



TECHNICAL NOTE

SMA US String Inverters - Derating Power Output

This notice is applicable to the following inverter types:

Sunny Boy 3.0/3.8/5.0/6.0/7.0/7.7-US

Sunny Tripower CORE1 33/50/62-US

Sunny Tripower X 20/25/30-US

Sunny Highpower PEAK3 125/150-US

Sunny Highpower PEAK3 125/150/165/172-US

Type designation: SB x.x-1xP-US-40/-41

Type designation: STP xx-US-41

Type designation: STP xx-US-50

Type designation: SHP-xxx-US-20

Type designation: SHP xxx-US-21

Derating Power Output:

All SMA inverters are programmed to produce up to their factory programmed power rating. The maximum power rating is identified on a sticker attached to the device and is referred to as the nameplate rating.

Installers have the ability to log in to individual inverters and adjust the maximum power output of the inverter. The range of adjustability is zero watts to the listed maximum nameplate watts. If the inverter power output is reduced from nameplate, it is recommended that the installer clearly label the inverter as 'Derated' with an additional label identifying 'Power output limit to xx kW and xx kVA'. In case of future device replacement, clear instructions for parameter changes and additional labels will also be necessary.

The SMA Grid Guard Code is not required to derate the inverters nameplate rating. Changes to grid-relevant operating parameters (which do require a Grid Guard Code to be entered) must be approved by the responsible grid operator. Two parameters need to be changed for setting kW and kVA limits:

kVA limit - set "Currently set apparent power limit" parameter

kW limit - set "Currently set active power limit" parameter

Instructions on logging in to the inverter web user interface and making changes to operating parameters is listed in the user manuals for the respective products. The parameters can be found under 'Device Parameters > Device > Inverter'.

The SMA string inverter power derating is locked behind the "Installer" user group and password to prevent unintended changes. The power derating values are saved in the SMA string inverter flash memory to retain the information and prevent fallback to factory settings.

All interconnection agreements between an installer and the utility must be maintained and abided by the installer. The installer is responsible for sizing all conductors and overcurrent protection and providing power limitation labels.

All system designs must be made in accordance with the local standards and the National Electrical Code® ANSI/NFPA 70 or the Canadian Electrical Code® CSA C22.1.