

INTERNATIONAL STANDARD



Household and similar electrical appliances – Safety – Part 1: General requirements

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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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Household and similar electrical appliances – Safety – Part 1: General requirements

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 1: General requirements

FOREWORD

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International Standard IEC 60335-1 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This sixth edition cancels and replaces the fifth edition published in 2010, Amendment 1:2013 and Amendment 2:2016. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition (minor changes are not listed):

- a) updated the text of this standard to align with the most recent editions of the dated normative references;
- b) deleted some notes and converted many other notes, in whole or in part, to normative text;
- c) changed some Annex designations from normative to informative;
- d) introduced information on Guidance documents concerning the application of the safety requirements covered by IEC 60335 series and on how to retrieve them;

- e) clarified requirements for PELV circuits;
- f) clarification of requirements on measurement of power input and rated current when they vary throughout the operating cycle;
- g) replaced normative Annex S with the informative Annex S "Guidance for the application of this standard on measurement of power input and current based on the requirements of 10.1 and 10.2 concerning the representative period";
- h) introduced and clarified mechanical strength requirements for appliances with integral pins for insertion into socket-outlets;
- i) revised requirements for battery-operated appliances;
- j) introduced requirements for metal-ion batteries including a new Clause 12 Charging of metal-ion batteries;
- k) introduced the application of test probe 18;
- l) introduced requirements for appliances incorporating appliance outlets and socket-outlets accessible to the user;
- m) revised and clarified requirements for appliances incorporating a functional earth;
- n) introduced moisture resistance test requirements for appliances that incorporate an automatic cord reel and that have a second numeral IP rating;
- o) clarified the appliance test criteria for the moisture resistance for appliances and parts of appliances with integral pins for insertion into socket-outlets;
- p) introduced limits on the output voltage of an accessible safety extra-low voltage outlet or connector or Universal Serial Bus (USB) under abnormal operation conditions;
- q) introduced requirements to cover optical radiation hazards;
- r) introduced external communication software management items into normative Annex R;
- s) revised external communication requirements in Table R.1 and Table R.2;
- t) introduced in new normative Annex U cyber security requirements to avoid unauthorized access and the effects of transmission failures via remote communication through public networks.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
61/6012/FDIS	61/6089/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 60335 series, published under the general title *Household and similar electrical appliances – Safety*, can be found on the IEC website.

This part is to be used in conjunction with the appropriate part 2 of IEC 60335. The parts 2 contain clauses to supplement or modify the corresponding clauses in this part to provide the relevant requirements for each type of appliance.

This sixth edition of IEC 60335-1 is only to be used in conjunction with parts 2 that have been established on the basis of this edition.

The following print types are used:

- requirements: in roman type;
- test specifications: in *italic* type;
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

NOTE The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

The following differences exist in the countries indicated below.

- Introduction: The Part 1 standard (UL60335-1) is only used in combination with a part 2 (UL60335-2-x). National differences are specified in these standards (USA).
- 5.7: The ambient temperature is 25 °C ± 10 °C (Japan).
- 5.7: The ambient temperature is 27 °C ± 5 °C (India).
- 6.1: Class 0 appliances and class 0I appliances are not allowed (Australia, European Union, India, Israel, New Zealand, Norway, Singapore, Switzerland, United Kingdom).
- 7.12.2: The requirements for full disconnection do not apply (Japan).
- 7.12.8: The maximum inlet water pressure shall be at least 1,0 MPa (Denmark, Norway, Sweden and Finland).
- 13.2: The test circuit and some leakage current limits are different (India).
- 19.5: The test is also applicable to appliances intended to be permanently connected to fixed wiring (Norway).
- 22.2: The second paragraph of this subclause dealing with single-phase class I appliances with heating elements cannot be complied with because of the supply system (France).
- 22.2: The second paragraph of this subclause, that deals with single-phase, permanently connected class I appliances having heating elements, is not applicable due to the supply system (Norway).
- 22.2: Double-pole switches or protective devices are required (Norway).
- 25.3: A set of supply leads is not permitted (Norway, Denmark, Finland, Netherlands).
- 25.8: 0,5 mm² supply cords are not allowed for class I appliances (Australia and New Zealand).

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