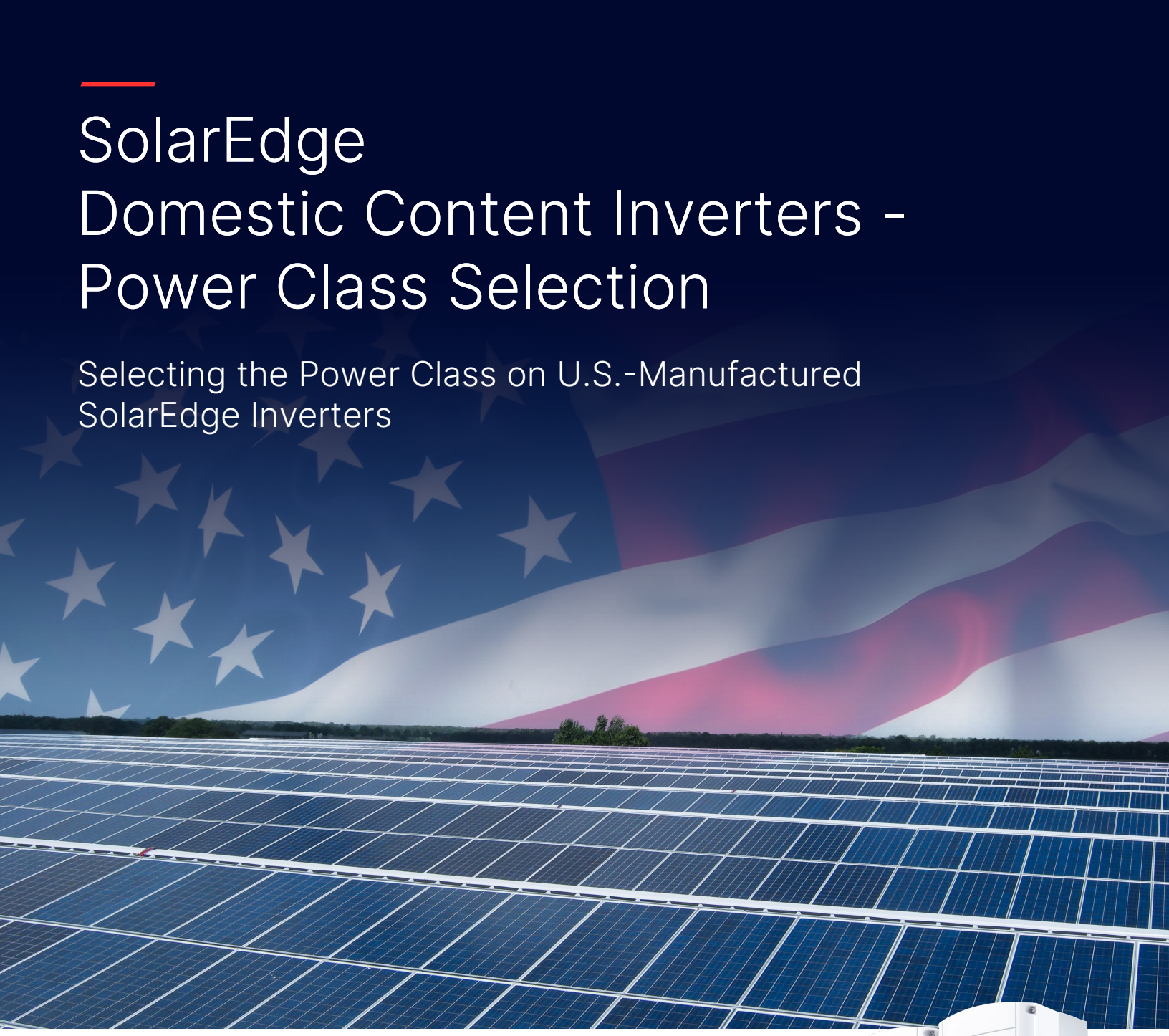
SolarEdge Domestic Content Inverters - Power Class Selection

Selecting the Power Class on U.S.-Manufactured SolarEdge Inverters



solaredge

Introduction – An Update to a Proven Product

SolarEdge's new U.S.-Manufactured domestic content products offer the same inverter models (power class options) as were previously available in North America. The domestic content update includes some small changes from the previously available inverters.

The most important change is the manufacturing location, captured by an update to the inverter part numbers. Domestic content inverters will have fewer part number options (SKUs) by allowing the model (power class) to be set during commissioning.

The main takeaways are:

- The model numbers have stayed the same
- The part numbers have been updated
- Power class will be activated and set in the field by the installer

Please click here to view the support letter from Brooks Engineering

Distinguishing a Part Number from a Model Number

Nine inverter models will remain available for three-phase inverters, with an update to part numbering that consolidates multiple power class options within fewer total part numbers. See Table 1 below that shows the part number updates for inverter models that have not changed.

Model Number	Nominal Output Power Class	Previous Part Number(s)	New Domestic Content Part Number(s)
SE10KUS	10kW @ 208Vac	SE10K-USxxIxxx4	xSE-SIN-USxxIxxx8
SE17.3KUS	17.3kW @ 208Vac	SE17.3K-USxxIxxx4	
SE30KUS	30kW @ 480Vac	SE30K-USxxIxxx4	
SE40KUS	40kW @ 480Vac	SE40K-USxxIxxx4	
SE80KUS	80kW @ 480Vac	SE80K-USxxIxxx4 + SESUK-USxxIxxx4 (x2)	SE-DBL-USxxIxxx4 + xSESUK-USxxIxxx8 (x2)
SE50KUS	50kW @ 208Vac	SE50K-USxxIxxx4 + SESUK-USxxIxxx4 (x3)	SE-TRI-UsxxIxxx8 + xSESUK-UsxxIxxx8 (x3)
SE100KUS	100kW @ 480Vac	SE100K-USxxIxxx4 + SESUK-USxxIxxx4 (x3)	
SE110KUS	110kW @ 480Vac	SE110K-USxxIxxx4 + SESUK-USxxIxxx4 (x3)	
SE120KUS	120kW @ 480Vac	SE120K-USxxIxxx4 + SESUK-USxxIxxx4 (x3)	

Table 1: Corresponding Part Number to Model Number with the Domestic Content Update

On a given solar project, the focus will either need to be on the inverter part number or the inverter model number depending on the roles of those in the project.

- For Procurement, Ordering and Distribution professionals, it is most important to focus on part numbers.
- For Design, Engineering, and Approval professionals, the model number is most important.

Design and Approvals – Model Number

The inverter model number denotes the power class of the inverter and corresponds to inverter parameters from the datasheet. All paperwork, plan sets, and approval correspondence with utilities, authority having jurisdiction (AHJ), or other agencies will use the model number of the inverter, which corresponds to a specific power class and other operating parameters. These parameters will be used for designing other parts of the system including cable ampacity, grounding, and over-current protective devices (OCPDs).

Listings, Certifications, and Compliance

The domestic content inverter offerings from SolarEdge are listed to all the same UL certifications, IEEE listings, and CEC (or other state specific) lists as before. Be sure to verify any requirements using the inverter model number.

Inverter listings and certifications are awarded by the inverter's model number. This means that minor changes to the inverter build and manufacturing location (reflected by a part number update) would not modify any existing listing or certifications.

Procurement and Ordering – Based on Part Number

The inverter part numbers denote specific components and build changes to the inverter, including the location of manufacturing and eligibility for domestic content contribution. When ordering, planning logistics, forecasting demand, etc. the part number(s) of the inverter should be used. In many cases, a single inverter model is comprised of multiple part numbers, it is important to keep track of the different part numbers that would be used to order any single inverter model (see Table 1 above).

Power Class Selection Process – Based on Model Number

Before the introduction of domestic content part numbers, inverter model and power class were determined as part of the factory building process. Given the reduction in SKUs, multiple inverter models are comprised of the same part number options, meaning that the model number and power class of the inverter must be chosen as part of the commissioning process on-site. There are two important ways that the power class and model of the inverter are indicated and set.

Firmware Settings

The installer connects to the inverter using the smartphone application SetApp, to choose the inverter country and grid settings, as well as other operating parameters. When connecting to an inverter part number that has multiple power class options via SetApp, the installer is prompted to set the inverter model as part of choosing other configuration options and software parameters.

/ While many of the inverter settings in SetApp can be modified, once the inverter power class has been chosen, the selection cannot be changed without the assistance of SolarEdge support.

The selected model must match the approved project plan set and installed overcurrent protective devices. Selecting a power class that corresponds to a different grid voltage than is present on site, will result in an inoperable inverter.

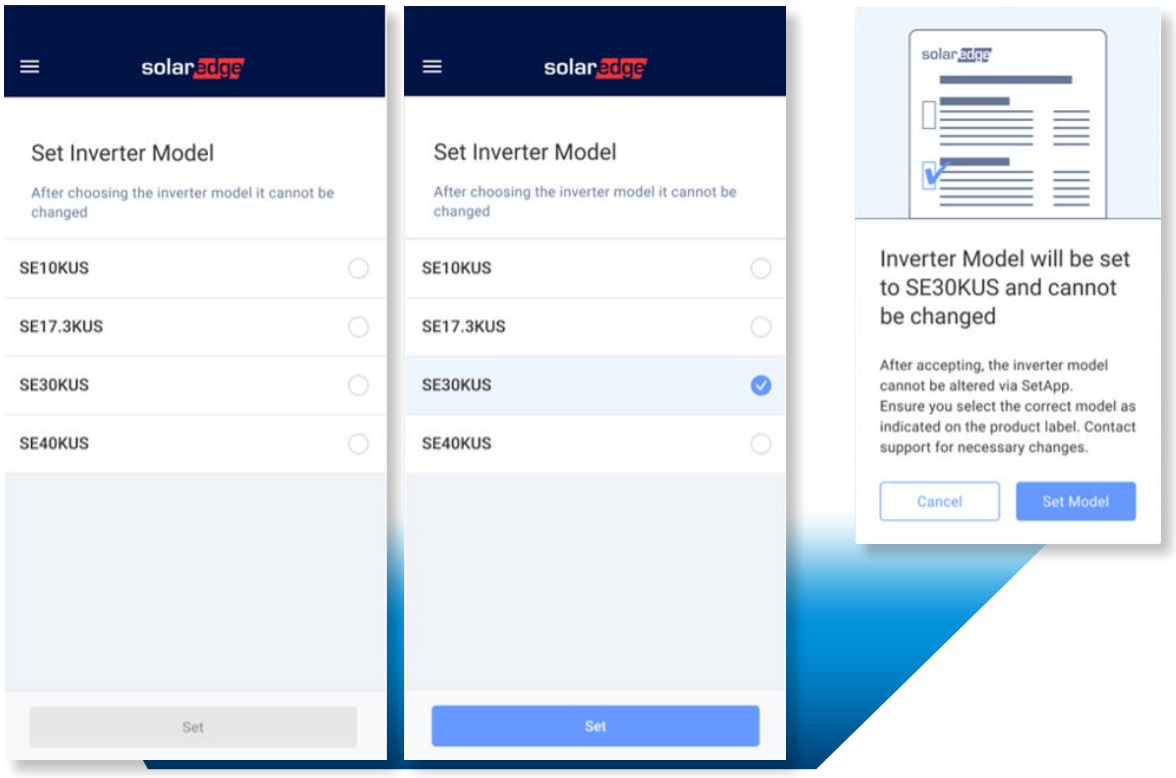


Figure 1: Choose Inverter Model in Set App

Physical Label Marking

The domestic content inverter nameplate label will show multiple power class options available under the same part number (applicable to SE-TRI and xSE-SIN part numbers). During commissioning, the installer will permanently mark the inverter label to indicate the chosen model.

The label will have peel-off portions (with a perforated edge) corresponding to each of the power class options. The installer can simply remove the cut-out to indicate the inverter model. If preferred, a paint pen or permanent marker can be used to identify the correct inverter model. It is recommended to check with your AHJ/inspector as to the preferred method for permanently marking the inverter's nameplate.

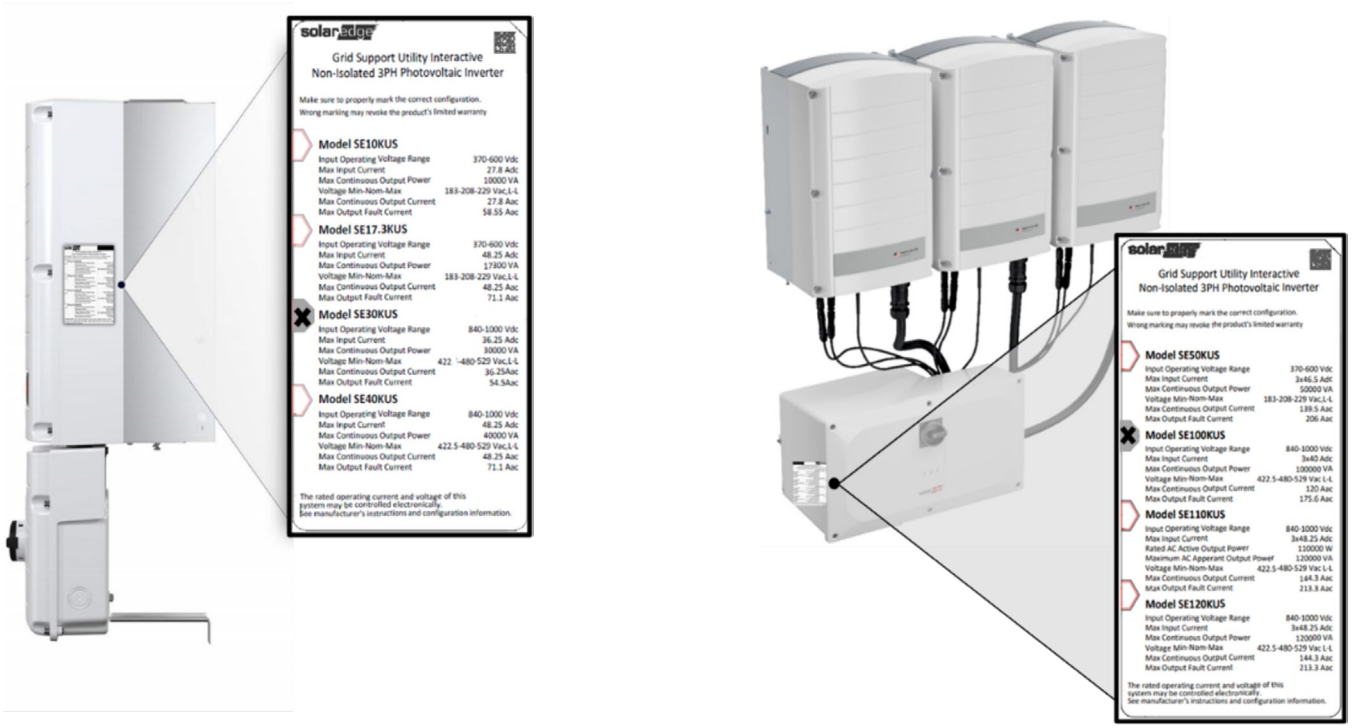


Figure 2: Inverter Nameplate Label with Multiple Model Options

Installer Errors

Clear and specific instructions for the updated commissioning process and power class selection steps are included in the inverter installation guides as well as throughout the SetApp process. If a mistake does occur, the below options are available.

SetApp Configuration Error

The SetApp model selection is only reversible with the assistance of SolarEdge's support team. The inverter must be connected to the internet before a power class selection error can be resolved via SolarEdge support. Using a cell phone hot spot would be one way to get a temporary internet connection on the inverter and connect with SolarEdge support to resolve the issue. Support contact number: 510-498-3200.

To reset and or reactivate an inverter to a different power class than originally selected, will require filling out a waiver form and submitting documentation such as a system SLD to SolarEdge support.

Label Marking Error

Be careful when marking the inverter power class on the label. If the label has removable (peel-off) markings to denote the model selection, it may be possible to replace an incorrectly removed peel-off tab with one that corresponds to the proper model selection.

To fully replace an inverter label, an RMA (of the label only) will be required. In some cases the field replacement may need to be performed by SolarEdge personnel to remain in compliance with the certifications and listings of that inverter.

Proving the Inverter Model

After completing the installation and commissioning of the inverter, the power class selected during the process will be permanent. This can be verified in a few ways, the SetApp inverter commissioning summary will show both the inverter model and part number.

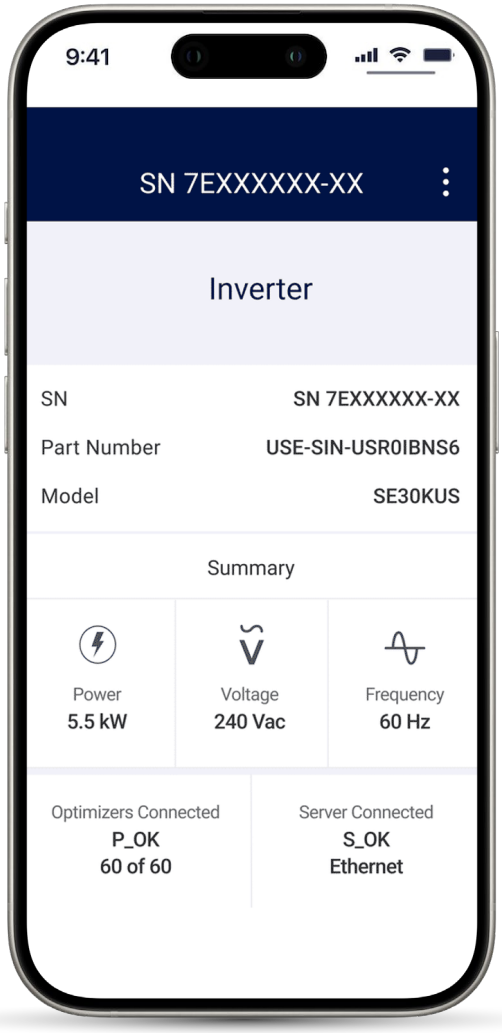


Figure 3: Proof of Inverter Model Selection in SetApp

In the SolarEdge monitoring portal when looking at inverter details, the inverter model and part number are displayed separately, along with the serial number for identification.

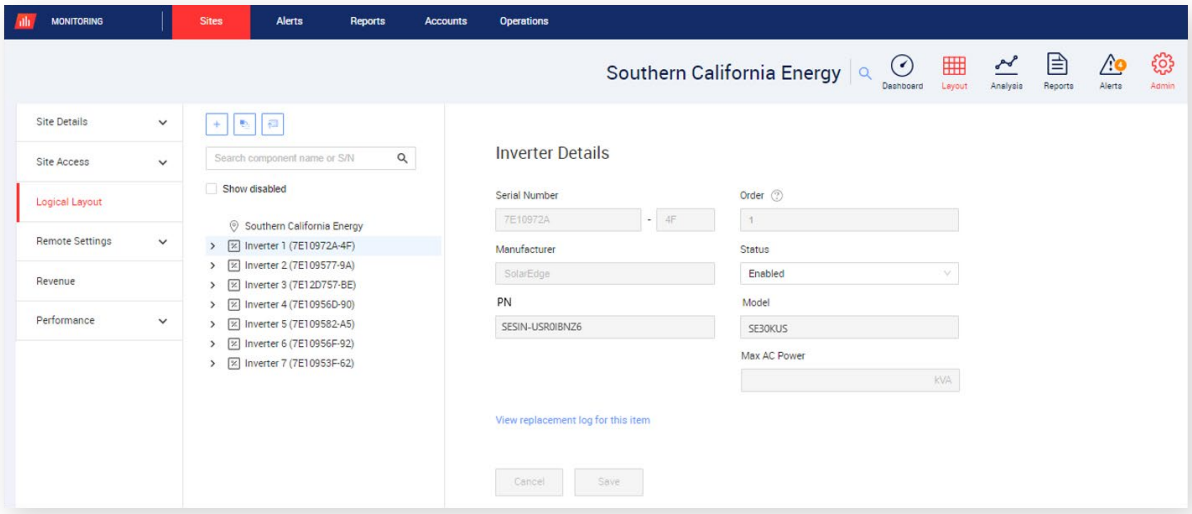


Figure 4: Proof of Inverter Model Selection in Monitoring Portal

Given that this model selection is permanent, installers can provide proof of the inverter power class selection using images of the marked nameplate label and screen captures from SetApp or Monitoring showing the selected model. Utility, inspector, or other approving bodies typically grant necessary permissions to operate upon confirmation that plan sets match the chosen inverter models as verified using SetApp, monitoring, or the product label. SolarEdge can provide additional documentation to verify the model number as necessary.

Commissioning Report

After all inverters on a site are commissioned and set to the proper power class, it is possible to create a PDF report of the commissioning status, that will show the side-by-side part number, model number, and serial number of each inverter on site. This report can be used as proof the site was commissioned to match all approved plan sets.

Inverters

Verify that all inverters are configured as designed, running the correct firmware version and are performing properly

Name	Serial Number	Model	Highest Alert Impact	Alert Description	Paired Optimizers	Country	Communication Board (CPU) Version
Inverter 1	7B11B02A-66	SE-SIN-USR0IBNS6(SE40KUS)			129	US 277V	4.23.511
Inverter 2	7B11B025-61	SE-SIN-USR0IBNS6(SE40KUS)			129	US 277V	4.23.511

Table 2: Proof of Inverter Model Selection – Commissioning Report

Brooks Engineering
3949 Joslin Lane
Vacaville, CA 95688
(Voice) 707-332-0761
(email) bill@brooksolar.com

May 15, 2025

RE: Support for SolarEdge Domestic Content Inverters—Power Class Selection Document

To whom it may concern:

This letter is to provide support for the methodologies employed by SolarEdge for the power class selection of their domestic content inverters. In order to streamline products for domestic content in the United States, the SolarEdge commercial line of 3-phase inverters have been simplified to three products that are capable of being configured in several different power classes. The hardware for each part number is identical, but the firmware for the power class can be set in the field by the installer through the SetApp application.

The purpose of this flexibility is so that SolarEdge and the users of their products can source a fewer number of parts and then set them in the field in accordance with the plans and interconnection application documentation. SolarEdge worked with Brooks Engineering to refine a system by which the power class of an inverter can be set in the field to match the requirements of the installation.

Enforcement officials from utilities and local building departments may understandably be concerned about the potential for errors that could have safety and compliance implications. To that end, SolarEdge has established a rigorous process to set and verify the power class of their inverters to ensure safety and compliance with interconnection requirements of utility companies.

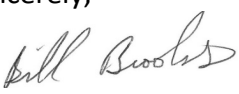
The power class and interconnection requirements are crucial for the proper installation of grid-connected inverters. The power class impacts the conductor size, overcurrent device size, and the building distribution equipment to which it is connected. The power class also impacts the utility interconnection agreements and may directly relate to compliance with tariff limitations. Clarity and accuracy with the power class settings, and the associated documentation, is essential to a transparent equipment ratings process.

Brooks Engineering, working with SolarEdge engineers have developed a process whereby the power class of an inverter is set to match the construction documents and utility agreements while providing multiple methods to verify that the power class has been set correctly. The settings for power class cannot be modified by installer once they are locked in. This is to ensure that the settings present when enforcement inspects the units are not changed. The document cited in this letter details how the installer sets the power class of a SolarEdge inverter and how the installer can show documentation that the power class matches the construction documents for inspectors and utility personnel.

Brooks Engineering
3949 Joslin Lane
Vacaville, CA 95688
(Voice) 707-332-0761
(email) bill@brooksolar.com

This concludes my assessment of the SolarEdge document that details how to set the power class of various SolarEdge 3-phase inverters. The methods used to set and verify the power class of these inverters is reliable and provides enforcement with the necessary assurance that the equipment is properly installed in accordance with the ratings and physical installation criteria. Should anyone in enforcement have questions about these methodologies, please direct these questions via email to bill@brooksolar.com.

Sincerely,



Bill Brooks, P.E.
Principal of Brooks Engineering
Email: Bill@BrookSolar.com