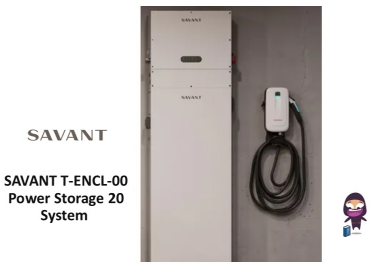


SAVANT T-ENCL-00 Power Storage 20 System Instructions

Contents

SAVANT

SAVANT T-ENCL-00 Power Storage 20 System

Specifications

- Inverter Model: PS-INV-12.5KW-100A-00 (& UP)
- Battery Model: PS20-BATT-ENCL-00 (& UP)
- System Capacity: 20 kWh

Product Usage Instructions

Physical Installation
Certain projects may require two inverters connected to a single Power Storage 20 battery. Follow these steps:

1. Connect one inverter directly to the battery as the ‘Leader’ and daisy chain the second inverter as the ‘Follower’.
2. Wire internal components of the Leader inverter according to the Savant Power Storage Install Manual.
3. Wire the Battery Inputs of the Follower Inverter directly into the DC terminals of the Leader.
4. Use a communication splitter (CAB-INVBATT-00) for battery data communication between inverters.

Solar Setup:
For optimal performance:

- Balance solar input across units of two inverters used in a parallel configuration.
- Wire DC coupled solar to each unit independently.
- Connect AC Coupled solar inverter(s) directly to individual Power Storage Inverters or combine them at a single point shared equally between all inverters.

System Configuration

For proper system functioning:

1. Combine Load Output of all units before connecting to the loads panel.
2. Connect CAT5 or CAT6 cable between external RJ45 ports marked ‘Parallel’ on each inverter.

Frequently Asked Questions (FAQ)

- **Q: Can I use a CAT5 or CAT6 cable with only specific pins connected instead of a communications splitter?**
  A: Yes, a CAT5 or CAT6 cable with only pins 3, 4, 5 connected can be used in place of a communications splitter for battery data communication between inverters.
- **Q: What should I do if I encounter system issues after updating the FW?**
  A: Do not proceed with incorrect communications with inverters during FW updates as it can lead to system issues. Ensure appropriate cables are used for communication between inverters.

Shared Battery Configuration Technical Brief

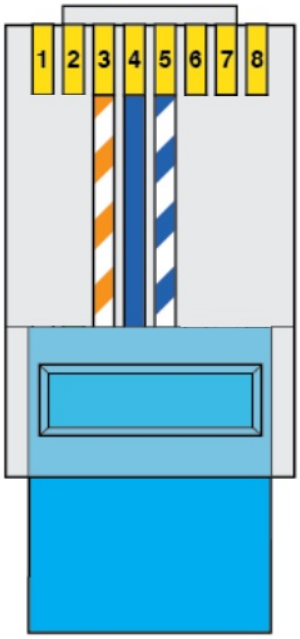
Document Date: March 2024
This document covers the physical installation and configuration steps for shared battery installations using the Savant Power Storage 20 system. For more information, please contact SAVANT support at 1(800) 583-7389 or 877-SAVANT5. This document applies to the following HW Models:
Inverter : PS-INV-12.5KW-100A-00 (& UP)
Battery: PS20-BATT-ENCL-00 (& UP)

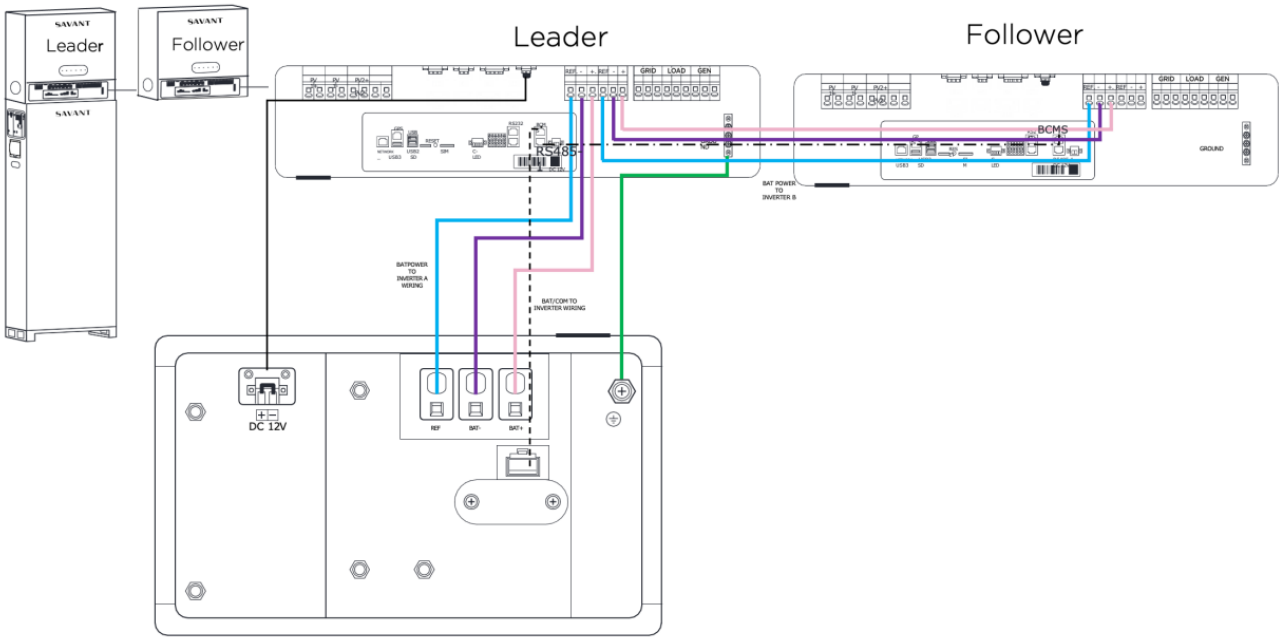
Physical Install

Certain project or site considerations may require two inverters to a single Power Storage 20 (20 kWh) battery. This configuration gives flexibility to increase the total rated power the system MID can handle, to increase the total installed solar capacity and solar output or to prewire for future expansion.

1. For each unit of two inverters to one battery, one PS Inverter will be directly connected to the battery as normal, referred to as the ‘Leader’ inverter moving forward, with a second inverter daisy chained into the Leader, referred to as Follower inverter moving forward.
2. Wire internal components for Leader inverter in alignment with Section 3.3 of the Savant Power Storage Install Manual.
3. Wire the Battery Inputs of Follower Inverter directly into the DC terminals of Leader.
   NOTE: Alternatively, wire taps can be used to tap off battery conductors into Leader directly into the Battery Inputs of Follower.
4. Use the communication splitter included (CAB-INVBATT-00) to enable battery data communication between inverters by inserting splitter into the RS485-1 connector of Leader and running a CAT5 or CAT6 connection from the CAN port of the splitter into the BCMS connector of Follower. The RS485 connector will be unused for shared battery communications.
   NOTE: Alternately a CAT5 or CAT6 cable with only pins 3, 4, 5 connected can be used in place of a communications splitter.
   CAUTION: Proceeding to update FW with incorrect communications with inverters will lead to system issues. Do not proceed without appropriate cables.

5.





Repeat steps 3 and 4 for each unit of two inverters deployed in the total system.

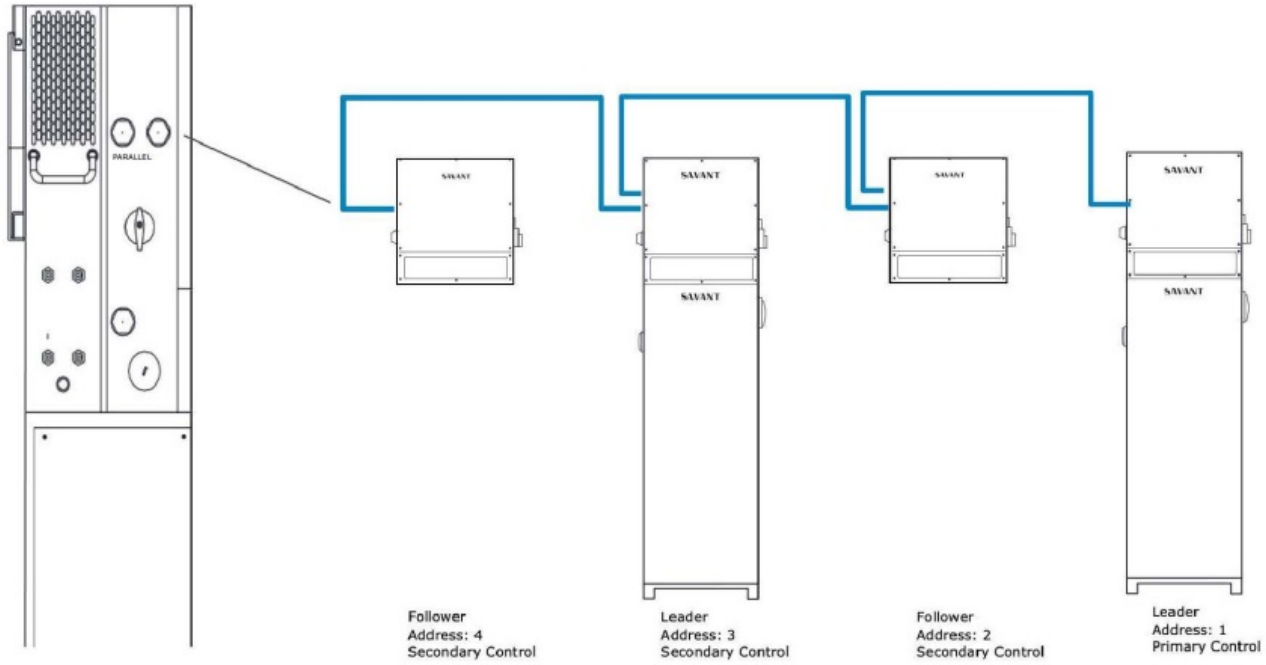
6. Wire DC coupled solar to each unit independently.

   NOTE: It is recommended to balance solar input across the units of two inverters used in a parallel configuration for optimal performance.

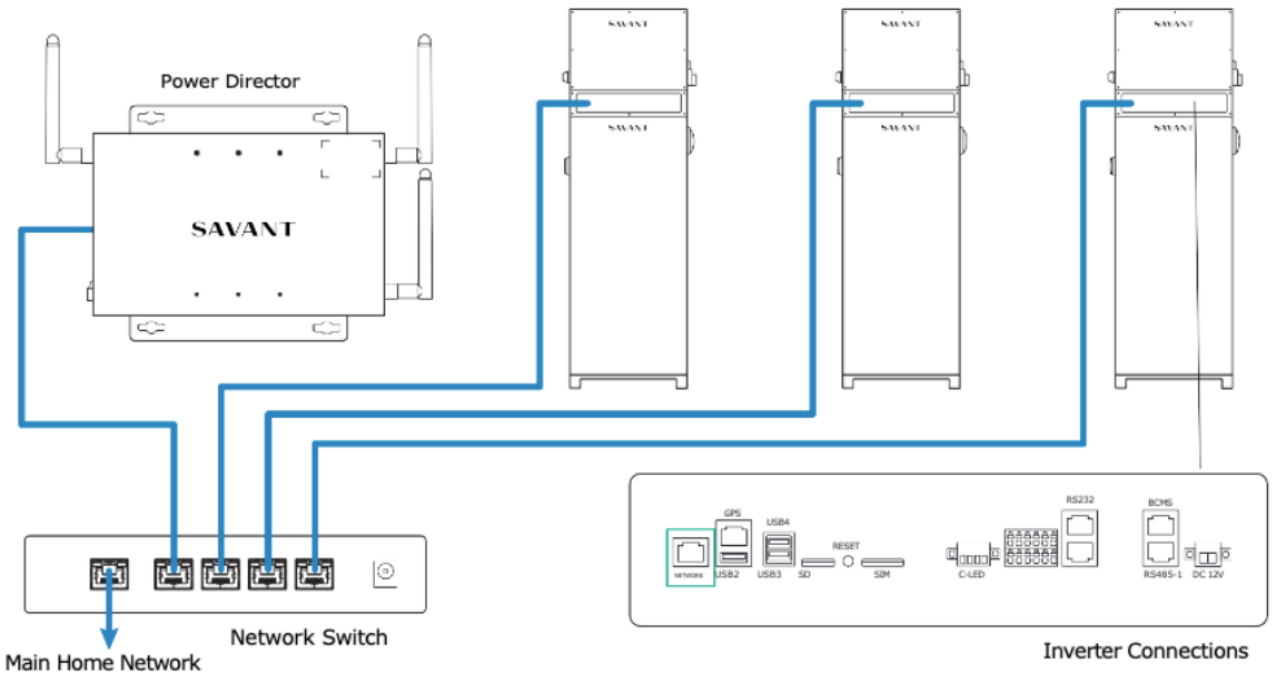
7. AC Coupled solar inverter(s) can alternately be wired directly to individual Power Storage Inverters (to help balance overall power flow through the system) or combined at a single point and shared equally between all Power Storage 20 inverters in the system.
8. Combine the Load Output of all units at a single location before landing in the backed-up loads panel.
9. Connect CAT5 or CAT6 cable between the external RJ45 ports marked ‘Parallel’ between each inverter in the system.

   NOTE: External Parallel ports are equivalent and can be used interchangeably.

10. Install the included resistors in the unused RJ45 port of the first and last inverter of the parallel install. Make sure to tighten the RJ45 port where resistors are installed.



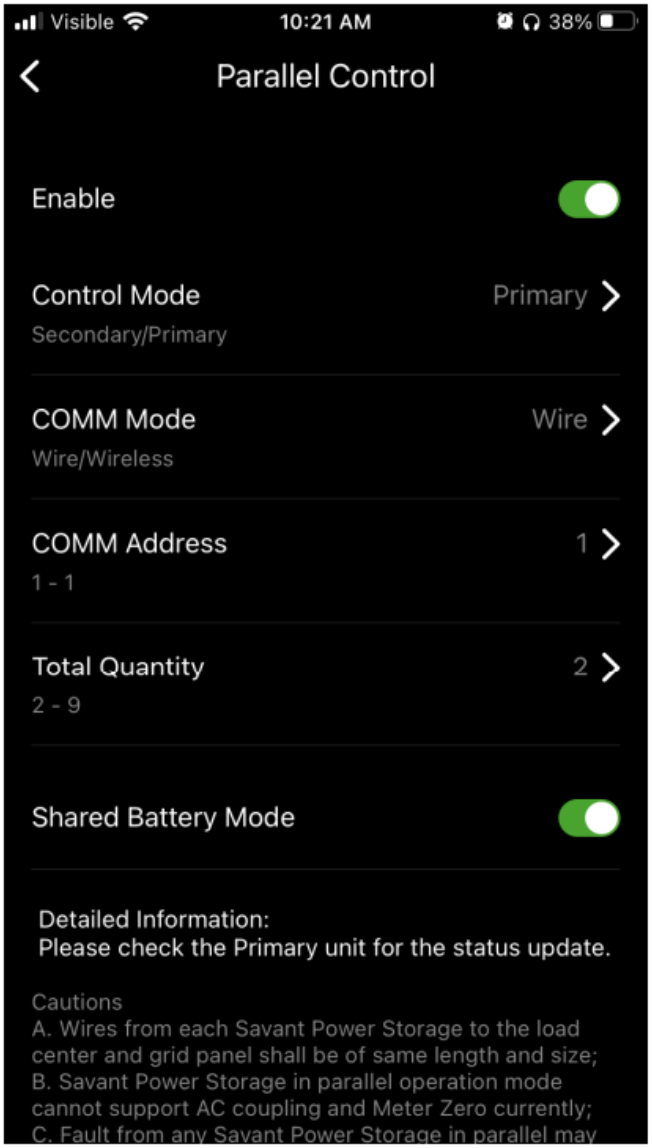
11. Assign one of the units in the system for Primary Control of the system. Additional systems will be designated with Secondary Control.
12. Wire all optional accessories (generator auto-start, E-Stop Button, etc) to the Leader of each parallel installation. See more about accessories in Installation Manual.
13. Use a network switch to wire the Power Director to each unit in the parallel system. Alternately, a wireless connection can be utilized where a wired connection is not available.



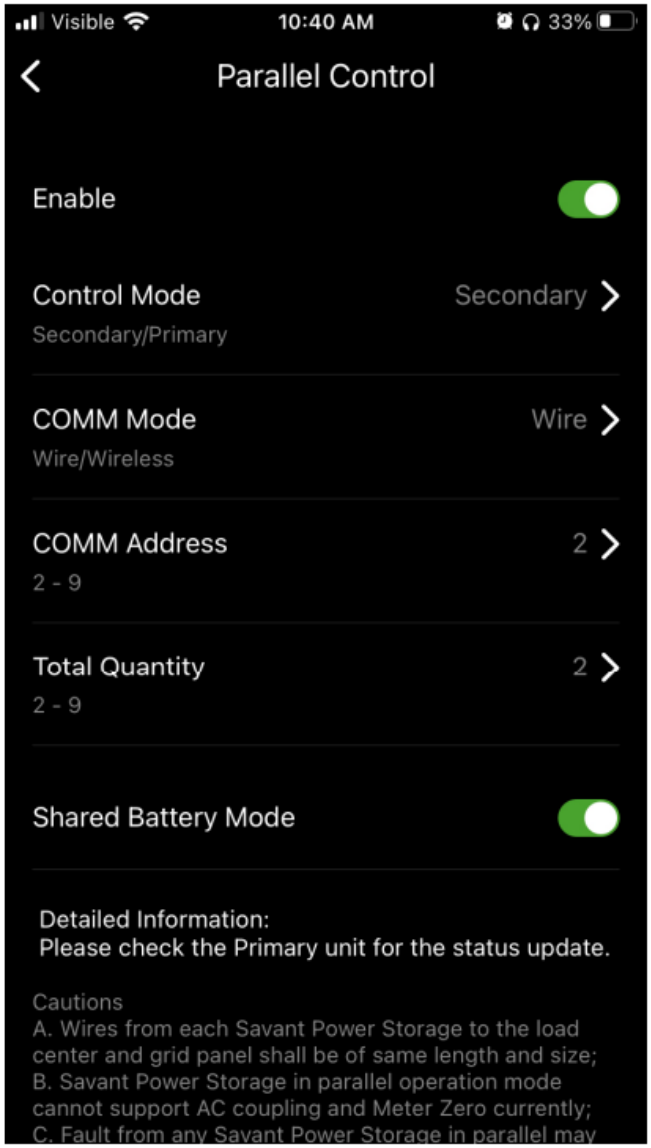
System Programming and Start-Up

The Savant Power Storage 20 system is commissioning using the Savant Power Storage App. Refer to the install manual for guidance downloading this app. The shared battery configuration should be programmed as follows to avoid any issues with deployment. Perform appropriate safety checks laid out in manual before proceeding with below.

1. Ensure inverter GRID and PV switch are in OFF position and load breakers are disconnected from PS20 or bypassed.
2. Power on battery system between shared inverters by switching the power switch of battery BMS to ON and pressing the START button.
   NOTE: Do not press the ON button of Inverter at this stage as it can lead to issues with commissioning process.
3. Wait for BMS LED to display solid green.
4. Add New Device to SPS app by clicking the add device button and scanning the device QR code or inputting the device serial number to add devices. The QR code and serial number can be found on the label of the inverter.
5. Add system to wireless network using SPS app; a detailed walkthrough can be found in the Savant Power Storage App Guide. NOTE: If using a wired connection, no app setup of network connection is required, however the system should display a solid green network LED.
6. Select appropriate grid settings under the Grid Settings menu.
7. Configure system for any on-site generation (AC or DC coupled solar) or additional power sources (generators).
8. Configure the battery operation strategy under the Custom Control Menu.
9. Under Parallel Control menu, set the inverter control mode as Primary and assign address of 1 to Primary Inverter.
10. Input total number of inverters under the Total Quantity setting.
11. Enable the Shared Battery Mode setting.
    NOTE: If you do not see the Shared Battery Mode under, Savant Tech Support can enable this setting for you.
12. Repeat steps 2 through 8, using address 2 and Secondary Control for the Follower Inverter.
    NOTE: See screencaps below of app settings.
13. Repeat steps 2 through 8 for any additional inverters in the system, ensuring the inverter connected directly to the battery (Leader) uses the odd address for each pairing (i.e. 3,5,7,9). All additional inverters in the system will use secondary control.
14. Ensure the front panel of the inverter does not have any red LEDs, indicating an error.
15. Switch connected load center breakers to the ON position.
16. Turn Power Storage Inverters on by pressing silver ON button on side of inverter.
17. Verify home loads are powered without issue and load.
18. Turn Grid Switch to ON position.



Leader Inverter Settings



Follower Inverter Settings

Firmware Updates

Upon initial installation, shared configurations should have a FW update performed by working with Savant Support. A call to Savant support prior to traveling to site is recommend to schedule a time for this update.

A firmware update is required when first installing a shared battery configuration solution.

1. If possible, bypass the ESS using an onsite ATS while performing any FW updates to avoid disruption in the home or property where the system is installed.
   NOTE: If the inverters are not bypassed, the loads powered by the inverter will lose power multiple times during the FW updates.
2. Ensure inverters are ON (START button depressed) and connected to grid (GRID switch in the ON position).
   CAUTION: Failure to have AC power available to inverters can cause issues during the FW update process
3. Contact Savant support at 1(800) 583-7389 and indicate a FW update is requested for a PS20 and that a shared configuration is being used.
4. Working with Savant Support, completely update all inverters onsite.

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Documents / Resources

	SAVANT T-ENCL-00 Power Storage 20 System [pdf] Instructions PS-INV-12.5KW-100A-00, PS20-BATT-ENCL-00, T-ENCL-00 Power Storage 20 System, T-ENCL-00, Power Storage 20 System, Storage 20 System, 20 System, System

References

- Savant Home Page - Savant
- Savant Home Page - Savant
- User Manual