

Power Quality Response Mode Settings for Sungrow String Inverters

Disclaimer

The material in this document has been prepared by Sungrow Australia Group Pty. Ltd. ABN 76 168 258 679 and is intended as a guideline to assist solar installers for troubleshooting. It is not a statement or advice on any of the Electrical or Solar Industry standards or guidelines. Please observe all OH&S regulations when working on Sungrow equipment.

The local DNSP requires you to adjust the Active and Reactive power settings (Volt-Var and Volt-Watt) on the inverter. For three-phase inverters Including SG30CX, SG50CX SG40CX and SG110CX, this can be changed by logging in locally to the inverter using the iSolarCloud App. Once logged in, both active and reactive power can be adjusted.

1. Example: Local settings For Victorian DNSPs

1.1. Standard for Victorian DNSPs

Energy Victorian specify the voltage and reactive/active power settings in table 1 and table 2 in their Connection standards:



Victorian Distribution Network Service Provider (DNSP) Basic Micro EG Connections Power Quality Response Mode settings

Victorian DNSPs are mandating power quality response mode capability, and associated settings for all micro EG connections from 1 December 2019. The settings are:

- Volt-var response mode (AS/NZS 4777.2 Table 11); and
- Volt-watt response mode (AS/NZS 4777.2 Table 10)

Settings for the power quality response modes are shown below

Table 1: Mandatory: volt-var response mode settings

Reference	Voltage in Volts	Var % Rated VA
V1	208	44% leading (exporting vars)
V2	220 (default)	0%
V3	241	0%
V4	253	44% lagging (sinking vars, 3.7% per volt, 0.9 power factor)

Table 2: Mandatory volt-watt response mode settings

Reference	Voltage in Volts	Power % rated Power
V1	207 (default)	100% (default)
V2	220 (default)	100% (default)
V3	253	100% (default)
V4	259	20% (default, 5.3%/volt)

1.2. Volt-Var Settings

1) The steps to set the Q(U) mode via iSolarCloud APP are:

Access the app via Bluetooth, Once clicking Bluetooth, you will be prompted to select the Bluetooth device (Inverter SN). Click on the SN you wish to connect to and then login to the inverter. Please put in “admin” as the account and the password (contact Sungrow).

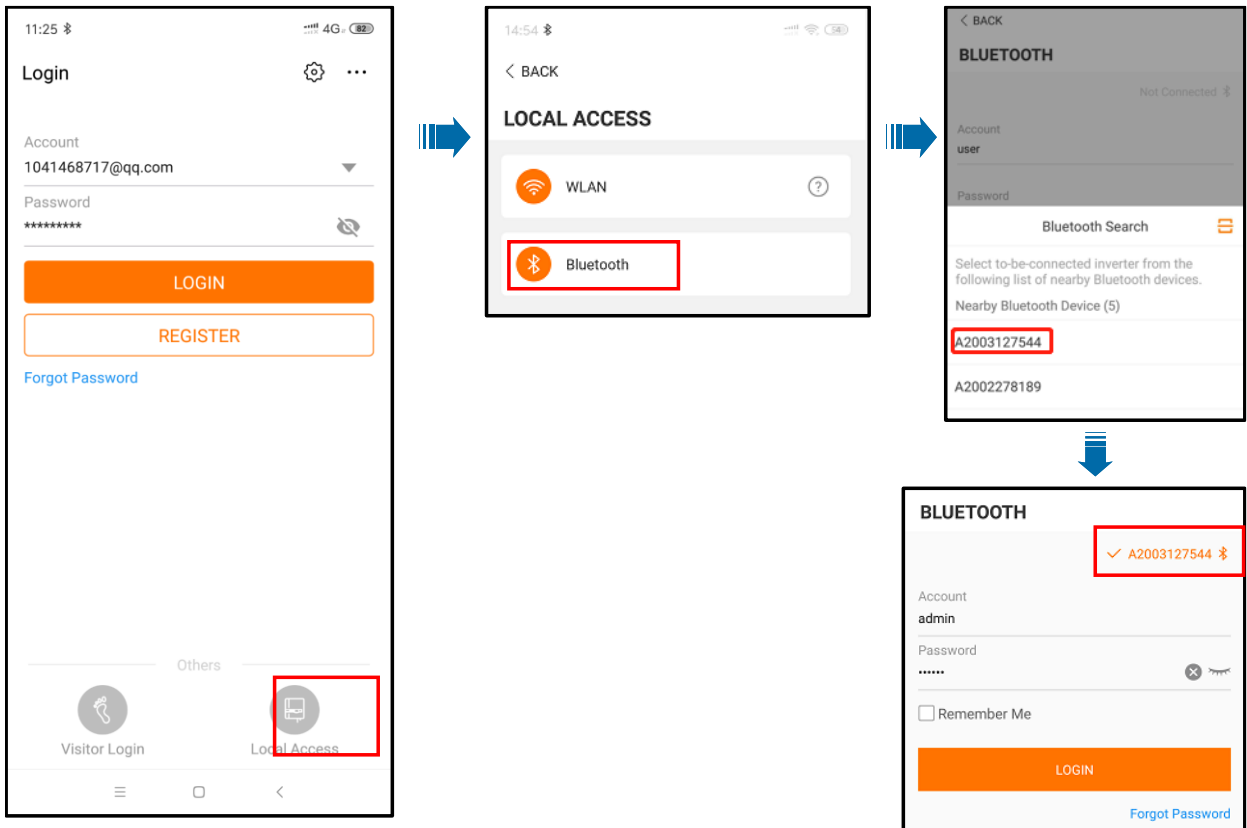


Figure 1 Local Access

Above local access is same for all inverters. But reactive power settings is a little different. Please see the detailed setting steps separately as below

2) Click "More" > "Settings" > "System Parameters" > Country (Australia) > "Power Regulation Parameters" > "Reactive Power Regulation" (For example QU)> to input the voltage and reactive power ratio as per the requirement.

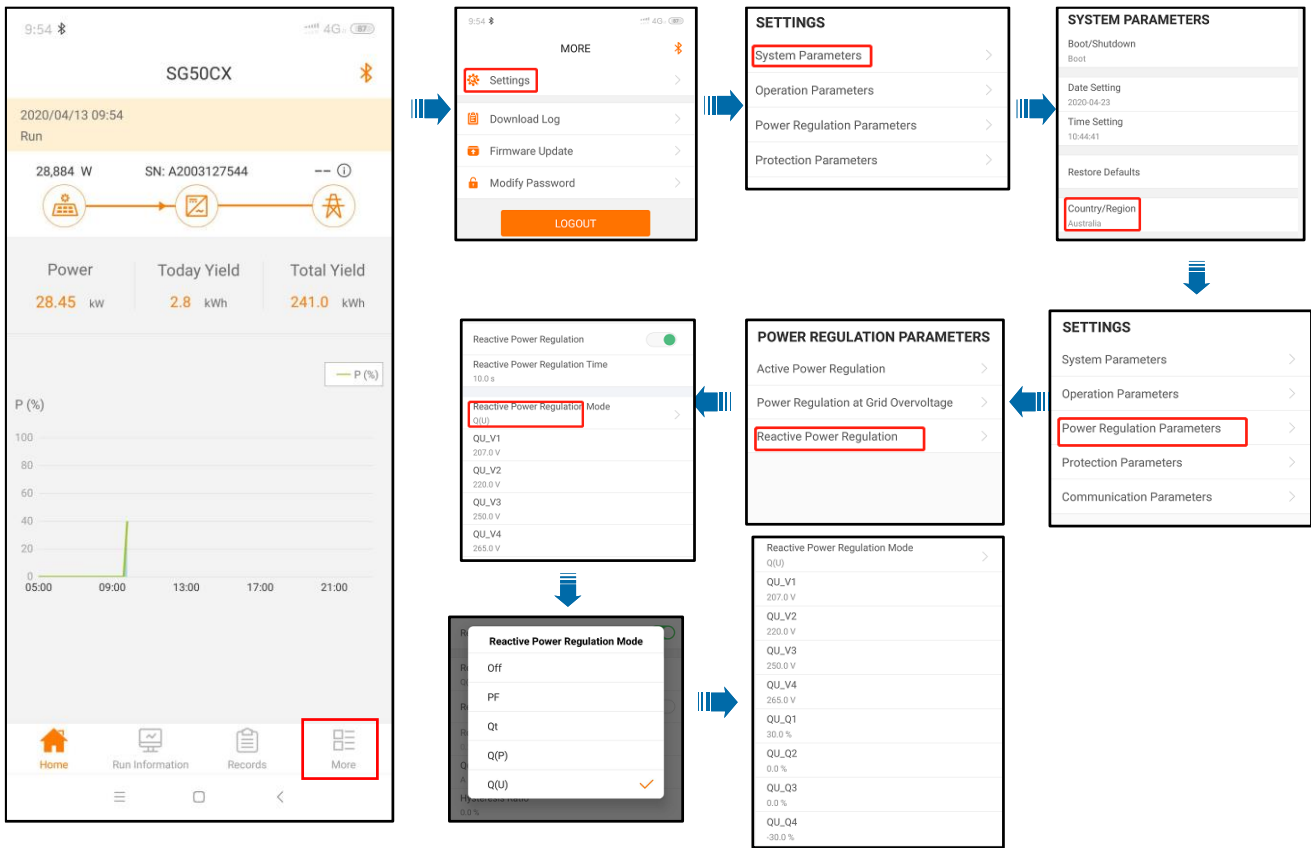


Figure 2 Volt-var settings

3) Enable the “Reactive Power Regulation Mode” to “QU” and set the reactive power value. it is only possible to enter the value in % Vars in Sungrow inverter. you get the Volt-Var settings value from the DNSP Protection settings calculator, please follow the steps below on how to enter those values on Sungrow inverters.

Reference point		Set Points	Setting Range
QU_V1 = V1	208V	QU_V1	90.4%
	44% leading	QU_Q1	-44%
QU_V2 = V2	220V	QU_V2	95.7%
	0%	QU_Q2	0%
QU_V3 = V3	241V	QU_V3	104.8%
	0%	QU_Q3	0%
QU_V4 = V4	253V	QU_V4	110%
	44% lagging	QU_Q4	44%

1.3. Volt-watt Settings

1) Click "More" > "Settings" > “System Parameters” > Country (Australia) > "Power Regulation Parameters" > “Power Regulation at Grid Overvoltage"> to input the Voltage and active power ratio as per the requirement.

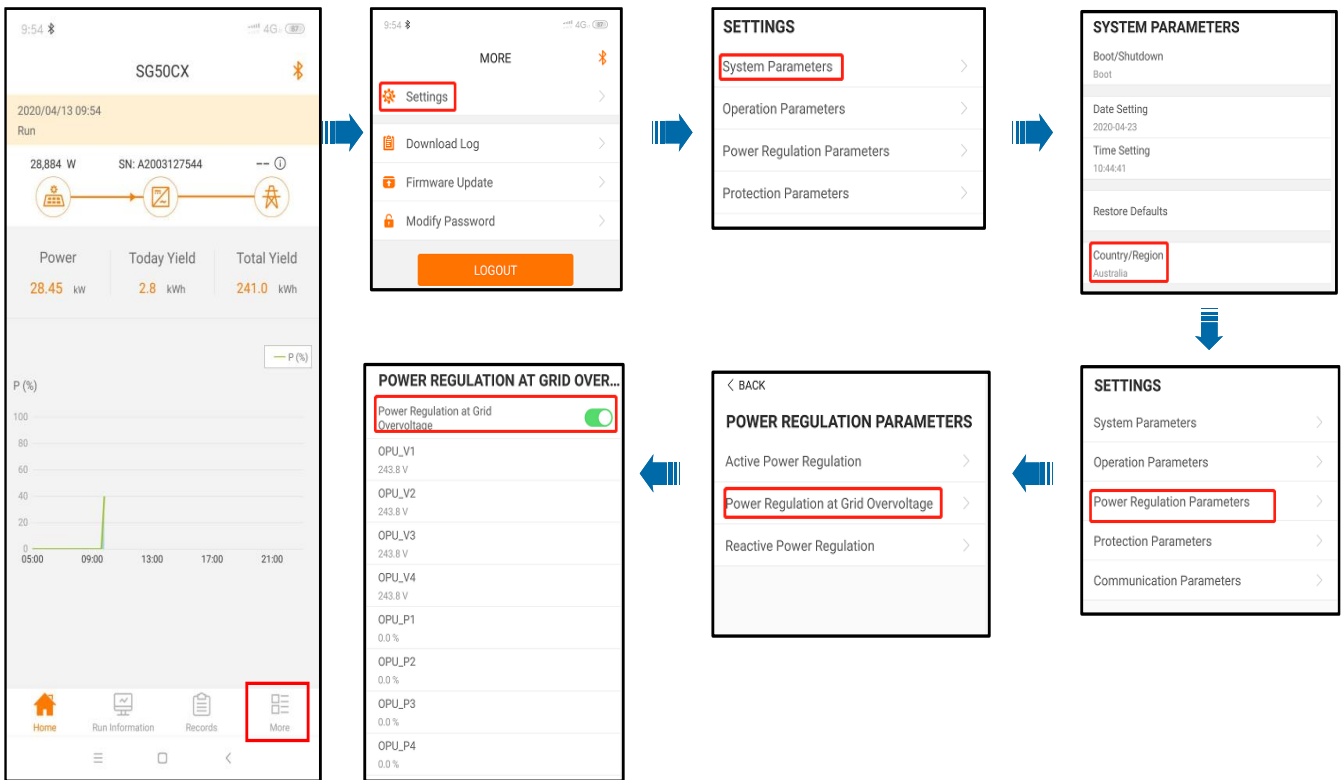


Figure 3 Volt-watt settings

2) For Volt-watt settings, it is only possible to enter the value in % Vars in Sungrow inverter. you get the Volt-Var settings value from the DNSP Protection settings calculator, please follow the steps below on how to enter those values on Sungrow inverters.

Reference point		Set Points	Setting Range
OPU_V1 = V1	207V	OPU_V1	207
	100%	OPU_P1	100%
OPU_V2 = V2	220V	OPU_V2	220
	100%	OPU_P2	100%
OPU_V3 = V3	253V	OPU_V3	253
	100%	OPU_P3	100%
OPU_V4 = V4	259V	OPU_V4	259
	20%	OPU_P4	20%

If the issue persists, please take photos testing on site and contact Sungrow Service Department on 1800 786 476.