

UNDERWRITERS LABORATORIES INC. CERTIFICATION REQUIREMENT DECISION

This Certification Requirement Decision is prepared by UL LLC. It is normative for the applicable UL Product Certification Program(s); however, it is currently not part of the UL Standard(s) referenced below.

Product Category (CCN): BBHZ\2\3\
Standard Number: UL 1564
Standard Title: Standard for Industrial Battery Chargers
Edition Date: May 14, 2015
Edition Number: 4
Section / Paragraph Reference: New Supplement SB
Subject: Additional Requirements for Lithium Ion Batteries used with Industrial Battery Chargers.

DECISION:

The requirements below include new definitions, performance test considerations, and procedures for the evaluation of Lithium Ion batteries with Industrial battery chargers.

SUPPLEMENT SB – INDUSTRIAL BATTERY CHARGERS INTENDED FOR CHARGING LITHIUM ION (Li-ion) CHEMISTRIES

GENERAL

SB1 Scope

SB1.1 These requirements supplement and in some cases modify the requirements in Sections 1 – 49 and Supplement SA. This equipment is intended for the charging of batteries that comply with

UL 2271 (BBCA) Batteries for Use in Light Electric Vehicle (LEV) Applications or

UL 2580 (BBAS) Batteries for Use in Electric Vehicles.

PERFORMANCE

SB2 Power Input Test

SB2.1 A product having an output rating of more than 20 amperes is to be tested with its intended battery.

SB3 Temperature Test

SB3.1 During the temperature test of a product using a battery load, the battery shall be discharged as indicated in 29.3 then charged until temperatures on the product reach a maximum and begin to decrease. The temperature test is then to be continued using a second battery, also discharged as indicated in 29.3, until maximum temperatures are attained. A product provided with a timer and a marked charging time based on the ampere-hour capacity of the battery is to be tested for the marked time period.

Exception: A second battery is not used for products which provide a constant charging current or have a marked charging time such that only one battery can be charged during an 8-hour period.

SB4 Intermediate Abnormal Test

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM  **Documents**
Document Sharing Hub

SB4.1 A product tested using a battery as a load as described in SB3.1 shall be subjected to an intermediate abnormal test described in 31.2 immediately following the temperature test. The product shall not emit flame or molten metal or result in a risk of fire or electric shock during the test. The test is to be followed by a dielectric voltage-withstand test, as required by 32.1.1(a), applied between the primary and secondary windings of the transformer.

Exception: A product that is current limited during normal charging is not required to be subjected to a continuous load test.

SB5 Reverse polarity

SB5.1 The external output leads are to be connected in reverse polarity to a fully-charged battery. The product is then to be connected to its maximum test voltage – see Table 27.1 – and operated until the ultimate condition is observed, or 4 hours if cycling of an automatically reset protector occurs. Fuses and other protective devices provided as part of the product are to remain in the circuit.

MARKINGS

SB6 General

SB6.1 A product shall be marked with charging instructions such as, number of cells, and ampere-hour rating.

SB6.2 A product or the User manual shall provide sufficient information concerning any condition necessary to ensure that, when used as prescribed by the manufacturer, the equipment is unlikely to present a hazard within the meaning of this standard.

RATIONALE FOR DECISION:

The current requirements for UL 1564 are based on lead-acid battery technology. The increasing demand for lithium ion batteries in Industrial Applications requires additional considerations. This CRD introduces additional definitions, clarifications, and testing requirements for industrial battery chargers intended to charge lithium ion batteries.

The requirements of UL 1564 predate the battery chemistries available at this time. This CRD is intended to add additional testing and certification requirements for industrial battery chargers intended to charge Lithium Ion batteries.

Copyright © 2017 UL LLC

UL LLC, in performing its functions in accordance with its objectives, does not guarantee or warrant the correctness of Certification Requirement Decisions it may issue or that they will be recognized or adopted by anyone. Certification Requirement Decisions are the opinion of UL LLC. in practically applying the requirements of the standard. They do not represent formal interpretations of the standard under American National Standards Institute (ANSI) processes. UL LLC shall not be responsible to anyone for the use of or reliance upon Certification Requirement Decisions by anyone. UL LLC shall not incur any obligation or liability for damages, including consequential damages, arising out of or in connection with the use or reliance upon Certification Requirement Decisions. The electronic version of the Certification Requirement Decision is the current version and previously printed copies may be outdated.

**UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM**



Documents
Document Sharing Hub