



## Configuration Guide

# SolarEdge Nexis System Configurations for PV, Storage and Backup Installations

Version 1.2

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## Revision history

| Version | Date       | Description                                                          |
|---------|------------|----------------------------------------------------------------------|
| 1.2     | July 2026  | Added supported power optimizers                                     |
| 1.1     | June 2026  | Updated text and added Battery Blocks to system configuration images |
| 1.0     | March 2026 | Initial version                                                      |

## About

This document describes supported system configurations and compatible devices.



### IMPORTANT

Using a configuration that contradicts the instructions in this document voids the warranty for any SolarEdge equipment.

For the SolarEdge Nexis Inverter 3ph for Europe Information Center, scan this QR code.



## Overview

The SolarEdge Nexis Inverter 3ph can be used for various applications that enable energy independence for system owners. This is done by utilizing a SolarEdge Nexis Battery to store energy and supply power as needed. These are based on the SolarEdge Nexis Inverter 3ph solution, which manages the PV system and the battery. One of the main functions of the inverter in these systems is to provide backup power, using SolarEdge Three-Phase Backup Interface, during a utility grid failure.

For more information on supported configurations, refer to the appropriate product installation guide.

**Table 1: Compatible devices**

| Product Name                  | Part Number         | Minimum Firmware Versions |
|-------------------------------|---------------------|---------------------------|
| SolarEdge Nexis Inverter 3ph  | NX20K-RW000CYN4     | 6.26                      |
| SolarEdge Nexis Battery Link  | NX-LNK-4B-A-01      | 0.3.93                    |
| SolarEdge Nexis Battery Block | NX-BLCK-5K-A-01     | 2.2.xx 1.0.96             |
| SolarEdge Modbus Meter        | SE-MTR-3Y-400V-B    | 0.79.0                    |
| SolarEdge Inline Meter        | MTR-240-3PC1-D-A-MW | 1.0.105                   |
| Backup Interface              | BI-NEUNU-3P         | 1.0.62                    |

## Definition of terms

- **DC coupling:** A DC inter-connection between an inverter, the PV strings, and the Batteries
- **AC coupling:** Multiple inverters connect in parallel on the AC side. PV from one inverter can charge a battery on another inverter, and the battery can also charge from the grid. An inverter may be connected only to a battery (no PV) if another AC-coupled inverter's PV charges that battery.



### NOTE

AC coupled systems are not supported at the current time.

- **Storage installations:** Systems that use one or more inverters, with at least one inverter connected to a battery, and no Backup Interface installed



### NOTE

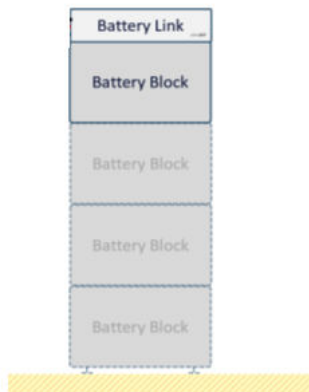
An export/import meter must be installed and connected to the main Nexis inverter, which must be connected to the internet.

- **Backup installations:** Systems that include one or more inverters, including a SolarEdge Nexis Inverter 3ph with a connected battery. A Three-Phase Backup Interface (BUI) is also installed to disconnect the system from the grid during backup operation.

**NOTE**

There are two types of backup installations: full-home backup and partial-home backup. The attributes and configuration for both are detailed [here \[5\]](#).

- **SolarEdge Nexis Battery:** Consists of one to four Battery Stacks. Each Battery Stack includes one SolarEdge Nexis Battery Link and one to four Battery Blocks, as displayed below.



**Table 2: Recommended DC-PV, AC and communication cables**

| Connection Type | Cross-section | Wire Type                                                | Maximum Length                 |
|-----------------|---------------|----------------------------------------------------------|--------------------------------|
| DC-PV           | 6 mm          | 1000 V double isolation                                  | Up to 300 m                    |
| CAN             | >0.25 mm      | CAT 7 (recommended) or CAT 6, 600V insulation, or CTA 5E | Up to 50 m                     |
| RS485           | >0.25 mm      | CAT 7 (recommended) or CAT 6, 600V insulation, or CAT 5E | Up to 50 m                     |
| AC cables       | 2.5-16 mm     | Multi-core, Outer Diameter: 15-21 mm                     | According to local regulations |

**Table 3: Recommended Battery DC cables**

| Cable cross section | Maximum Temperature | Max Distance (m), Inverter to Battery and DC Cables |                       |
|---------------------|---------------------|-----------------------------------------------------|-----------------------|
|                     |                     | Up to 4 Battery Blocks                              | Over 4 Battery Blocks |
| 4 mm <sup>2</sup>   | 25°C                | 45                                                  | 20                    |
| 4 mm <sup>2</sup>   | 40°C                | 40                                                  | 20                    |
| 6 mm <sup>2</sup>   | 25°C                | 50                                                  | 30                    |
| 6 mm <sup>2</sup>   | 40°C                | 50                                                  | 30                    |
| 8 mm <sup>2</sup>   | 25°C                | 50                                                  | 40                    |
| 8 mm <sup>2</sup>   | 40°C                | 50                                                  | 40                    |

## Supported Power Optimizers

The SolarEdge Nexis Inverter 3ph supports all P-Series and S-Series Power Optimizers, subject to the specifications in the applicable Power Optimizer Datasheet.

### Maximum number of Power Optimizers per string:

- **For PV or storage installations without backup:**
  - The maximum number of Power Optimizers that can be connected per string is specified in the applicable Power Optimizer Datasheet.
  - The inverter default setting supports up to 33 Power Optimizers.
  - For more than 33 Power Optimizers, the inverter must be opened to change the setting, as failure to do so may affect inverter functionality and the product warranty.



### NOTE

For instructions on opening the inverter and configuring support for more than 33 Power Optimizers, refer to the [Nexis Solution 3ph Quick Installation Guide](#).

- **For backup installations:**
  - The inverter default setting supports up to 33 Power Optimizers.
  - Connecting more than 33 Power Optimizers in a backup installation, such as an installation with a Backup Interface, may affect inverter functionality and the product warranty.

## Communication between multiple inverters



### NOTE

Multiple inverters are not supported at the current time.

- Using multiple SolarEdge Nexis Inverters at a site requires one of them to be configured as a Leader and the others as Followers
  - SolarEdge Nexis Inverters support additional AC sources using AC-coupled or leader-follower configurations. AC-coupled configurations and limitations are described in detail later in this document.
- To provide backup power, the leader inverter must be a SolarEdge Nexis Inverter 3ph connected to a battery, which is mandatory. PV connection is optional only if another AC source is connected and supported during backup operation. For supported backup configurations, refer to [system configurations for the backup interface \[7\]](#).
- The Leader inverter - also known as the main inverter - connects to SolarEdge Monitoring via the internet in one of the following ways:
  - A home router using an Ethernet (LAN) cable, which is the recommended communication option
  - Wirelessly via the built-in Wi-Fi interface
  - A plug-in LTE module, purchased separately from SolarEdge
- Follower SolarEdge Nexis Inverters communicate with SolarEdge Monitoring via the Leader inverter. To communicate with the Leader inverter, the Follower inverters connect to the Leader inverter via a CANbus interface.
- A wireless communication Leader-Follower is not supported



### NOTE

SolarEdge Nexis Inverters do not support a leader-follower configuration with non-SolarEdge Nexis Inverters. To use a mix of SolarEdge Nexis Inverters and other legacy inverters on the same site, use an AC-coupled configuration only.

## Using meters

### Backup installations

- **Full home backup:** The internal export/import meter of the backup interface (BUI) must be used.
- **Partial home backup:** <sup>1</sup>For partial home backup, connect the selected loads to the grid side of the Backup Interface (labeled GRID), outside the backup island. Install a separate SolarEdge meter at the grid connection point as the export/import meter for system

control. The meter must communicate with the leader inverter via SolarEdge Home Network or through the RS485 port.

- **Third-party inverters:**

**NOTE**

Third-party inverters are not supported at this time.

Third-party inverters, or AC sources that are not grid-forming sources, can be connected to SolarEdge Nexis inverters using an AC-coupled configuration, subject to the following limitations:

1. The third-party inverter must have a production meter installed on its AC output. The meter must be connected to the SolarEdge Nexis inverter, via RS485 or SolarEdge Home Network, and the SolarEdge Nexis inverter must be connected to the monitoring system.
  2. The maximum rated output power of the third-party AC source must not exceed the rated power of the main inverter on any of its phases.
  3. If the site has an export limit, the maximum power rating of the AC source must not exceed the export limit.
  4. The maximum power rating of the AC source must not exceed the limits defined in points 2 and 3 above.
- **Combine partial home backup and third-party inverters:** Both use cases may be combined, following the guidelines above.

## Storage-only installations

Install a SolarEdge export/import meter at the grid connection point to control the system. The meter must communicate with the Leader (main) Inverter via the dedicated RS485 port, or via SolarEdge Home Network, when supported. Only RS485 should be used to connect the Backup Interface in backup installations.

**NOTE**

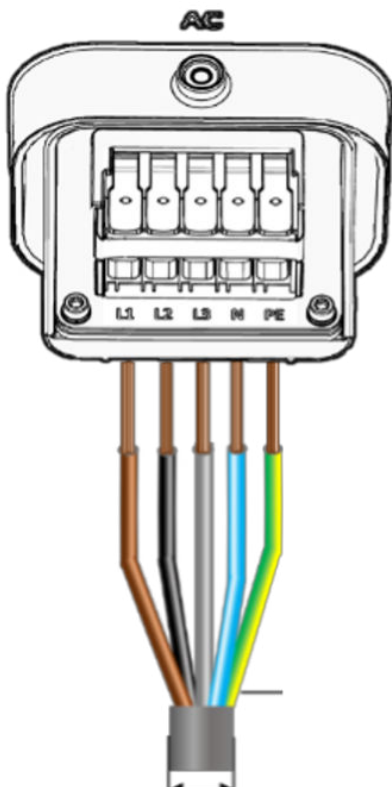
Meters connected via RS485 are configured with SolarEdge Go on the RS485-1 Bus of the Leader Inverter.

## Connect multiple inverters to the same AC grid

When installing multiple inverters, all inverters and the Backup Interface unit (BUI) must have the same phase sequence and consistent phase mapping. The following image displays the AC wire terminals of the SolarEdge Nexis Inverter.

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<sup>1</sup>Depending on the firmware version.



## System configurations with inverters, batteries, and the backup interface

### Prerequisites for backup operation

- The Leader inverter must be a SolarEdge Nexis Inverter 3ph and must be connected to the Backup Interface (BUI) only via RS485 for communication.



#### NOTE

12 V wires must also be connected. Pay attention to the correct polarity and ensure a reliable connection.

- The Leader SolarEdge Nexis Inverter 3ph must be connected to a compatible battery.
- The Leader inverter can be connected to a PV string. If there is no other eligible AC source, the SolarEdge Nexis Inverter 3ph must also be connected to PV.

**IMPORTANT****Connection of a Manual Shutdown (MSD) switch and “double-feed supply”:**

When backup mode is enabled, which is the default when the BUI is connected, the inverter begins supplying backup power a few seconds after a grid outage or after the main AC circuit breaker is turned off. If the main AC circuit breaker is turned off for maintenance, the inverter may continue supplying backup power to the main load panel, creating a safety risk. To prevent backup power during maintenance, turn off the inverter using either the MSD switch or the inverter's P/1/0 switch. For fast and reliable shutdown of the backup inverter, SolarEdge recommends installing an MSD that turns off the inverter and activates SafeDC™. For details on the MSD switch, refer to the MSD section in the [Nexis Solution Three-Phase Quick Installation Guide](#).

The following table provides a compatibility matrix for combinations of inverters, batteries, and backup options.

| Configuration   | Leader                       | Number of Follower Inverters | Follower Inverter | Battery Stacks per Inverter | Maximum AC Power in Backup Operation |
|-----------------|------------------------------|------------------------------|-------------------|-----------------------------|--------------------------------------|
| Single Inverter | SolarEdge Nexis Inverter 3ph | NA                           | NA                | 3                           | 20kW                                 |

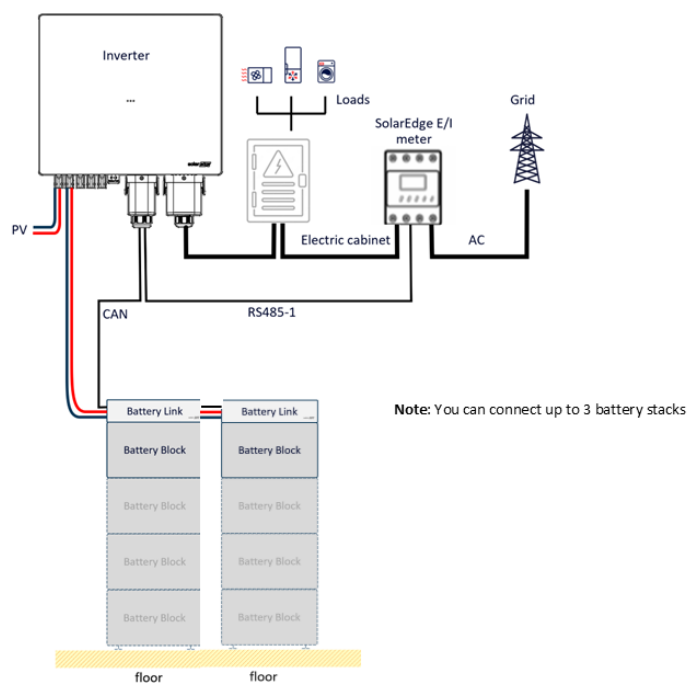
**NOTE**

Using a configuration that contradicts this document's instructions voids the SolarEdge warranty.

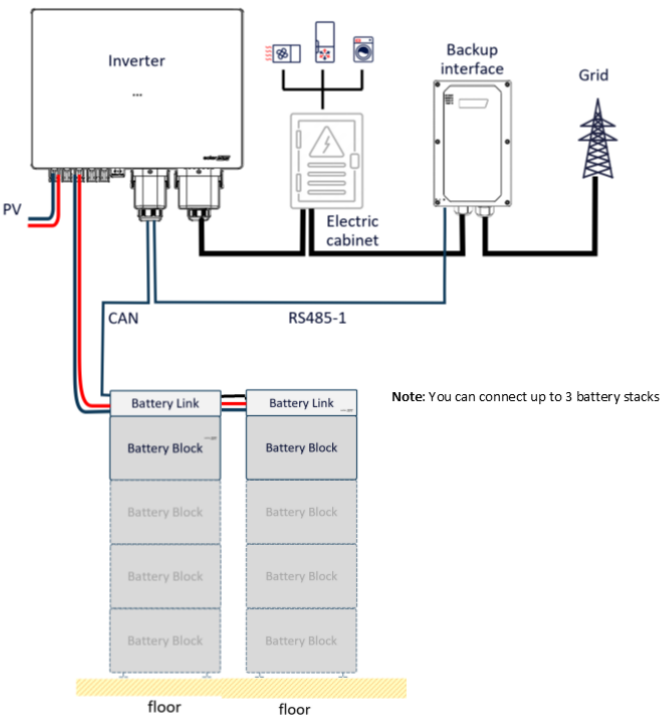
## System diagrams

The following diagrams display system configurations for backup solutions.

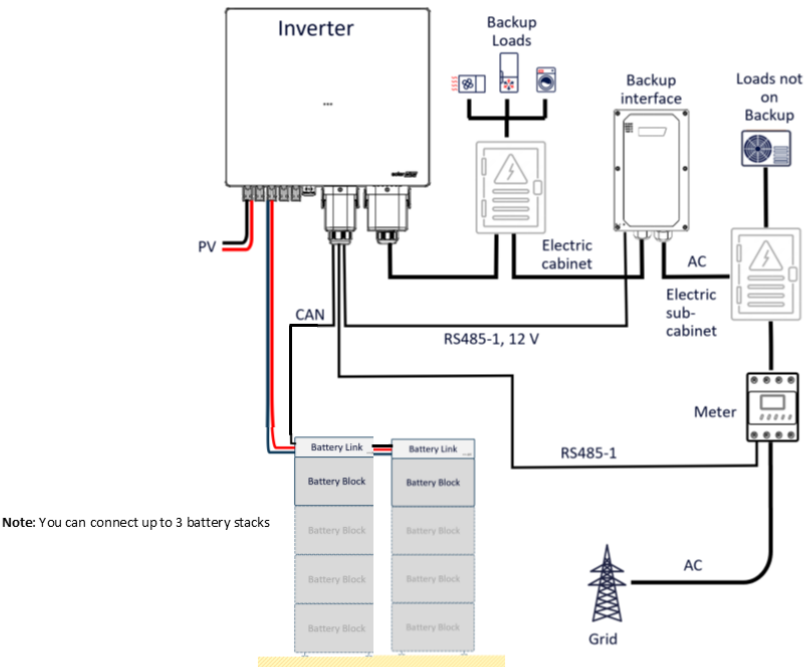
### SolarEdge Single Nexis Inverter 3ph storage only



# SolarEdge Single Nexis Inverter 3ph with storage and full home backup



## Backup configuration for partial backup of loads outside the island network



## Support contact information

If you are having technical problems concerning SolarEdge products, [contact SolarEdge Support](#) or scan the following QR code.



To access the SolarEdge Nexis Inverter Three-Phase for Europe Information Center, use this [link](#) or scan the QR code below.



Before contacting SolarEdge, have the following information at hand:

- The model and serial number of the product in question
- The error as indicated by the LEDs, SetApp mobile app, LCD screen, or the Monitoring platform (if available)
- System configuration information, including the type and number of modules connected and the number and length of strings
- The method of communication with the SolarEdge server if the site is connected
- The product's software version which appears in the ID status screen