

Three Phase Inverters for Delta Grids (Europe & APAC)

Version History

- Version 1.1 - Nov. 2017:
 - CPU version V3.2171 and above is required for delta grid settings
 - Note about inverters with delta ratings on their label
 - Addition of option to create/ verify the PV system design using the Site Designer tool
- Version 1.0 - April 2017 - Initial release

Introduction

In some countries, the SolarEdge three phase inverters can be connected to delta grids (inverter CPU version V3.2171 and above is required).



NOTE

If the inverter delta ratings need to appear on the inverter certification label, use inverters with Belgian part numbers: SExxK-**BE**xxxxxxx.

Prior to system installation, refer to the Supported Countries application note to confirm compatibility:

http://www.solaredge.com/sites/default/files/se_inverters_supported_countries.pdf; installing without confirmation may void the inverter warranty.

SolarEdge three phase inverters are equipped with two fuse holders and a fuse. The position of the fuse configures the AC grid connection: WYE (3 Lines/PE/N) or delta (3 Lines/PE) grid connection. By default, the fuse is located in the WYE fuse holder of the inverter, and in the Delta fuse holder there is a plastic dummy fuse.

To set the inverter for delta grid connection, you must move the fuse from the WYE fuse holder, marked as Y GRID, to the Delta fuse holder, marked as Δ GRID (see [Figure 2](#)).



CAUTION!

The only supported delta grids are the 3 Lines / PE. Corner grounding is not supported. Connecting the inverter to other delta grids may damage the inverter and will void the warranty.

Design Rules

Inverters connected to the delta grid will operate with reduced AC power rating, due to the lower grid voltage; for full specifications refer to the inverter datasheets:

- [SE6K-SE12.5K](#)
- [SE15K-SE27.6K](#)

The following table details PV system design using the SE6K- SE27.6K inverters in delta grids.

	SE6K-SE12.5K	SE15K		SE16K-SE27.6K		
Compatible Power Optimizers	P300-P500	P300-P500	P600	P300-P500	P600-P700	P800
Minimum String Length (Power Optimizers / Modules)	10 / 10	10 / 10	8 / 16	10 / 10	8 / 16	8 / 16
Maximum String Length (Power Optimizers / Modules)	25 / 25	25 / 25	30 / 60	25 / 25	30 / 60	30 / 60
Maximum Power per String	6000					7200

You can create and/ or verify your PV system design using the SolarEdge Site Designer tool, by selecting the Delta Grid option:

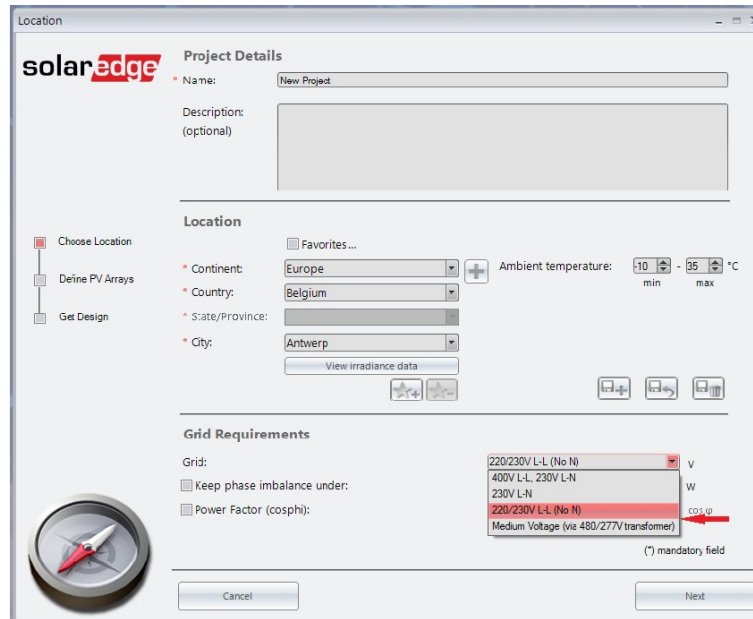


Figure 1: Selecting the Delta Grid option in Site Designer

Setting the Inverter to Support Delta Grids

► To set the inverter for delta grid connection:



NOTE Perform this procedure before connecting the inverter Safety Switch (if applicable) to the AC grid.

1. Remove the inverter cover: Open the inverter cover’s six Allen screws and carefully pull the cover horizontally before lowering it.
2. Identify the fuse locations and the markings as described in [Figure 2](#).

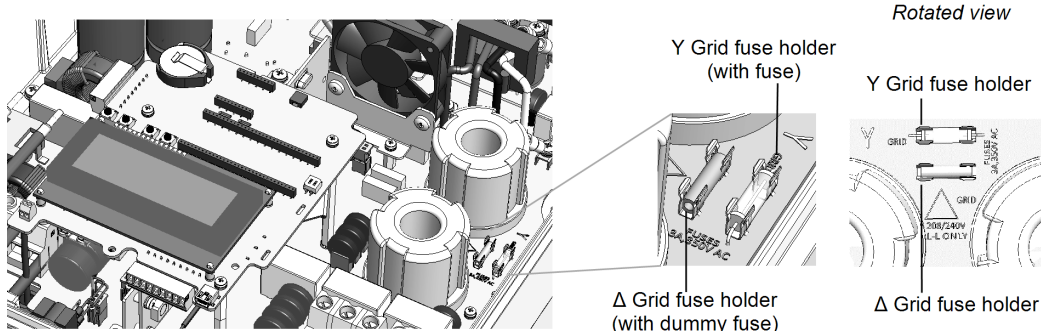


Figure 2: Fuse locations and markings

3. Remove the dummy fuse from the delta grid fuse holder and set it aside.
4. Move the fuse from the WYE grid fuse holder to the delta grid fuse holder.
5. Place the dummy fuse in the WYE grid fuse holder.
6. During system setup, set the country to the appropriate delta grid option. Using the non-delta setting may result in incorrect system operation.

CAUTION!



If the fuse was moved to support one of the grid types, do not connect the inverter to the other grid type without switching the fuse back to the correct holder. Connecting the inverter to grids when the fuse is incorrectly located may damage the inverter and void the warranty.