

# EmiratesGreen

الامارات الخضراء لتجارته المعدات الكهربائية والميكانيكية  
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# Declaration of Conformity for Radian 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 intended for use in the United States and Canada. This document supersedes any previous declarations for these OutBack models.

## Scope

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

- GS8048A
- GS4048A



### IMPORTANT:

This Declaration of Conformity covers only the models listed above. This Declaration does not cover any other models.

## Listings

This product carries a listing report by ETL. It is listed to the following standards:

- UL 1741 — Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources (2nd Edition, 1/28/2010)
- CSA C22.2 — General Use Power Supplies, No. 107.1-01 Issue: 2001/09/01 Ed:3 (R2006)

## Certifications

This product has been certified by ETL to meet the following standards:

- UL 1778 — Uninterruptible Power Systems, Annex FF (normative): Backfeed Protection Test
- IEC 62109-1:2010 — Safety of Power Converters for use in Photovoltaic Systems

## Directives

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

## Compliance

- FCC Part 15.109(G): 2012 Class B
- IEEE 1547 — Standard for Interconnecting Distributed Resources with Electric Power Systems (July 2003)
- IEEE 1547.1 — Standard for Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems (July 2005)

Inverters intended for grid-interactive use in the United States and Canada must comply with the established standards of UL 1741 and IEEE 1547 and 1547.1. These standards provide regulation for acceptable output voltage ranges, output frequency, total harmonic distortion (THD), and anti-islanding performance when the inverter is exporting power to a utility source. Radian models are tested using the procedures listed in IEEE 1547.1 to the standards listed in both UL 1741 and IEEE 1547. The following specifications have been validated through compliance testing and refer to exporting power to a simulated utility source of less than 1% voltage total harmonic distortion (THD).

- The output of the inverter exceeds the minimum power factor of 0.85 with a typical power factor of 0.96 or better.
- Individual harmonics do not exceed the limits specified in Table 3 of IEEE 1547 Section 4.3.3. The THD of the root mean square (RMS) current is less than 5%.
- The inverter ceases to export power to the simulated utility source under islanding conditions specified in IEEE 1547 Section 4.4.1.



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- The inverter also ceases to export power to the simulated utility source after the output voltage or frequency of the simulated utility source are adjusted to each of the conditions specified in IEEE 1547 Section 4.2.3 Table 1 and Section 4.2.4 Table 2 within the times specified in those tables. All inverters are tested to comply with the table below.

## Interconnection Response Times to Abnormal Voltages or Frequencies

Voltage Range (AC Volts)	Frequency (Hz)	Seconds Allowed	Cycles Allowed
$V < 60.0$	60.0	0.16	9.6
$60.0 \leq V < 105.6$	60.0	2.0	120.0
$105.6 \leq V \leq 132.0$	60.0	no cessation	no cessation
$132.0 < V < 144.0$	60.0	1.0	60.0
$V \geq 144.0$	60.0	0.16	9.6
120.0	< 59.3	0.16	9.6
120.0	> 60.5	0.16	9.6

## FCC Information to the User

This equipment has been tested and found to comply with the limits for a Class B digital device when powered by a DC source, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**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.**



### Harvey Wilkinson, General Manager

OutBack Power Technologies

Date: November 21, 2013

## Contact Information

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