

SolarEdge Instruction - California Electric Rule 21

Version History

- Version 1.5, Aug 2018:
 - Simplified inverter configuration instructions to meet requirements
- Version 1.4, July 2018: Added link to upgrade file instead of contacting support
- Version 1.3, June 2018
 - Reduced manual setting procedure to automatic setting procedure via Country Code
 - Included explanation of upcoming Real vs. Reactive power priority
 - Removed labeling instruction steps for products manufactured before April 2017
 - Revised Instruction Format
- Version 1.2, October 2017: Corrected V/VAR table
- Version 1.1, Sep. 2017: Defined effective date
- Version 1.0, Sep. 2017: Initial release

Introduction

Electric Rule 21 describes the interconnection, operating and metering requirements for generation facilities to be connected to the public utilities' distribution systems, over which the California Public Utilities Commission (CPUC) has jurisdiction. To operate SolarEdge systems in accordance with these requirements, effective on systems permitted on or after September 8 2017, the following instructions must be followed.

Reactive Power Priority

The CPUC approved Resolution E-4920 as of April 26, 2018. What this means is that effective July 26, 2018 the CPUC has dictated that Volt/VAR control will have "reactive power priority" rather than "real power priority", meaning that supplying reactive power when required by voltage excursion will override real power production when the inverter is at maximum output.

Configuring the Inverter

Set Country Code

Select the appropriate Rule 21 country setting in accordance with the supplied manual (*Chapter 6: User Interface > Configuration Menu Options > Country and Grid*). Applicable country codes are outlined in the [Verifying Country Setting](#) section.

Set configuration

For the inverter to meet Rule 21 requirements without manual programming use the suitable configuration file listed below. Configuration instructions using a MicroSD card can be found here: [SolarEdge Application Note: Upgrading an inverter using microSD card](#).

- Single Phase Inverter with HD-Wave Technology configuration file: click [here](#)
- Three Phase Inverter for the 277/480V grid configuration file: click [here](#)
- Three Phase Inverter for the 208V grid configuration file: click [here](#)



NOTE

These links provide configuration files for the Single Phase Inverters with HD-Wave Technology (SExxxxH-US) and for three phase inverters. These files cannot be used with StorEdge Inverters, with previous generation single phase inverters (SExxxxA-US) or with Three Phase Inverters with synergy technology.

To configure an inverter of these types, contact SolarEdge Support at 510-498-3200 x.2

Verification

Compliance with Rule 21 requirements can be verified by checking the inverter’s firmware and country code are set as described below.

Verifying Minimal FW version

DSP1 version or greater (versions are listed here in as they appear in the **Information > Versions >** menu tree). DSP1 version information is also available from the **Info** screen without entering the menu tree, but does not display the last 4 digits of the firmware version as outlined herein.

- Single Phase Inverter with HD-Wave Technology: 1.0000.0433
- Three Phase Inverters: 1.0013.1010

Verifying Country Code

The Country Code can be viewed from the primary display without going into the menu tree by cycling to the **Info** screen shown below. Verify the appropriate country code is selected by comparing to the table below, which lists all Rule 21 country code settings.

```

ID: 73000000 1A
DSP1/2: 1.0000/2.0000
CPU: 3.2312
Country: USA34
    
```

Info Screen

Country Code in Info Screen	Description
USA31	R21 Auto
USA32	R21 208
USA33	R21 208 No N
USA34	R21 240
USA35	R21 240 No N
USA36	R21 277

Rule 21 Country Code Settings