



SLOVENSKI STANDARD
SIST EN 60335-1:2012/A1:2019

01-november-2019

**Gospodinjski in podobni električni aparati - Varnost - 1. del: Splošne zahteve -
Dopolnilo A1**

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

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 1:
Allgemeine Anforderungen

iTeh STANDARD PREVIEW

Appareils électrodomestiques et analogues - Sécurité - Partie 1: Exigences générales

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Ta slovenski standard je istoveten z: EN 60335-1:2012/A1:2019

SIST EN 60335-1:2012/A1:2019
<https://standards.itteh.ai/catalog/standards/sist/b7007c04-df7b-49f0-b7b7-c2302c2b5d93/sist-en-60335-1-2012-a1-2019>

ICS:

13.120	Varnost na domu	Domestic safety
97.030	Električni aparati za dom na splošno	Domestic electrical appliances in general

SIST EN 60335-1:2012/A1:2019 **en**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60335-1:2012/A1

August 2019

ICS 13.120; 97.030

English Version

**Household and similar electrical appliances - Safety - Part 1:
General requirements
(IEC 60335-1:2010/A1:2013 , modified + COR1:2014)**

Appareils électrodomestiques et analogues - Sécurité -
Partie 1: Exigences générales
(IEC 60335-1:2010/A1:2013 , modifiée + COR1:2014)

Sicherheit elektrischer Geräte für den Hausgebrauch und
ähnliche Zwecke - Teil 1: Allgemeine Anforderungen
(IEC 60335-1:2010/A1:2013 , modifiziert + COR1:2014)

This amendment A1 modifies the European Standard EN 60335-1:2012; it was approved by CENELEC on 2018-07-30. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

[SIST EN 60335-1:2012/A1:2019](https://standards.cenelec.eu/)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN 60335-1:2012/A1:2019 (E)

European foreword

This document (EN 60335-1:2012/A1:2019) consists of the text of IEC 60335-1:2010/A1:2013 + COR:2014, prepared by IEC/TC 61 "Safety of household and similar electrical appliances", together with the common modifications prepared by CLC/TC 61 "Safety of household and similar electrical appliances".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-02-09
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2021-07-30

This amendment supplements or modifies the corresponding clauses of EN 60335-1:2012 and its amendments A11:2014 and A13:2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annexes ZZ.

Endorsement notice

<https://standards.iteh.ai/catalog/standards/sist/b7007c04-df7b-49f0-b7b7-36022abd1e-c60335-1:2012/A1:2019>

The text of the International Standard IEC 60335-1:2010/A1:2013 + COR:2014 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

11 Heating

11.8 *Comment to be retained in the amendment:*

The deletion of the second sentence in the first paragraph was carried out in the existing common modifications.

11.8 In Table 3 delete footnotes za, zb, zc, zd.

24 Components

Comment to be retained in the amendment: The following text replaces common modification text in the existing standard by the IEC text including changes in A1. It also includes the paragraph from the EN 60335-1:2012 starting by “Plugs and socket-outlets and their connecting devices....”

Replace the existing text by the following:

24.1 Components shall comply with the safety requirements specified in the relevant EN standards as far as they reasonably apply.

Compliance with the EN standard for the relevant component does not necessarily ensure compliance with the requirements of this standard.

Motors are not required to comply with EN 60034-1. They are tested as part of the appliance according to this standard.

Relays shall be tested as part of the appliance according to this standard. They may be alternatively tested to EN 60730-1, in which case they shall also meet the additional requirements in EN 60335-1.

Unless otherwise specified, the requirements of Clause 29 of this standard apply between live parts of components and accessible parts of the appliance. Unless otherwise specified, components may comply with the requirements for clearances and creepage distances for functional insulation as specified in the relevant component standard.

Unless otherwise specified, the requirements of 30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections inside components.

Components that have not been previously tested and shown to comply with the EN standard for the relevant component are tested according to the requirements of 30.2 of this standard.

Components that have been previously tested and shown to comply with the resistance to fire requirements in the EN standard for the relevant component need not be retested provided that

- the severity specified in the component standard is not less than the severity specified in 30.2 of this standard, and
- unless the pre-selection alternatives in 30.2 are used, the test report for the component states the values of t_e and t_i as required by EN 60695-2-11.

If the above two conditions are not satisfied, the component is tested as part of the appliance.

NOTE 1 There are two levels of severity specified for appliances for which 30.2.3 is applicable.

Power electronic converter circuits are not required to comply with EN 62477-1. They are tested as part of the appliance according to this standard.

Unless components have been previously tested and found to comply with the relevant EN standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9. For components mentioned in 24.1.1 to 24.1.9, no additional tests specified in the relevant EN standard for the component are necessary other than those specified in 24.1.1 to 24.1.9.

EN 60335-1:2012/A1:2019 (E)

Components that have not been separately tested and found to comply with the relevant EN standard and components that are not marked or not used in accordance with their marking, are tested in accordance with the conditions occurring in the appliance, the number of samples being that required by the relevant standard.

NOTE 2 For automatic controls, marking includes documentation and declaration as specified in Clause 7 of EN 60730-1.

Lamp-holders and starter-holders that have not been previously tested and found to comply with the relevant EN standard are tested as a part of the appliance and shall additionally comply with the gauging and interchangeability requirements of the relevant EN standard under the conditions occurring in the appliance. Where the relevant EN standard specifies these gauging and interchangeability requirements at elevated temperatures, the temperatures measured during the tests of Clause 11 are used.

There are no additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of EN 60320-1 and EN 60309, unless they are specifically mentioned in the text of this standard.

Plugs and socket-outlets and other connecting devices of interconnection cords shall not be interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of EN 60320-1, if direct supply to these parts from the supply mains could give rise to a hazard.

When an EN standard does not exist for a component, there are no additional tests specified.

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[SIST EN 60335-1:2012/A1:2019](https://standards.iteh.ai/catalog/standards/sist/b7007c04-df7b-49f0-b7b7-c2302c2b5d93/sist-en-60335-1-2012-a1-2019)

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Annex ZC
(normative)

**Normative references to international publications
with their corresponding European publications**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Replace the reference to IEC 60252-1 with the following:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60252-1	2010	AC motor capacitors - Part 1: General - Performance, testing and rating - Safety requirements - Guidance for installation and operation	EN 60252-1	2011

Add the following references:

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<u>Publication</u>	<u>Year</u>	<u>Title (standards.iteh.ai)</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60034-1 (mod) -	-	Rotating electrical machines -- Part 1: Rating and performance	EN 60034-1	2010
IEC 60730-2-9 (mod)	2008	Automatic electrical controls for household and similar use - Part 2-9: Particular requirements for temperature sensing controls	EN 60730-2-9	2010
IEC 61558-2-16	-	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units	EN 61558-2-16	2009
			+ A1	2013
IEC 62477-1	-	Safety requirements for power electronic converter systems and equipment - Part 1: General	EN 62477-1	2012
			+ A11	2014
			+ A1	2017

Bibliography

The following note has to be added for the standard indicated:

IEC 60068-2 NOTE Harmonized as EN 60068-2

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[SIST EN 60335-1:2012/A1:2019](https://standards.iteh.ai/catalog/standards/sist/b7007c04-df7b-49f0-b7b7-c2302c2b5d93/sist-en-60335-1-2012-a1-2019)

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IEC 60335-1

Edition 5.0 2013-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

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

Appareils électrodomestiques et analogues – Sécurité –
Partie 1: Exigences générales

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FOREWORD

This amendment has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

The text of this amendment is based on the following documents:

FDIS	Report on voting
61/4639/FDIS	61/4675/RVD

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

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

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

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The contents of the corrigendum of January 2014 have been included in this copy.

[SIST EN 60335-1:2012/A1:2019](https://standards.iteh.ai/catalog/standards/sist/b7007c04-df7b-49f0-b7b7-2302-2b5d93/sist-en-60335-1-2012-a1-2019)

[https://standards.iteh.ai/catalog/standards/sist/b7007c04-df7b-49f0-b7b7-](https://standards.iteh.ai/catalog/standards/sist/b7007c04-df7b-49f0-b7b7-2302-2b5d93/sist-en-60335-1-2012-a1-2019)

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.

1 Scope

Add the following to Note 1:

Dual supply appliances, either mains-supplied or battery-operated, are regarded as **battery-operated appliances** when operated in the battery mode.

2 Normative references

Replace the reference to IEC 60252-1 by the following:

IEC 60252-1:2010, *AC motor capacitors – Part 1: General – Performance, testing and rating – Safety requirements – Guidance for installation and operation*

Add the following references:

IEC 60034-1, *Rotating electrical machines – Part 1: Rating and performance*

IEC 60730-2-9:2008¹, *Automatic electrical controls for household and similar use – Part 2-9: Particular requirements for temperature sensing controls*

IEC 61558-2-16, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units*

IEC 62477-1, *Safety requirements for power electronic converter systems and equipment – Part 1: General*

3 Terms and definitions

3.2.2 interconnection cord

Replace the existing definition and note by the following:

external flexible cord between two parts of an appliance provided as part of a complete appliance for purposes other than connection to the supply mains

NOTE In **battery-operated appliances**, if the battery is placed in a separate box, the flexible lead or flexible cord connecting the box with the appliance is considered to be an **interconnection cord**.

3.3.10 class II appliance

Delete Note 3.

Add the following new definitions:

3.3.16

battery-operated appliance

appliance deriving its energy from batteries enabling the appliance to perform its intended function without a mains connection

3.6.7

battery box

separate compartment for containing the batteries that is detachable from the appliance

5 General conditions for the tests

5.17 Replace the existing text by the following:

Appliances powered by rechargeable batteries that are recharged in the appliance are tested in accordance with Annex B.

¹ There exists a consolidated edition 3.1 (2011) that includes edition 3:2008 and its Amendment 1:2011.

Battery-operated appliances powered by batteries that are non-rechargeable or not recharged in the appliance are tested in accordance with Annex S.

7 Marking and instructions

7.1 Add the following new paragraph after Note 4:

Class II appliances and **class III appliances** incorporating a functional earth shall be marked with the symbol IEC 60417-5018 (2011-07).

7.3 In Note 3, replace the text of the example by the following.

EXAMPLE: 230 V \sim /400 V 3N \sim : The appliance is only suitable for the voltage values indicated, 230 V \sim being for single-phase, a.c. operation and 400 V 3N \sim for three-phase, a.c. with neutral operation (an appliance with terminals for both supplies).

7.4 Replace the requirement by the following:

If the appliance can be adjusted for different **rated voltages** or **rated frequencies**, the voltage or the frequency to which the appliance is adjusted shall be clearly discernible. If frequent changes in voltage setting or frequency setting are not required, this requirement is considered to be met if the **rated voltage** or **rated frequency** to which the appliance is to be adjusted can be determined from a wiring diagram fixed to the appliance.

7.6 Replace [symbol ISO 7000-0434 (2004-01)] by [symbol ISO 7000-0434A (2004-01)].

7.8 Add the following to the first paragraph of the requirement:

– functional earthing terminals shall be indicated by symbol IEC 60417-5018 (2011-07).

7.12 Delete “for use” in the first paragraph and in the Note.

Add the following after the existing last paragraph of the requirement:

For appliances intended for use at altitudes exceeding 2 000 m, the maximum altitude of use shall be stated.

The instructions for appliances incorporating a functional earth shall state the substance of the following:

This appliance incorporates an earth connection for functional purposes only.

7.12.1 Add the following text:

For appliances marked with different **rated voltages** or different **rated frequencies** (separated by a /), instructions shall be included to indicate to the user or installer what action must be taken to adjust the appliance for operation at the required **rated voltage** or **rated frequency**.

7.15 Add the following:

The symbol IEC 60417-5018 (2011-07) shall be placed next to the symbol IEC 60417-5172 (2003-02) or the symbol IEC 60417-5180 (2003-02) as appropriate.

8 Protection against access to live parts

8.1.1 Delete the Note.