

SolarEdge Single Phase Inverters with SolarEdge Energy Bank: Configuration Options

Version History

- Version 1.0 (December 2021)

Introduction

The SolarEdge Energy Bank (the “battery”) is supported by the following SolarEdge inverters, separately referred to in this document as the “inverter”:

- SetApp-enabled Single Phase Inverter with HD-Wave Technology
- SetApp-enabled StorEdge Single Phase Inverter with HD-Wave Technology

The battery is supported by SetApp-enabled SolarEdge inverters only. If in doubt, contact your local sales manager to make sure an inverter is SetApp-enabled.

The images used in the configuration diagrams below are of the SetApp-enabled Single Phase Inverter with HD-Wave Technology. However, these images equally apply to and describe the SetApp-enabled StorEdge Single Phase Inverter with HD-Wave Technology.

This document describes all possible system configurations that feature both the battery and inverter.



WARNING!

The SolarEdge Energy Bank and any third-party batteries cannot be connected to the same inverter.

System Components

For additional information on installing and configuring system components, refer to the following documents:

SetApp-enabled Single Phase Inverter with HD-Wave Technology

https://www.solaredge.com/sites/default/files/se_hd_wave_inverter_SetApp_installation_guide.pdf

SetApp-enabled StorEdge Single Phase Inverter with HD-Wave Technology

<https://www.solaredge.com/sites/default/files/se-storedge-single-phase-inverter-with-setapp-installation-guide.pdf>

Energy Bank

<https://www.solaredge.com/sites/default/files/se-energy-bank-to-inverter-connection-guide-eu.pdf>

Energy Meter

<https://www.solaredge.com/sites/default/files/se-energy-meter-with-modbus-installation-guide.pdf>

Inline Energy Meter

<https://www.solaredge.com/sites/default/files/se-inline-energy-meter-qig.pdf>

Compatible Batteries

Battery Manufacturer	Compatible Models
SolarEdge	BAT-10K1S0B-01

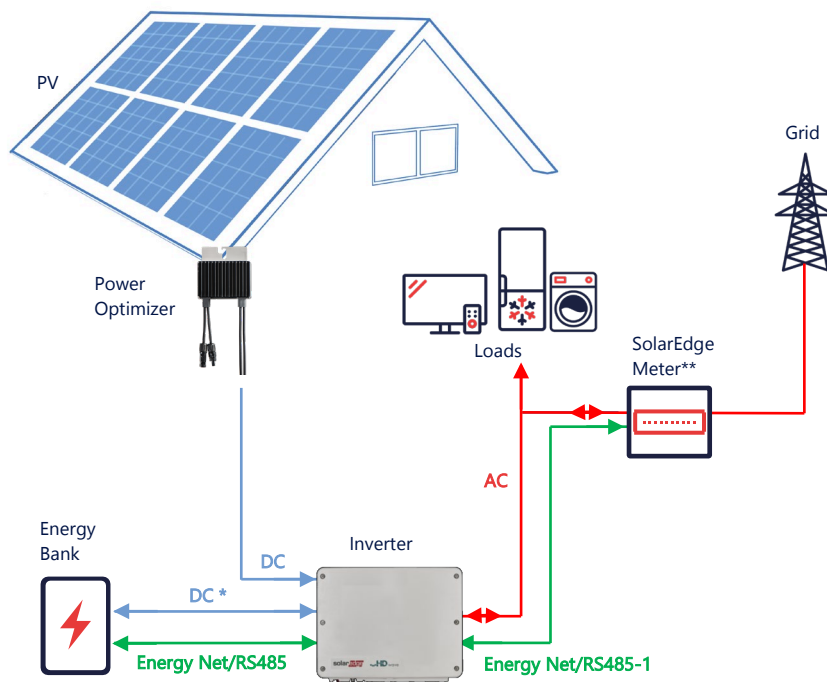
Required CPU firmware: 4.14 and above

Supported Configurations

Use Case	AC-Coupling	DC-Coupling	Availability	Further Details
Entry level configuration Single inverter and single battery and PV	NA	✓	✓	Page 2
Additional storage Single inverter and multiple batteries (up to 3 in parallel)	✓	✓	✓	Page 3
AC-Coupling Adding an inverter with storage capabilities to an existing PV inverter	✓	✓	✓	Page 4
More power with up to three inverters, each with up to three batteries	✓	✓	✓	Page 5
Adding storage capabilities to an existing installation with Smart Energy products	✓	✓	✓	Page 6

Single Inverter, Single Battery and PV

This configuration is based on one inverter and is suitable for most residential settings.



* In the StorEdge Single Phase Inverter, the DC cables from the battery must be connected to the BAT inputs only.

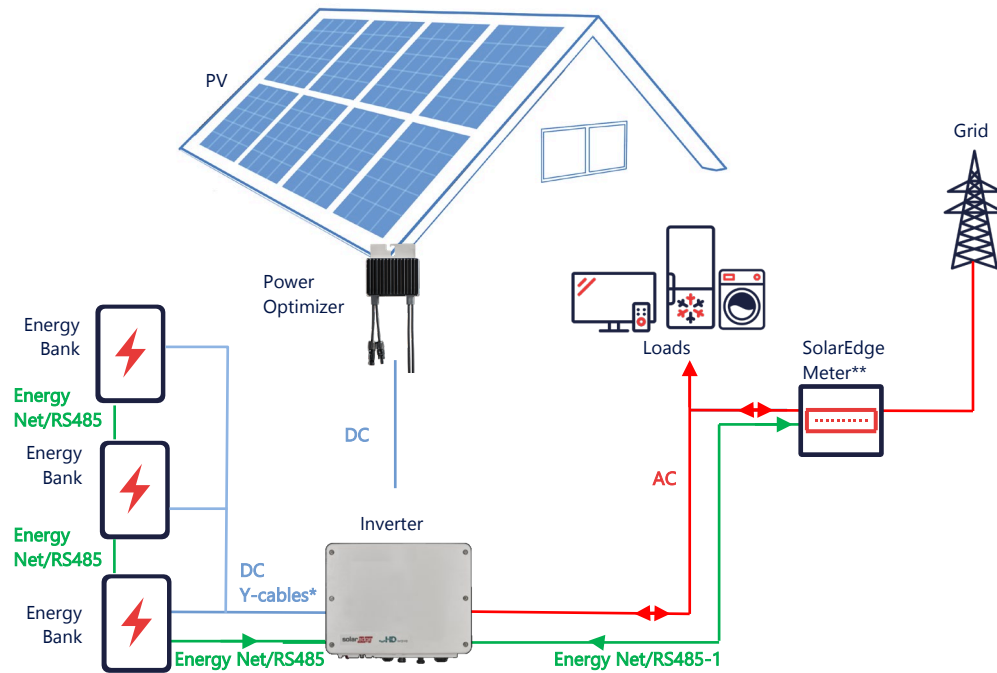
** Energy Meter or Inline Energy Meter

Single Inverter, Multiple Batteries and PV

This configuration allows to maximize the use of PV-produced power and is suitable for most residential settings.

Up to three batteries can be connected to a single inverter, allowing charging of up to the inverter's nameplate power, and discharging from the inverter and PV of up to 5kW per battery.

The batteries are connected in parallel, using branch connectors available from SolarEdge (IAC-RBAT-RWYCBL-01).



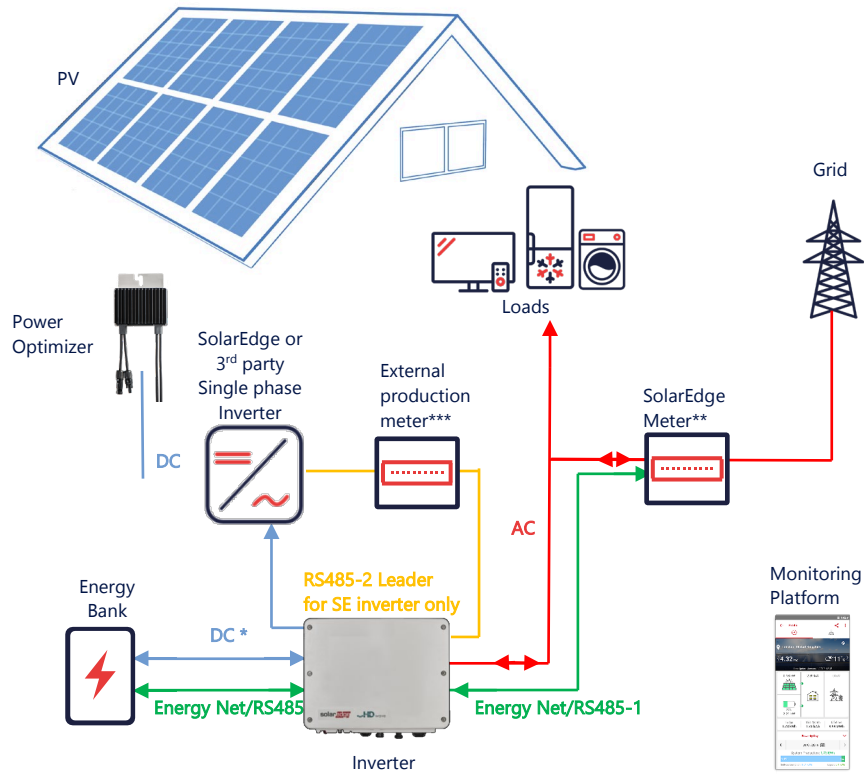
* In the StorEdge Single Phase Inverter, the DC cables from the battery must be connected to the BAT inputs only

** Energy Meter or Inline Energy Meter

AC-Coupling

For sites that already have a SolarEdge or third party inverter with PV only, such an inverter can be AC-coupled with the inverter to provide more power and maximize energy self-consumption.

Additional Power Optimizers can be installed and connected to the AC-coupled inverter for added energy production.



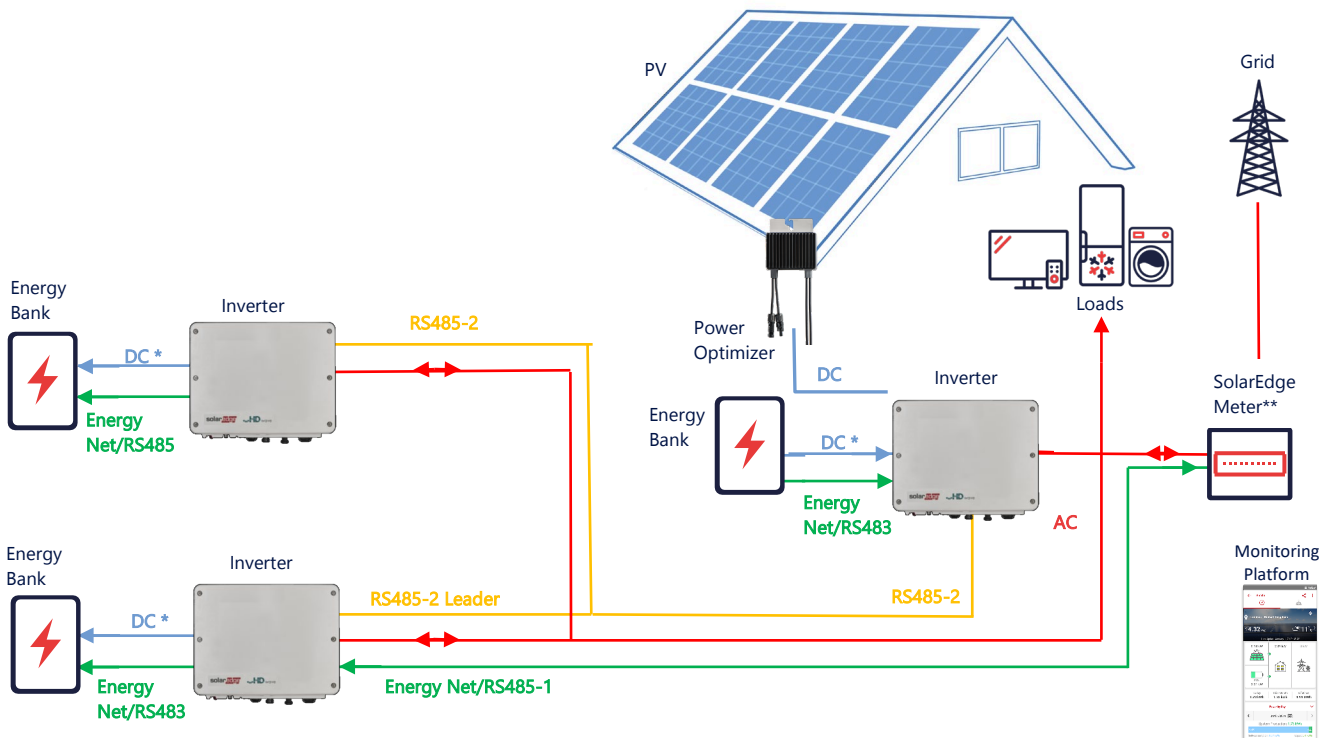
* In the StorEdge Single Phase Inverter, the DC cables from the battery must be connected to the BAT inputs only

** Energy Meter or Inline Energy Meter

*** When connecting a SolarEdge inverter to a third party PV-only inverter, we strongly recommend adding an additional external production meter to enable a complete set of features of the Energy Hub solution.

Multiple HD-Wave Inverters

For sites that require additional storage capacity and power, **up to three** inverters can be used, each connected to **up to three** Energy Banks. The batteries connected to each inverter must be SolarEdge Energy Bank.



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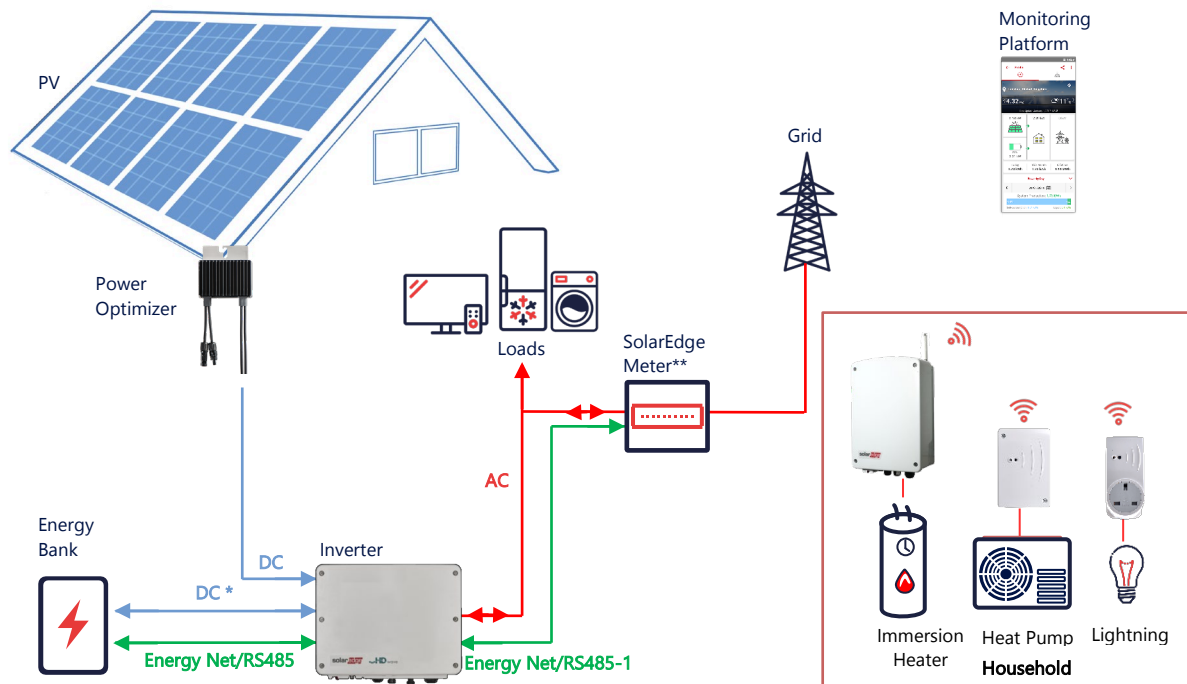
** Energy Meter or Inline Energy Meter

All inverters in this configuration can also have PV connection.

Combination with Smart Energy Products

SolarEdge products based on the ZigBee technology cannot be used on the same inverter that manages the battery.

SolarEdge [Smart Energy products](#) based on the SolarEdge Energy Net can be used with any of the above system configurations.



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** Energy Meter or Inline Energy Meter