

STANDARD INFORMATION

Standard: UL 458

Standard ID: Power Converters/Inverters and Power Converter/Inverter Systems for Land Vehicles and Marine Crafts [UL 458:2015 Ed.6+R:11Jan2021]

Previous Standard ID: Power Converters/Inverters and Power Converter/Inverter Systems for Land Vehicles and Marine Crafts [UL 458:2015 Ed.6]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **March 11, 2023**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard.

Overview of Changes:

- Revision to address charging lithium batteries
- Revision to production line test conditions

Specific details of new/revise requirements are found in table below.

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
<p>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</p>		

		<i>New section added;</i>
14A		Batteries
14A.1		Lead acid batteries provided as part of the system shall comply with the Standard for Standby Batteries, UL 1989.
14A.2		Lithium based batteries that are provided as part of the system shall comply with the Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications, UL 1973.
14A.3		If the battery is not provided as part of the system, the inverter/converter charging function shall be designed and evaluated such that is capable of safely charging a battery that complies with 14A.1 or 14A.2.

54	Info	Dielectric Voltage-Withstand Test
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Production-line test conditions

	Unit rating, Vac	Condition A		Condition B	
		Potential, V	Time, s	Time, s	Potential, V
Table 54.1	230 V or less	<u>1000</u>	<u>60</u>	1200	<u>1</u>
	Less than 100	<u>1000</u>	<u>60</u>	<u>1200</u>	<u>1</u>
	<u>100 – 130</u>	<u>1250</u>	<u>60</u>	<u>1500</u>	<u>1</u>
	<u>131 – 250</u>	<u>1500</u>	<u>60</u>	<u>1800</u>	<u>1</u>
	<u>251 – 350</u>	<u>2200</u>	<u>60</u>	<u>2700</u>	<u>1</u>

58	Info	Content
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New clause added;

58.26		<p>For a product with a charging function intended for charging lithium batteries where the product and the storage battery combination is not identified, the product shall be marked with the following or equivalent statement: “CAUTION – To Reduce the Risk of Fire, Use only battery packs that include the battery management system and all necessary protection for the battery pack integral to the pack.”</p>
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CLAUSE	VERDICT	COMMENT
59	Info	Instruction Manual
		<i>New clause added;</i>
59.5		For converter/inverters that are intended to charge lithium based batteries, the instruction manual shall state the following or the equivalent: "The converter/inverter is intended to recharge batteries. The battery that is connected to this product is only suitable if it complies with the given battery standard for that battery type and is provided with a battery management system that will monitor and control the electrical and thermal health of the battery during charging. When installing this converter/inverter, the battery is to be verified as in compliance with the applicable battery standard."