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EPISODE 72

Solis Hybrid Inverters Parallel Communication Setup Params

>> Installation
>> Operation
>> Maintenance

Solis Hybrid Inverters Parallel Communication Setup Params

>> Background

Inverters are the backbone of any energy storage system—but when it comes to scaling up for larger applications, a single inverter may not be enough. That's where the Solis hybrid inverter's parallel functionality shines.

By allowing multiple inverters to operate together, Solis hybrid systems break past the limitations of single-unit capacity. This setup enables smooth, flexible expansion while increasing system reliability through redundancy. Whether you're planning a gradual rollout or expecting future growth in demand, parallel inverter systems offer a smart balance of cost-effectiveness and technical performance.

In this guide, we'll walk you through how to connect multiple Solis hybrid inverters in parallel, with step-by-step instructions on communication setup and parameter settings.

>> Key Considerations Before You Start

- **Model Matching:** Only use identical models in parallel. For example, pair an 11kW inverter only with another 11kW model. Mixing different models is not supported.
- **Firmware Consistency:** Ensure all inverters are running the same firmware version before connection.
- **Maximum Units:** Up to 6 Solis hybrid inverters can be connected in one parallel system.
- **Data Logger:** Only the master inverter needs to be connected to the meter and data logger. However, firmware updates should be applied individually using separate data loggers.
- **Grounding:** All units must be connected to a common ground point to prevent voltage differences that can affect performance.
- **PV Input:** Each inverter must have its own PV string input, aligned with its rated DC input capacity.
- **Battery Input:** All inverters should connect to the same voltage-level battery system, but each inverter should have a separate connection.
- **Output Connections:** The AC grid and backup outputs from each unit should be paralleled according to the wiring diagram provided.

>> Wiring Topology Diagram

This diagram is drawn using the S6 EH3P(3-10)K product as an example to show the overall architecture of the hybrid inverter parallel connection:

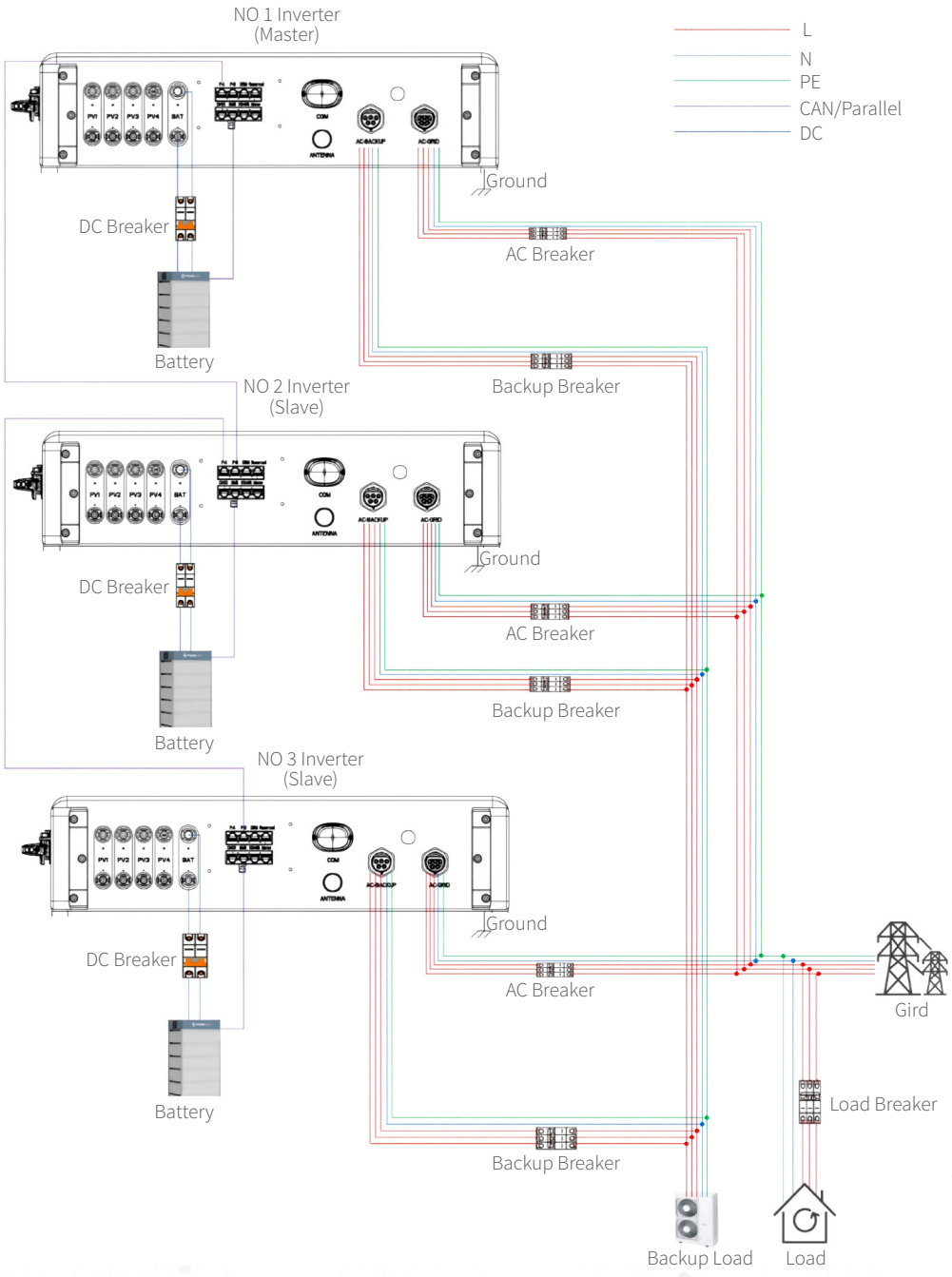


Figure 1 : S6 EH3P (3-10)K Parallel System Diagram

>> Communication and parameter setting instructions

1. Verify Each Inverter Individually

Before creating a parallel system, make sure each inverter operates normally on its own. Check for faults or alarms and correct any issues before connecting the parallel communication cable. This ensures stable system performance from the outset.

2. Set Up Parallel Communication

Each Solis hybrid inverter features two RJ45 communication ports—Parallel A (left) and Parallel B (right)—used exclusively for parallel communication via the CAN protocol.

To daisy-chain the inverters:

- Connect the master inverter's Parallel-A port to the first slave inverter's Parallel-B.
- Continue the chain by connecting each slave's Parallel-A to the next unit's Parallel-B, and so on.

Figure 2: RJ45 Plug

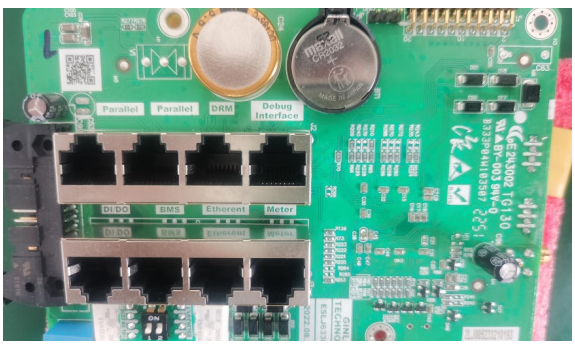


Figure 3: Parallel port

3. Dip Switch Settings

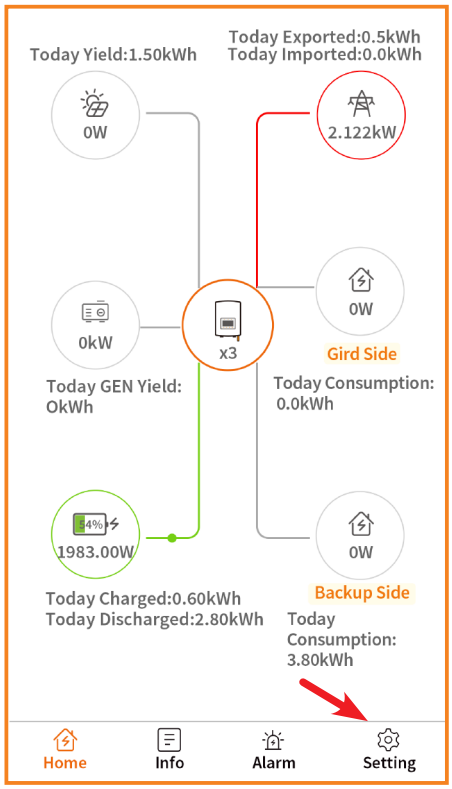
Setting the dip switches 1&2 of the first and the last inverter to: ON,
And other slave inverters in the middle to: OFF. For example:

- If you have 2 inverters connected in parallel mode, both dip switches should be turn on at "ON" position,
- If there are 3 inverters in parallel mode, the first and last inverter's dip switches should be in the"ON" position, and the middle should have the dip switches in the "OFF" position.

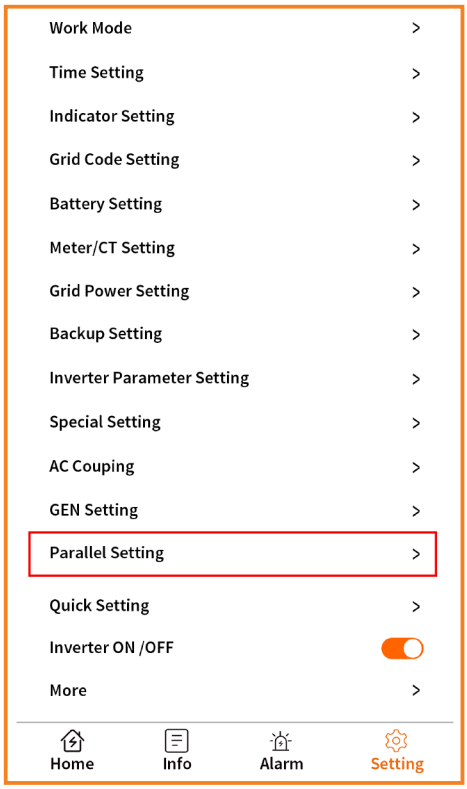
Note: The dip switch upward means ON and downward means OFF

Parallel parameter setting on APP

Enter the SolisCloud APP and click into the "Setting" interface, then go to "Parallel Settings".



Set the master to the following parameters



Set the slave to the following parameters

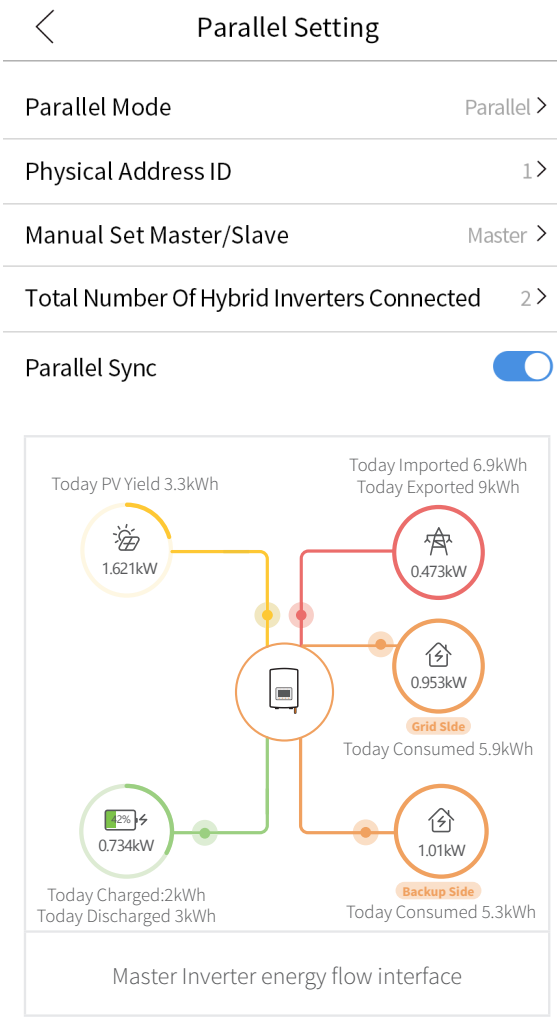
4. parameter specification

Once the system is in parallel mode, you only need to configure parameters like working mode on the master inverter. These settings will automatically sync across all connected units.

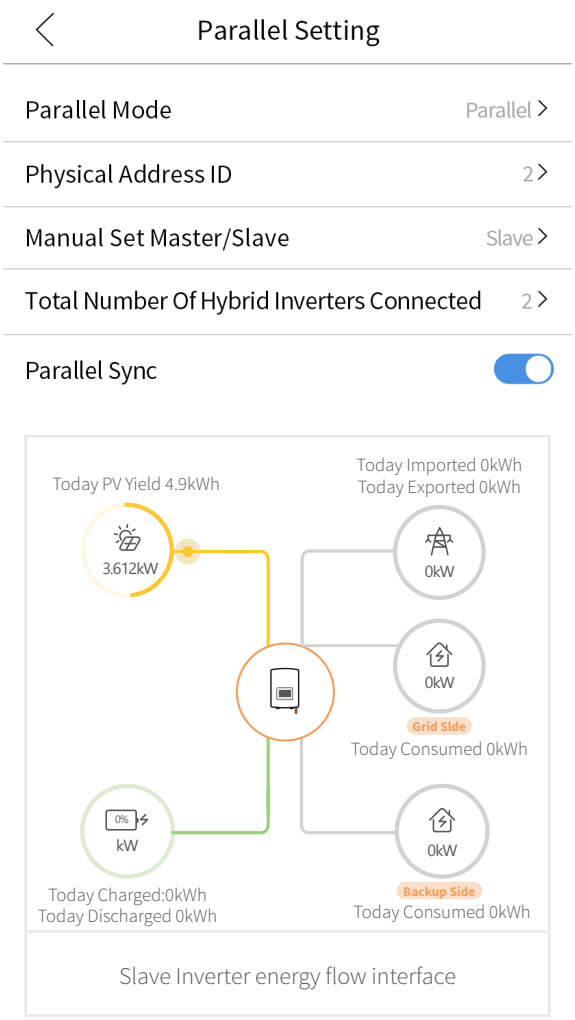
Assign each inverter a unique physical address:

- Master inverter = ID 1
- Slave inverters = IDs 2 to N (up to 6 total)

The master inverter will also consolidate and display energy flow data for the entire system.



Master Inverter energy flow interface



Slave Inverter energy flow interface

Conclusion:

>> Parallel operation of Solis hybrid inverters offers a practical and scalable approach to energy storage. Start small, then expand later as your needs grow—without overhauling your entire system.

This flexibility not only helps you manage budget constraints but also future-proofs your installation by allowing seamless capacity upgrades down the line.