

Declaration of Conformity for Radian International Series Inverter/Chargers

Purpose

The intent of this document is to specify that the OutBack models listed in the Scope below conform to the following standards for grid-interactive inverter/chargers.

This document supersedes any previous declarations for these OutBack models.

Scope

OutBack models covered by this Declaration of Conformity include the following.

- o GS3548E
- o GS7048E



IMPORTANT:

This Declaration of Conformity covers only the Radian Series GS3548E and GS7048E. This Declaration does not cover any other models.

Directives

- o RoHS: Directive 2011/65/EU — “The restriction of the use of certain substances in electrical and electronic equipment”

Certifications

This product is certified to the following standards:

- o IEC 62109-1:2010 and IEC 62109-2:2011 — Safety of Power Converters for use in Photovoltaic Systems (2010)
- o IEC 62477-1:2012 — Safety Requirements for Power Electronic Converter Systems and Equipment
- o EN 61000-6-1 — EMC Standard: Immunity for Residential, Commercial, and Light-Industrial Environments
- o EN 61000-6-3 — EMC Standard: Emissions for Residential, Commercial, and Light-Industrial Environments
- o EN 61000-3-3 — EMC Standard: Limitation of Voltage Changes, Voltage Fluctuations, and Flicker in Public Low-Voltage Supply Systems
- o AS/NZS 3100 — General Requirements for Electrical Equipment
- o AS/NZS 4777.2 — Grid Connection of Energy Systems via Inverters (approved by Energy Safe Victoria [ESV])

Specification Conformity

This inverter/charger product conforms to AS/NZS 4777.2 for single-inverter installations only. This product is otherwise declared to conform to the following specifications:



This product has grid-interactive functions. It is tested to certain limits for acceptable output voltage ranges, acceptable output frequency, total harmonic distortion (THD) and anti-islanding performance when the inverter exports power to a utility source. The inverter/charger product listed in this document is validated through compliance testing. The following specifications refer to exporting power to a simulated utility source of less than 1% voltage total harmonic distortion (THD).

- o The THD of the root mean square (RMS) current is less than 5%.
- o The output of the Radian inverter exceeds the minimum power factor of 0.85 with a typical power factor of 0.96 or better.

The reconnection delay has a default setting of 1 minute. The settings for the reconnection delay and **Grid Interface Protection** are adjustable, but this is only available to operators with installer-level access. The reason for the limitation is that there are firm rules concerning acceptable voltage range, frequency range, clearance time during power loss, and reconnect delay when exporting power to the utility. The rules differ in different locations around the world, although generally it is expected that the settings cannot be altered by the end user. For this reason, the installer password must be changed from the default in order to get access to these settings. Once the password has been changed, the **Grid Interface Protection** settings can be accessed by using the installer password.

For programming navigation, see the literature for the system display. For a full list of **Grid Interface Protection** default settings and available ranges, see the *Radian International Series Operator's Manual*.

Australian Standards Conformity

To meet the standard AS4777.2 for installations in Australia, the acceptance settings shall not exceed the following. The factory default settings meet these requirements.

Minimum Voltage	Maximum Voltage	Minimum Frequency	Maximum Frequency
200 Vac	270 Vac	45 Hz	55 Hz

To meet the standard EN 61000-3-2 for installations in Australia, this product does not exceed the following harmonic power quality limits.

Harmonic	2 nd	3 rd	5 th	7 th	9 th	11 th	13 th	15 th ... 39 th
200 Vac	1.08	2.30	1.14	0.77	0.40	0.33	0.21	0.15 × (15/n)

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To meet the standard EN 61000-3-3 for installations in Australia, this product does not exceed the following grid monitoring limits.

Parameter	Under		Over	
	Voltage	Time	Voltage	Time
EN 50438 Limit	230 Vac – 15%	1.5 sec	230 Vac + 15%	0.2 sec
Limit	Frequency	Time	Frequency	Time
EN 50438 Limit	47 Hz	0.5 sec	51 Hz	0.5 sec

I hereby certify that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable requirements.



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