

Using GFCI Receptacles on Duracell Portable Inverters and Inverter/Chargers

Application Note
976-0167-10-01 Rev A

Introduction

In certain installations, electrical code regulations will require that GFCI (ground fault circuit interrupter) protection be provided to reduce the risk of electrical shock to the user. In particular, this will include situations where water may be present, such as in a bathroom. This application note indicates which GFCI receptacles have been tested on the output of portable Duracell 120 Vac Inverter and Inverter/Charger products. Since the models of GFCIs will change with time, this document will be updated as required to indicate current models and progress in an ongoing testing program.

GFCIs on True Sine Wave (TSW) Products

Like all other devices designed to work with utility power, GFCIs are designed primarily for use on TSW sources. In general, all GFCIs will work on all TSW products. There can be exceptions if the source generates a large amount of electromagnetic noise, but any TSW source which complies with FCC Class B or European EMI requirements should be compatible with any GFCI receptacle.

GFCIs on Modified Sine Wave (MSW) Products

The acceptability of using GFCIs with MSW sources is not possible to generalize as GFCI manufacturer generally do not test their products on the modified sine waveform. Also, GFCI designs can vary from one manufacturer to another and over time. On MSW, a given GFCI may trip at a current that is too high (unsafe condition) or too low (nuisance trips), or may have difficulty resetting under some conditions. Further, there are different designs for MSW inverters so that a GFCI which works correctly on one inverter design may or may not work correctly on a different inverter design. The following table indicates the combinations of GFCIs and products that we have tested and the results of those tests (pass/fail only).

GFCI Receptacle		Test Results
Make	Model ^a	
Hubbell / Bryant	GF52 ^b GF53 ^b GF82 ^b GF83 ^b GF5252 ^b GF5352 ^b GF8200 ^b GF8300 ^b	
	GF52*A ^c GF53*A ^c GF82*A ^c GF83*A ^c GFR5252*A ^c GFR5352*A ^c GF8200*A ^c GF8300*A ^c	Pass
Leviton	8598 8599 8898 8899	Pass
	6598 ^b 6599 ^b	Pass
Cooper / Eagle	GF15 ^b GF20 ^b	
	XGF15 XGF20	Pass
Pass & Seymour	1591 ^b	
	1594 2094	Pass

a. The model number is the base or series number; there may be other characters to denote color or packaging options.

b. This is an old model and is generally no longer sold as it does not offer the same level of protection as the newer models.

c. The asterisk * represents one or two letters to indicate the front color of the receptacle. The A indicates that this is the newer model which meets the latest safety standard.

Trademarks DURACELL® is a registered trademark of The Gillette Company, used under license. All rights reserved. XANTREX is a registered trademark of Xantrex International. Other trademarks, registered trademarks, and product names are the property of their respective owners and are used herein for identification purposes only.

Notice of Copyright Using GFCI Receptacles on Duracell Portable Inverters and Inverter/Chargers © August 2007 Duracell. All rights reserved.

Exclusion for Documentation Unless specifically agreed to in writing, Xantrex Technology Inc. ("Xantrex")

- (a) makes no warranty as to the accuracy, sufficiency or suitability of any technical or other information provided in technical notes.
- (b) assumes no responsibility or liability for losses, damages, costs or expenses, whether special, direct, indirect, consequential or incidental, which might arise out of the use of such information. The use of any such information will be entirely at the user's risk; and
- (c) reminds you that if this manual is in any language other than English, although steps have been taken to maintain the accuracy of the translation, the accuracy cannot be guaranteed. Approved Xantrex content is contained with the English language version which is posted at www.xantrex.com.

Date and Revision August 2007 Rev A **Part Number** 976-0167-10-01

Contact Information Telephone: 1 408 987 6359 Web: www.xantrex.com/support