Configuration Guide

SolarEdge Nexis System Configurations for PV, Storage and Backup Installations

Version 1.0

March 2026

MAN-01-01407-1.0

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Revision history

Version	Date	Description
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 Three-Phase for Europe Information Center, scan this QR code.

Overview

The SolarEdge Nexis Inverter Three Phase 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 Three Phase 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

Battery Name	Compatible Models	Minimum Firmware Versions
SolarEdge Nexis Inverter	NX20K-RW000CYN4	6.25.57
SolarEdge Nexis Battery Link	NX-LNK-4B-A-01	0.3.51
SolarEdge Nexis Battery Block	NX-BLCK-5K-A-01	2.1.75, 1.068
SolarEdge Modbus Meter	SE-MTR-3Y-400V-B	0.79
SolarEdge Inline Meter	MTR-240-3PC1-D-A-MW	1.0105
Backup Interface	BI-NEUNU-3P	1.062

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-only installations**: Systems that use one or more inverters, with at least one inverter connected to a battery, and no Backup Interface installed.
- **Backup installations**: Systems that include one or more inverters, including a SolarEdge Nexis Three-Phase Inverter with a connected battery. A Three-Phase Backup Interface is also installed to disconnect the system from the grid during backup operation.

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

	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	Up to 50 m
RS485	>0.25 mm	CAT 7 (recommended) or CAT 6, 600V insulation	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	
		Up to 4 battery blocks	Over 4 battery blocks
4 mm²	25°C	45	20
4 mm²	40°C	40	20
6 mm²	25°C	50	30
6 mm²	40°C	50	30
8 mm²	25°C	50	40
8 mm²	40°C	50	40

Communication between multiple inverters

NOTE

Multiple inverters are not supported at the current time.

- Using multiple SolarEdge inverters at a site requires one of them to be configured as a Leader and the others as Followers.
- To provide backup power, the Leader inverter must be a SolarEdge Nexis Inverter Three-Phase, connected to a battery (mandatory) and PV (optional).

- The Leader inverter connects to SolarEdge Monitoring via the Internet in one of the following ways:
  - A home router using an Ethernet (LAN) cable (recommended communication option).
  - Wirelessly via the built-in Wi-Fi interface.
  - A plug-in LTE module, purchased separately from SolarEdge.
- Follower inverters are connected to SolarEdge Monitoring via the Leader inverter. To communicate with the Leader inverter, the Follower inverters connect to the Leader inverter via a CANbus interface if they are both SolarEdge Nexis Inverters or use an RS485-2 port for other SolarEdge inverters.
- A wireless communication Leader–Follower is not supported.

Using meters

Backup installations

- **Full home backup**: The internal export/import meter of the backup interface (BUI) must be used.
- **Partial home backup**:[1]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 import/export 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.

  If the system includes third-party inverters, connect them all to the grid side of the Backup Interface (labeled GRID), outside the backup island. Install a separate SolarEdge import/export meter at the grid connection point to control the system. To see third-party inverter production in the Monitoring platform, install an external production meter. These meters must communicate with the leader inverter via the SolarEdge Home Network or through the RS485 port.
- **Combine partial home backup and third-party inverters**: Both use cases may be combined, following the guidelines above.

Storage-only installations

- Install a SolarEdge import/export meter at the grid connection point to control the system. The meter must communicate with the leader inverter via the SolarEdge Home Network

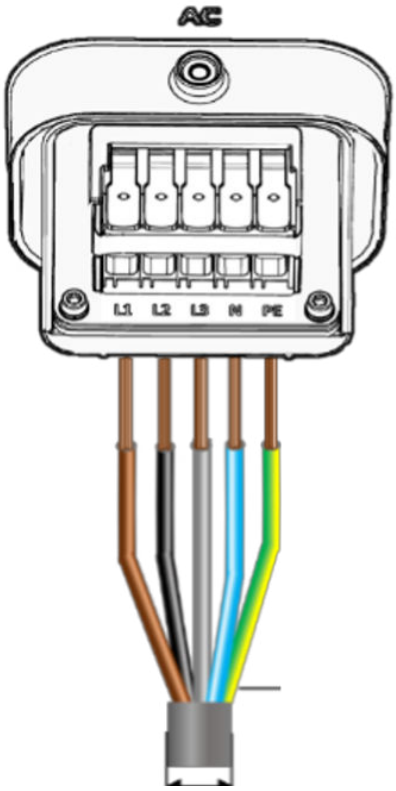
[1]Depending on the firmware version.

or via the dedicated RS485 port, which is also used to connect the Backup Interface in backup installations.

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

Connecting 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 an inverter.



System configurations with inverters, batteries, and the backup interface

Prerequisites for backup operation

- The Leader inverter must be a SolarEdge Nexis Inverter Three Phase and must be connected to the Backup Interface (BUI) via RS485 for communication.
- The Leader SolarEdge Nexis Inverter Three Phase must be connected to a compatible battery.
- The Leader inverter must be connected to a PV string.

IMPORTANT

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

When backup mode is enabled (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, also turn off the inverter using either the Manual Shutdown Device (MSD) switch or the inverter’s P/1/0 switch. For a fast, reliable shutdown of the backup inverter, SolarEdge recommends installing a Manual Shutdown switch 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 Three Phase Inverter	NA	NA	1	20kW

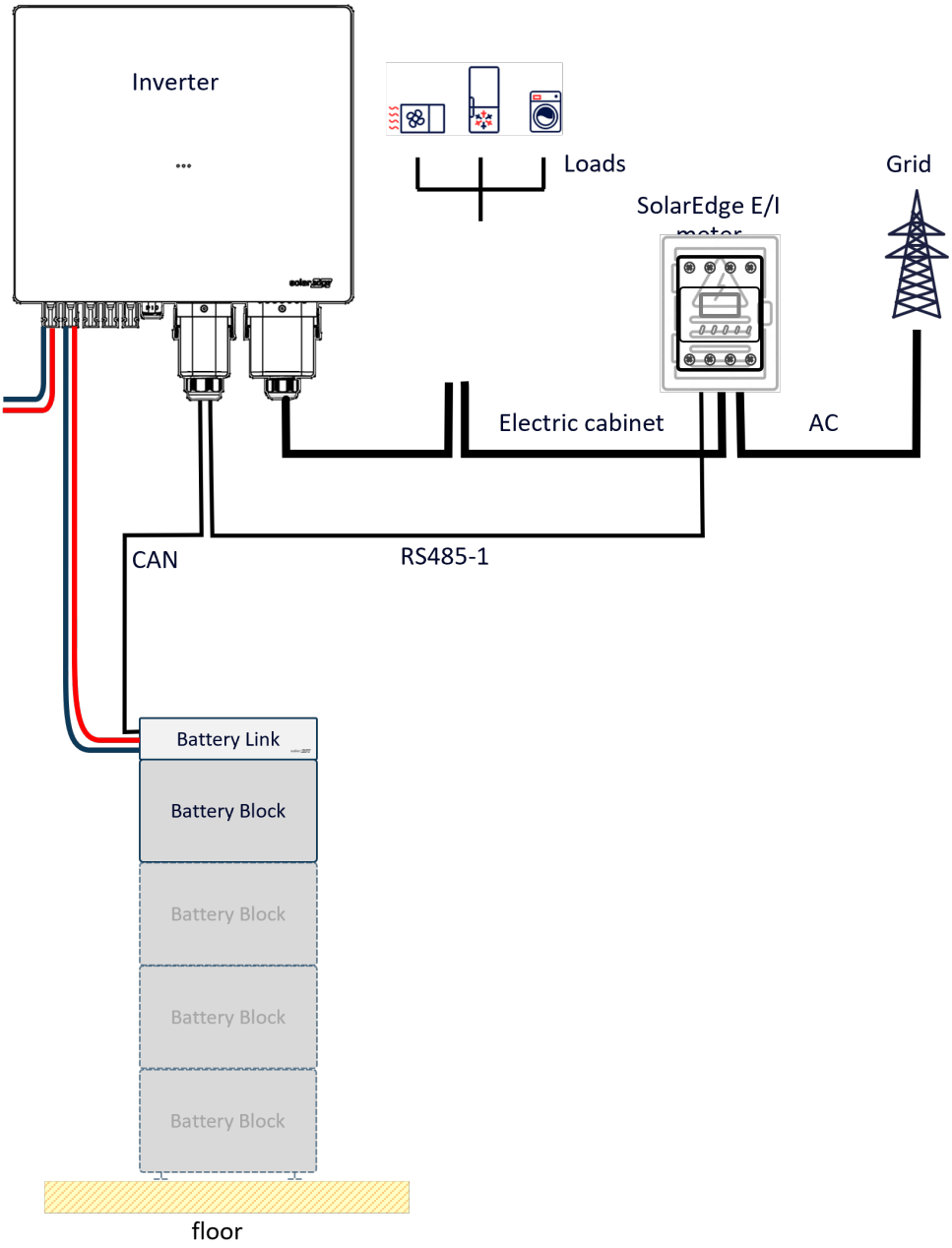
NOTE

Using a configuration that contradicts this document’s instructions voids the warranty coverage.

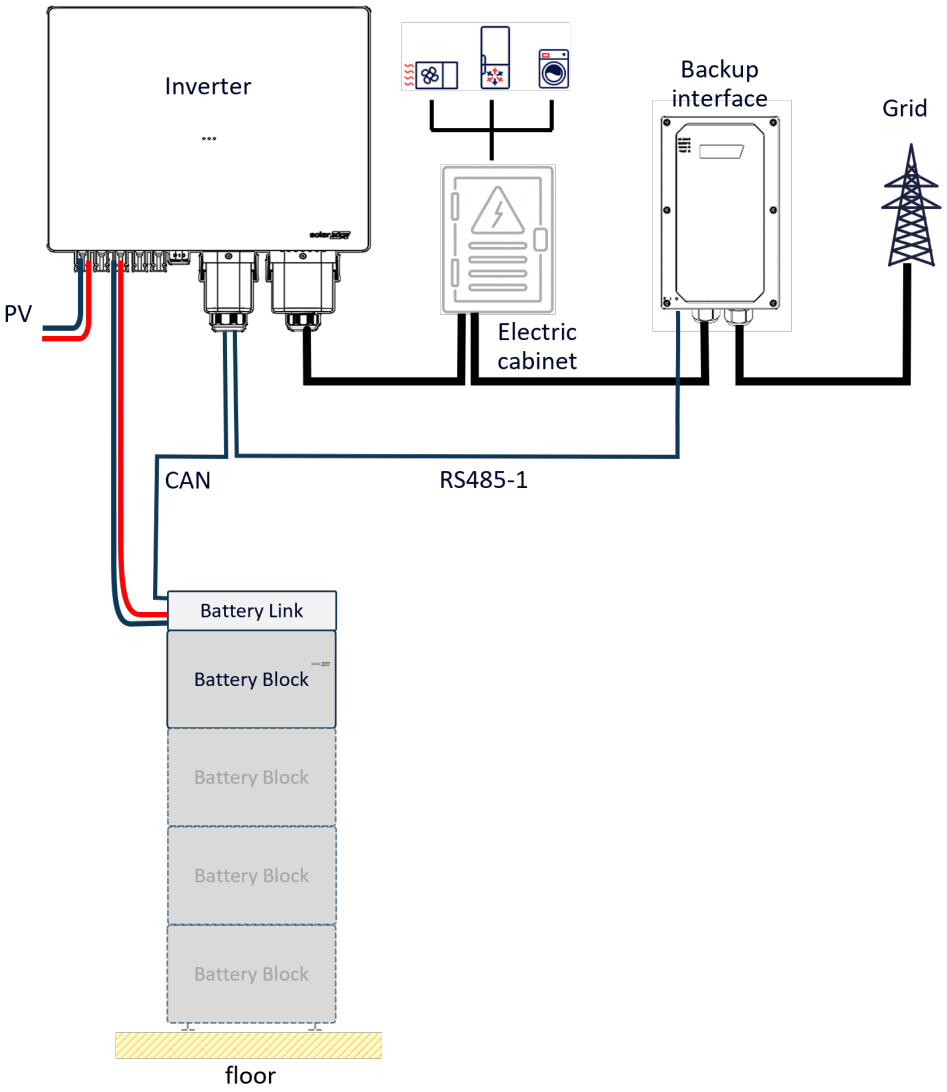
System diagrams

The following diagrams display system configurations for backup solutions.

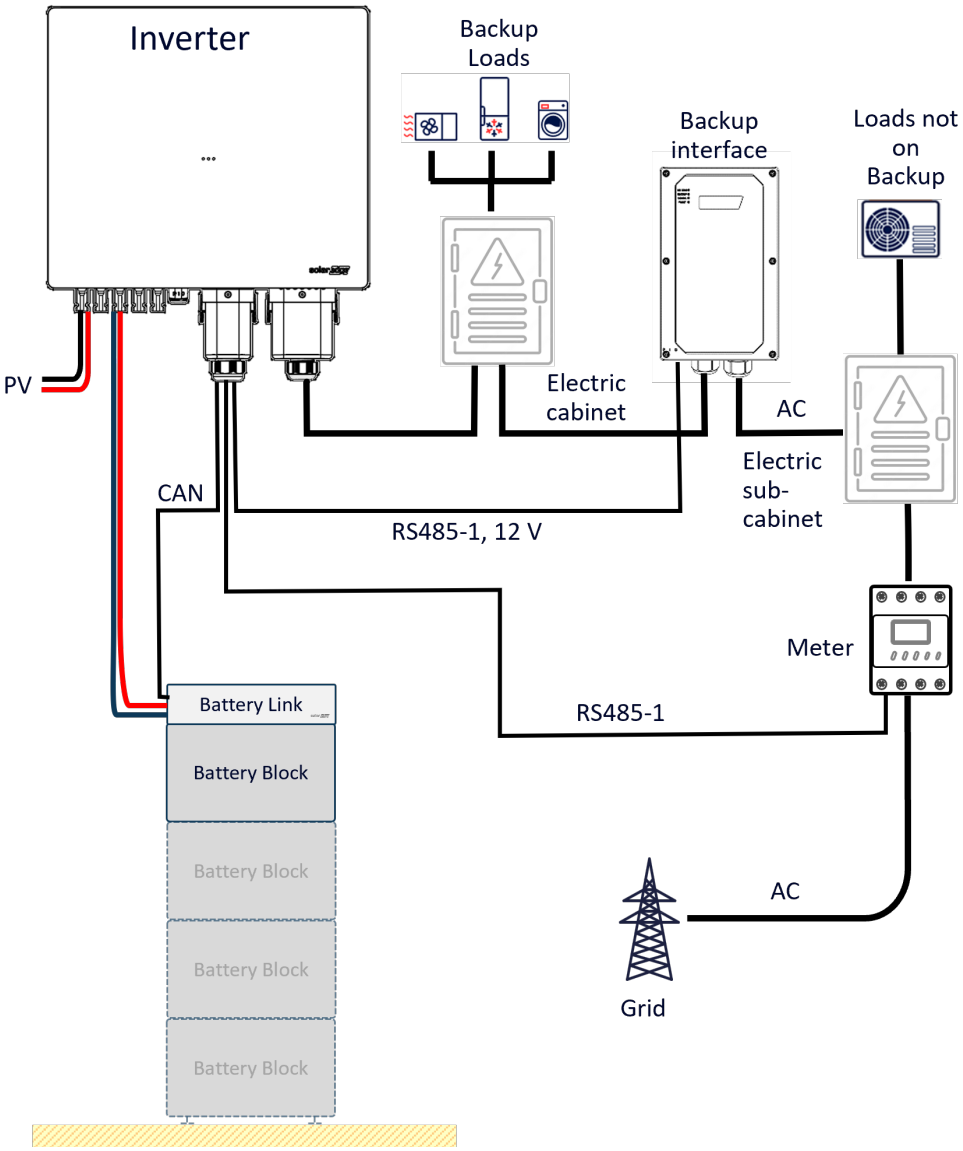
SolarEdge Single Nexis Inverter Three-Phase Storage only



SolarEdge Single Nexis Inverter Three-Phase 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 us:

https://www.solaredge.com/service/support

For the SolarEdge Nexis Inverter Three-Phase for Europe Information Center, scan this QR code.

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