



UL 1310

STANDARD FOR SAFETY

Class 2 Power Units

UL Standard for Safety for Class 2 Power Units, UL 1310

Seventh Edition, Dated March 9, 2018

Summary of Topics

This revision of ANSI/UL 1310 dated August 16, 2019 includes the Removal of Background Marking Requirement.

Text that has been changed in any manner or impacted by UL's electronic publishing system is marked with a vertical line in the margin.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated May 10, 2019.

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Standard for Class 2 Power Units

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March 9, 2018

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The most recent designation of ANSI/UL 1310 as an American National Standard (ANSI) occurred on July 25, 2019. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <https://csds.ul.com>.

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INTRODUCTION

1 Scope

1.1 These requirements cover indoor and outdoor use Class 2 power supplies and battery chargers. These units utilize an isolating transformer and may incorporate components to provide an alternating- or direct-current output. Each output provides Class 2 power levels in accordance with the National Electrical Code, NFPA 70. Maximum output voltage does not exceed 42.4 V peak for alternating current, 60 V for continuous direct current. These products are intended primarily to provide power to low voltage, electrically operated devices. These requirements apply to:

- a) Portable and semipermanent mounted direct plug-in units provided with 15 A blade configurations for use on nominal 120 or 240 V alternating current branch circuits with a maximum potential of 150 V to ground;
- b) Cord- and plug-connected units provided with a 15 or 20 A attachment plug configuration for use on nominal 120 or 240 V alternating current branch circuits with a maximum potential of 150 V to ground; and
- c) Units permanently connected to the input supply for use on nominal 600 V or less alternating or direct current branch circuit.

Direct plug-in and cord-connected units may also be provided with an integral cigarette lighter connector assembly, or a direct current input jack for being powered from a vehicle battery adapter or from a data port associated with information technology equipment. These units utilize an isolating transformer and may incorporate components to provide an alternating- or direct-current output. Each output provides Class 2 power levels in accordance with the National Electrical Code, NFPA 70. Maximum output voltage does not exceed 42.4 V peak for alternating current, 60 V for continuous direct current. These products are intended primarily to provide power to low voltage, electrically operated devices.

1.2 These requirements cover direct plug-in and cord-connected products whose input power does not exceed 660 W under any possible condition of output loading.

1.3 These requirements do not cover the effect that a power unit may have on the equipment or system to which it is connected.

1.4 A product marked for a specific end-use involving additional considerations may be subject to additional requirements found in the applicable end-product standard. See [51.4](#). Examples include considerations related to:

- a) Mechanical risks such as those presented by tools;
- b) Build up of static charges such as those of radio equipment with external antennae connections;
- c) Special shock limits such as those for medical equipment; and
- d) Fire risks such as those posed by decorative lighting products.

1.5 These requirements do not cover products intended to charge batteries for starter motors used to start engines. Products of this type are covered by the Standard for Battery Chargers for Charging Engine-Starter Batteries, UL 1236.

1.6 These requirements cover Class 2 products, as defined in this Standard, intended for use with toys. Products of this type shall also comply with the Standard for Toy Transformers, UL 697.