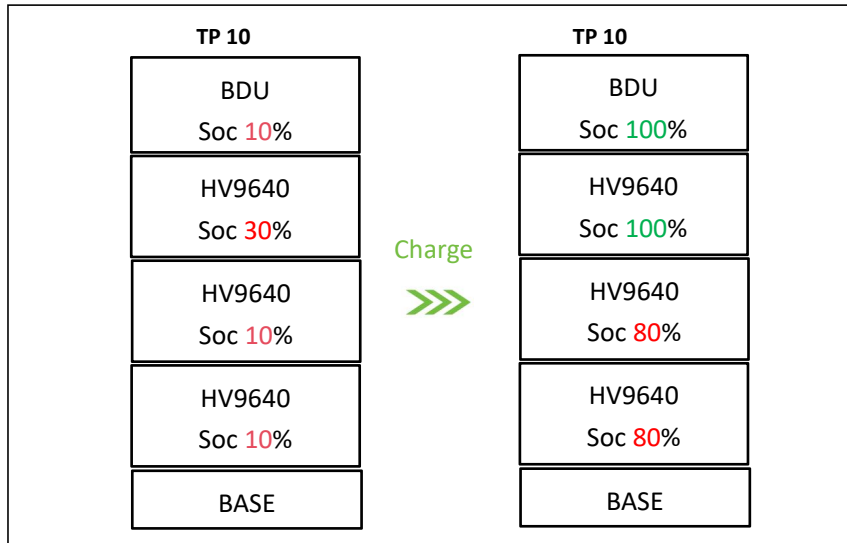
- ◆ Firstly, use an inverter to discharge the original Tower Pro system, ensuring that the system SOC $\leq 10\%$.



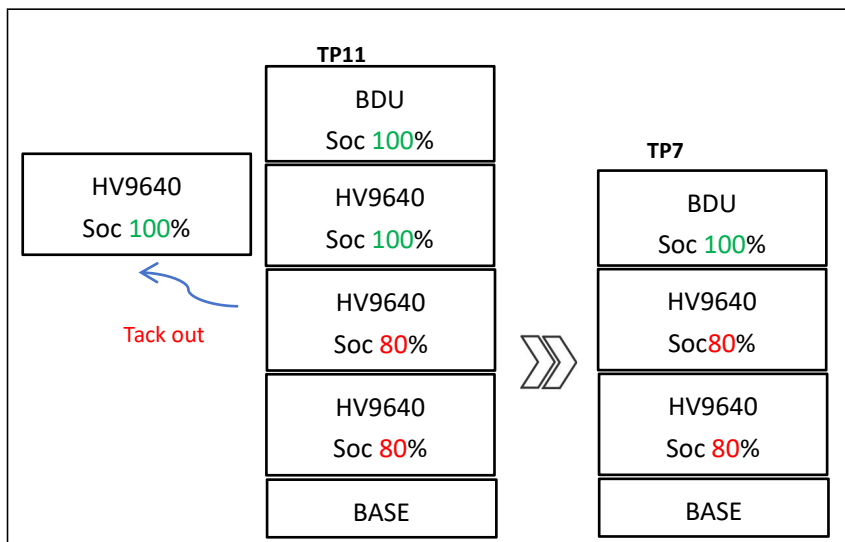
- ◆ Add the battery module to be expanded to the TP7 system, making it TP 10;



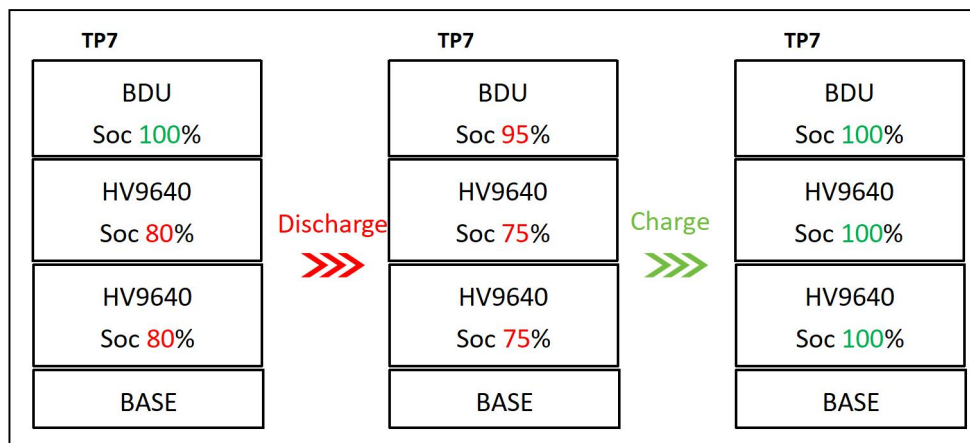
- ◆ Use the inverter to charge the TP11 until the SOC is 100% displayed on the inverter, so that both the BDU and the newly added module SOC are 100%.



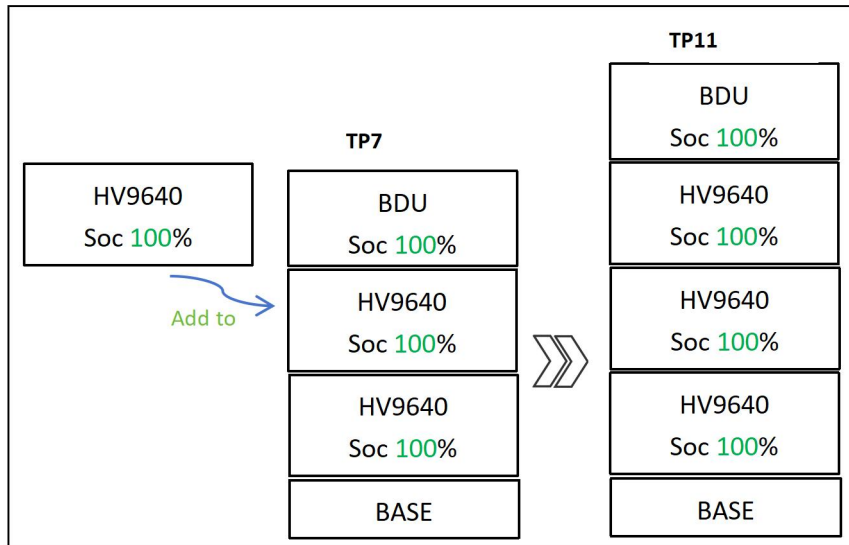
- ◆ Take out the new module



- ◆ Discharge the original system SOC to between 90~99%. Then continue charging until the inverter shows SOC 100%



- ◆ Finally, add the new module back into the system, and the expansion is complete

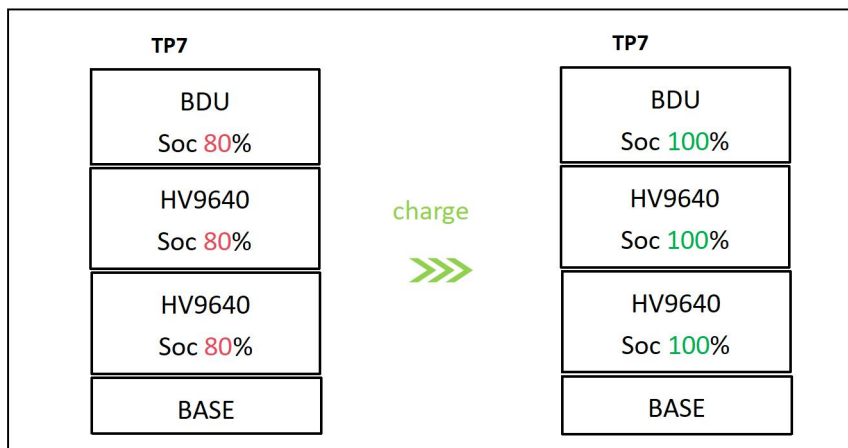


Advantages: The modules have good consistency, no need to wait for balancing, and solve the problem at one time.

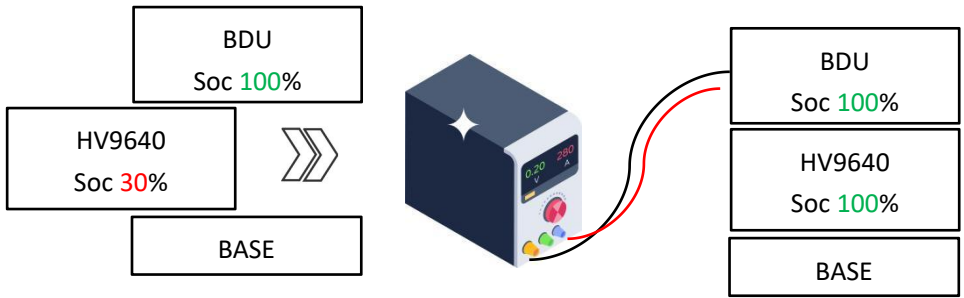
Disadvantages: time-consuming and complicated operation process

3. Use a DC charger for expansion.

- ◆ Firstly, use an inverter to charge the original Tower Pro system, ensuring that the system SOC = 100%.

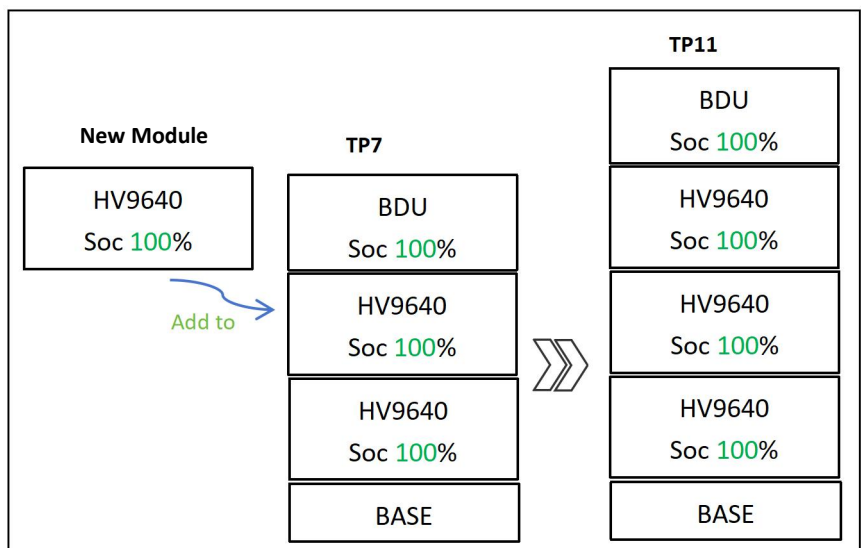


- ◆ Install the new module with the BDU&Base and use a DC charger to charge the new module. There is a sound of relay disconnection in the BDU, or the charging current is 0, indicating that the battery SOC = 100%.



Constant current charging parameter setting: **Charging voltage 108V**
Charging current 5A

- ◆ Finally, add the new module back into the system, and the expansion is complete.



Advantages: The modules have good consistency, no need to wait for balancing, and solve the problem at one time.

Disadvantages: A separate DC charger is required.