

MANDATED SMART INVERTER SETTINGS ARE STILL CRITICAL FOR INSTALLATION COMPLIANCE

In December 2021, Australian Standard 4777 updates will require all new solar inverters to be installed with 'Australia A' power quality response settings. We recognise the Clean Energy Council is working closely with inverter manufacturers to develop an approved list of products that will comply with these settings.

Until then, it is important that all new solar PV installations continue to be commissioned with the correct smart inverter settings calibrated. If they are not compliant, then solar customers will not be getting the most out of their solar installations and customers on our networks will be impacted by safety or reliability risks.

What do you need to do?

We are asking for your support by checking all relevant settings as part of your processes and prior to completing the Certificate of Electricity Safety (CES). There are two settings we would ask you to check:

1. **Smart inverter settings:** to ensure the necessary 'Volt Var' and 'Volt Watt' power quality responses are enabled
2. **Export settings:** to ensure systems are not generating more excess solar than they are permitted to export.

Given the continued high numbers of new installations every month and the large number of new people coming into the installation industry, auditing every installation is difficult. However, we can see from smart meter data where installations are not compliant and are starting to make direct contact with customers and installers to ensure these are rectified.

Why is this important?

We would like to enable our solar customers to make the most out of their investment. We're also responsible for ensuring the high standards of safety and reliability of power supplies for all customers is maintained.

By ensuring compliance with these settings you can:

- enable more customers to connect solar and export into our network
 - ensure your customers are getting a positive experience from their solar system and not suffering the inconvenience of frequent trips due to power quality fluctuations
 - be compliant with Clean Energy Council accreditation standards and Solar Homes Victoria grant conditions.
-



Mandatory settings for smart inverters

Since December 2019, smart inverters have been mandatory on all Victorian rooftop solar systems. Compliance with the agreed settings for these inverters is required as part of Clean Energy Council accreditation for installers and in order to obtain grants under the Solar Homes Victoria program.

There are two aspects to these:

1. 'Volt-Var' settings to provide dynamic reactive power output and absorb some of the voltage rise from solar exports
2. 'Volt-Watt' settings to reduce real power export once specified voltage limits are reached and minimise voltage rise from solar exports.

Fixed power factor, reactive power and/or characteristic power factor settings are to remain disabled if they are capable of being set in the inverter. The default setting of the power ramp rate gradient is to remain at 16.67% of rated power per minute, and the nominal ramp time is also to remain at 6 minutes. The passive anti-islanding maximum voltage and frequency trip points are preset as specified in AS4777.2 and secured against change.

Function	Reference point	Inverter Voltage setting	Inverter power or Var setting
Volt-Var	V1	208V	44% leading (export Var)
	V2	220V	0
	V3	241V	0
	V4	253V	44% lagging (import Var)
Volt-Watt	V1	207V	100%
	V2	220V	100%
	V3	253V	100%
	V4	259V	20%
Sustained operation for voltage variations (10 minute average)		258V	