



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.

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

This document supersedes any previous declarations for these OutBack models.

Scope

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

- GS8048



IMPORTANT:

This Declaration of Conformity covers only the Radian Series GS8048. This Declaration does not cover any other models.

Specification Compliance

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, acceptable output frequency, total harmonic distortion (THD) and anti-islanding performance when the inverter is exporting power to a utility source.

The OutBack grid-interactive 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 GS8048 inverter exceeds the minimum power factor of 0.85 with a typical power factor of 0.96 or better.

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- The 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 GS8048 inverter ceases to export power to the simulated utility source under islanding conditions specified in IEEE 1547 Section 4.4.1.
- The GS8048 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 GS8048 inverters are tested to comply with the table below.

Table 1 GS8048 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

For a full list of product specifications, please see the Radian Series Operator's Manual.

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