

## Solis-RHI-1P(5-10)K-HVES-5G-US

**Note:** If no external (Acrel) meter is installed, please follow this path through the inverter menus: Advanced Settings > Storage Energy Set > Meter Select > use the Down button until “No Meter” appears, then press Enter. With no meter installed, you will be unable to manage the export power. The system will be set for maximum export by default.

**Minimum Export:** This inverter series is incapable of zero-net export. Whenever there is a change in home energy consumption (demand) there is a “reaction time” of about five seconds. During this window the inverter may export some power to the grid, if there is very low demand or there is a high amount of PV generation. This can accumulate to between 10% and 20% of the total daily PV generation becoming backflow power, or power that gets exported to the utility. The following things can be done in order to mitigate this effect and get close to zero-net export:

1. **Install a battery:** With a battery installed, the inverter will feed the battery with any excess PV power that the home is not using. This can greatly reduce or even eliminate potential backflow power. See the compatible batteries sheet to determine which batteries will work with this inverter.
2. **Reduce PV output power:** Backflow power happens when there is a large amount of PV power being generated but the system has no where to send it since it cannot export anything. If there is no battery, then reducing the output power to match the load demand of the home is another option. See the article titled “Output Power” on how to do this.
3. **Stabilize load demand:** This is the most challenging option. What causes backflow power is when there are changes in load demand. The larger the demand fluctuation, the more power can be exported back to the grid. Air conditioners, heaters, pumps, EV charges, and large appliances with a high amount of energy “draw” that turn on and off throughout the day are the main culprits. Ideally, these devices would all turn on and off at the same time. Since this is impractical, just being mindful and trying to time things as best as possible can reduce potential backflow power.

**Maximum Export:** Without an external (Acrel) meter installed, the system will automatically export any PV power that is not being used by the home or stored in the battery, depending on how the system is configured. If your goal is to have the system export as much PV power as possible, then follow the steps below on how to manage system export (backflow) power.

## How to Manage System Export Power in 4 Steps:

### Step 1: Setting up the external meter

- a. Make sure that the external (Acrel) meter, two CTs, and RS485 cable between the inverter and the meter have all been installed properly. Also be sure that “1Ph Meter” has been selected in the “Meter Select” submenu of Storage Energy Set [Advanced Settings]
- b. Verify on the main inverter screen that it says “RS485 OK” in the top left corner and not “RS485 Fail”. If it does say “RS485 Fail” then the inverter and meter are not communicating. Check that the meter is powered on with 240V and that the RS485 wire is installed correctly. If it says “No Meter” then follow these instructions to change it:
  - a. While at the main screen, press the Enter button and then the Down button to Advanced Settings, press Enter again. Press Down, Down, Up, and then Enter for the password. Press Down until “Storage Energy Set” is highlighted and then press Enter. When “Meter Select” is highlighted press Enter, then Down until “1Ph Meter” is displayed and then press Enter

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#### Step 2: Configuring Backflow Power

- In Advanced Settings, go to “Export Power Set” in the top right corner then press Enter
- With “Backflow Power” highlighted, press Enter



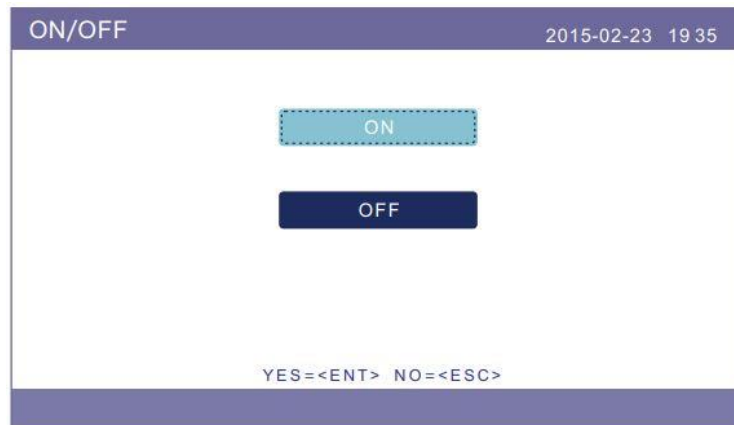
- Backflow Power is how much power the system is allowed to export to the utility. To set up the system for **minimum export**, change this value with the Up and Down buttons to read “+00000W” and then press Enter. In order to get **maximum export**, change this value until it matches the output rating of the inverter. For example, a 7.6K inverter means that Backflow Power should be “+7600W” and a 10K would be “+10000W”.



#### Step 3: Enabling and disabling the Backflow Power setting

- To enable: The Backflow Power setting must now be turned on. While in the main Export Power Set menu, go to “ON/OFF” and press Enter, then with “ON” highlighted (as shown below) press Enter again.
- To disable: To disable export power management, highlight “OFF” and then press Enter.
- Note: This setting must be set to OFF if the output power of the system is to be customized; as in, changed to something other than 100% (default).**

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#### Step 4: Enabling and disabling the FailSafe setting

- Note 1: With FailSafe enabled, the inverter will cease generating when there is a communication issue between the inverter and the external (Acrel) meter. The system will not generate again until the issue is fixed, "No Meter" has been selected, or the FailSafe setting has been disabled
- Note 2: Failsafe should be enabled by default – determine if it needs to be on or not, examples below
- Failsafe:** If this setting is enabled, the inverter will cease generating power if it loses communication with the external (Acrel) meter – an alarm code will be displayed on the screen and SolisCloud, if a logger is installed.
- When to enable: This setting should only be enabled for systems that must enforce minimum export. The best example of such a system is one where the homeowner gets charged for any power that gets exported.
- To enable: Highlight "FailSafe ON/OFF", press Enter, highlight "ON" then press Enter.
- To disable: Highlight "OFF" while in the "FailSafe ON/OFF" menu and then press enter.

