



**SLOVENSKI STANDARD**  
**SIST EN IEC 60335-1:2024/A11:2024**

**01-marec-2024**

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**Gospodinjski in podobni električni aparati - Varnost - 1. del: Splošne zahteve -  
Dopolnilo A11**

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

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

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

**Ta slovenski standard je istoveten z: EN IEC 60335-1:2023/A11:2023**

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[SIST EN IEC 60335-1:2024/A11:2024](https://standards.iteh.ai/catalog/standards/sist/e8a047b3-7190-40c7-8957-18cab8ed76b2/sist-en-iec-60335-1-2024-a11-2024)

**ICS:**

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

**SIST EN IEC 60335-1:2024/A11:2024**      **en**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN IEC 60335-1:2023/A11**

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ICS 13.120; 97.030

English Version

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

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

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

This amendment A11 modifies the European Standard EN IEC 60335-1:2023; it was approved by CENELEC on 2023-11-22. 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.

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[SIST EN IEC 60335-1:2024/A11:2024](https://standards.iteh.ai/catalog/standards/sist/e8a047b3-7190-40c7-8957-18cab8ed76b2/sist-en-iec-60335-1-2024-a11-2023)

<https://standards.iteh.ai/catalog/standards/sist/e8a047b3-7190-40c7-8957-18cab8ed76b2/sist-en-iec-60335-1-2024-a11-2023>



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 IEC 60335-1:2023/A11:2023 (E)**

<b>Contents</b>	<b>Page</b>
European foreword .....	3
1 Modification to Introduction .....	4
2 Modification to Clause 2, Normative references .....	4
3 Modification to Clause 3, Terms and definitions .....	4
4 Modification to Clause 5, General conditions for the tests .....	4
5 Modification to Clause 6, Classification .....	5
6 Modification to Clause 8, Protection against access to live parts .....	5
7 Modification to Clause 11, Heating .....	5
8 Modification to Clause 13, Leakage current and electric strength at operating temperature .....	5
9 Modification to Clause 16, Leakage current and electric strength .....	6
10 Modification to Clause 19, Abnormal operation .....	6
11 Modification to Clause 20, Stability and mechanical hazards .....	6
12 Modification to Clause 22, Construction .....	6
13 Modification to Clause 24, Components .....	7
14 Modification to Clause 25, Supply connection and external flexible cords .....	7
15 Modification to Clause 27, Provision for earthing .....	8
16 Modification to Clause 29, Clearances, creepage distances and solid insulation .....	8
17 Modification to Clause 32, Radiation, toxicity and similar hazards .....	8
18 Modification to annexes .....	8
19 Modification to the figures .....	53
20 Modification to the Bibliography .....	54
21 Modification to Index of defined terms .....	54

## European foreword

This document (EN IEC 60335-1:2023/A11:2023) has been 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) 2024-11-22
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) —\*

*\*Justification for no dow:*

*This European Standard supersedes EN 60335-1:2012 and its amendments. However, EN 60335-1:2012 and its amendments remains valid until all the Parts 2 which are used in conjunction with it have been withdrawn. No date of withdrawal (DOW) has been given pending the updating of all Parts 2 to align with this EN IEC 60335-1:2023/A11:2023. The applicable date of withdrawal is given in each Part 2. It is intended the DOW for this Part 1 will be fixed once all the Parts 2 have been updated.*

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

This document is read in conjunction with EN IEC 60335-1:2023.

The numbering system for European clauses, subclauses, notes, tables, figures and annexes that are additional to those in the IEC standard are prefixed with the letter “Z”.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN and CENELEC websites.

[SIST EN IEC 60335-1:2024/A11:2024](https://standards.iteh.ai/catalog/standards/sist/e8a047b3-7190-40c7-8957-18cab8ed76b2/sist-en-iec-60335-1-2024-a11-2023)

<https://standards.iteh.ai/catalog/standards/sist/e8a047b3-7190-40c7-8957-18cab8ed76b2/sist-en-iec-60335-1-2024-a11-2023>

**EN IEC 60335-1:2023/A11:2023 (E)****1 Modification to Introduction***Addition:*

With this European Amendment A11 the EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019+A15:2021+A16:2023 is superseded.

This European Amendment A11 supplements or modifies the corresponding clauses of the standard EN IEC 60335-1:2023 (part 1).

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

This part is only to be used in conjunction with part(s) 2 that have been established on the basis of this edition. The part(s) 2 indicates which edition of the Part 1 is applicable.

**2 Modification to Clause 2, Normative references***Addition:*

EN IEC 62311:2020, *Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz)*

EN 62479:2010, *Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)*

EN 50160:2022, *Voltage characteristics of electricity supplied by public electricity networks*

**3 Modification to Clause 3, Terms and definitions***Addition:*

When the term “appliance” is used, it is intended to cover appliances and/or machines for household use and appliances and/or machines for commercial use.

**3.3.7** Replace the entire subclause with “void”.

**3.3.8** Replace the entire subclause with “void”.

**3.Z1****radio function**

function that provides either a radio communication interface, or a radio determination interface, or both, including any associated antennas and software required to provide its specified functionality

Note Z1 to entry: Examples of **radio functions** include fully integrated radios and radio modules.

Note Z2 to entry: The terms “radio waves”, “radio communication” and “radio determination” are defined in EU Directive 2014/53/EU.

**3.Z2****radio appliance**

appliance in which the **radio function** is incorporated in a fixed and permanent way

Note Z1 to entry: It applies to the combination of the **radio function** and the non-radio appliance as a whole only if the **radio function** is:

- incorporated into the non-radio appliance; and
- permanently affixed to the non-radio appliance.

**4 Modification to Clause 5, General conditions for the tests****5.8 Test conditions relating to frequency and voltage**

*Add the following subclause:*

**5.8.Z1** Appliances that are intended to be connected to the supply mains shall have a **rated voltage** or **rated voltage range** that covers the voltage as specified in EN 50160:2022, 4.1.

*Compliance is checked by inspection.*

#### 5.14 Modification

Delete “**class 0I appliances** or” (two times).

Add a new subclause:

**5.Z1** In **radio appliances**, the **radio functions** shall be operated under their most unfavourable conditions of normal use during the tests of Clause 11, 19 and 32. Special settings may be needed to operate the equipment in the most unfavourable conditions.

## 5 Modification to Clause 6, Classification

### 6.1 Modification

Delete “**class 0,**” and “**class 0I,**”

## 6 Modification to Clause 8, Protection against access to live parts

### 8.1.2 Modification

Delete “**class 0 appliances,**”.

### 8.3 Modification

Delete “, **class 0I appliances**”.

Delete the dashed item starting with “in **class 0 appliances,**...”.

## 7 Modification to Clause 11, Heating

### 11.2 Addition

Appliances having a **radio function** shall be operated in the most unfavourable configuration of the appliance, which can happen in normal use.

All transmitters and receivers shall be operated in continuous mode.

All transmitters and receivers shall be activated in most unfavourable configuration.

If the antenna is a **detachable part**, tests shall be carried out in both conditions:

- with the antenna connected to the **radio function**; and
- with the antenna disconnected.

NOTE Z1 A **radio function** may vary transmission power when the antenna is not connected.

## 8 Modification to Clause 13, Leakage current and electric strength at operating temperature

### 13.2 Modification

In the first paragraph, delete “**class 0I appliances** and ”.

In the second paragraph, first dashed item starting with “**accessible metal parts** intended...”, delete “and **class 0I appliances**”.

In the second paragraph, second dashed item starting with “metal foil having an area...”, delete “**class 0 appliances,**”.

**EN IEC 60335-1:2023/A11:2023 (E)**

*In the eighth paragraph starting with “After the appliance has been operated...”, in the second dashed item, delete “class 0 and”.*

*In the eighth paragraph starting with “After the appliance has been operated...”, delete the third dashed item starting with “for class 0I appliances...”.*

**9 Modification to Clause 16, Leakage current and electric strength****16.2 Modification**

*In the first paragraph, first dashed item starting with “accessible metal parts intended...”, delete “and class 0I appliances”.*

*In the first paragraph, second dashed item starting with “metal foil having an area...”, delete “class 0 appliances,”.*

*In the fourth paragraph starting with “The leakage current shall not exceed...”, in the second dashed item, delete “class 0, class 0I and”.*

**16.3 Modification**

*In the sentence starting with “The test voltage is 1 250 V...”, delete the words “class 0 appliances and”.*

**10 Modification to Clause 19, Abnormal operation****19.1 Addition**

*The most unfavourable conditions of normal use for **radio appliances** is to be found where an operation frequency or a harmonic of an operation frequency are closest to a transmitter frequency.*

*The radio-transmitter shall operate in the most unfavourable conditions considering the interaction between the **radio function** and the **protective electronic circuits**, if any, and shall not impair the safety of the appliance.*

NOTE Z1 Operation frequency can be the clock frequency of the microcontroller or other characteristic frequencies of the **protective electronic circuit** like analog/digital converter conversion rates or refresh rates.

**19.5 Modification**

*In the first paragraph, delete “class 0I appliances and”.*

*Delete the third dashed item starting with “used in a system with...”.*

**11 Modification to Clause 20, Stability and mechanical hazards****20.2 Modification**

*In the first sentence of the first paragraph, replace “Moving parts” with “Hazardous moving parts”.*

*In the last paragraph replace “dangerous moving parts” with “hazardous moving parts”.*

**12 Modification to Clause 22, Construction****22.2 Modification**

*Delete “class 0I appliances and”.*

**22.44 Replacement**

*Replace the entire clause by the following:*

An appliance is child appealing if one of the following criteria is present:

- appliance decorated using faces, cartoon like characters, or similar images;
- appliance using shapes representing animals, characters, persons or scale models.



An appliance is child appealing if more than one of the following criteria are present:

- using non-functional light (functional light is e.g. illumination of an object or area, signal indicating status of an appliance);
- using non-functional sound (e.g. music);
- using non-functional movement.

If the appliance is child-appealing and:

- has a mass less than 4 kg; and
- is mounted or normally intended for use at a height less than 850 mm,

the following conditions shall be met:

- No surface (both **functional surfaces** and non-functional) that are accessible by means of test probe 19 of EN 61032:1998 located at a height less than 850 mm shall exceed the temperature rises stated below:

*Temperature rise*

- |  |     |
|--|-----|
| — of bare metal                                  | 38K |
| — of coated metal                                | 42K |
| — of glass and ceramic                           | 51K |
| — of plastic having a thickness exceeding 0,4 mm | 58K |

- Hazardous moving parts shall not be accessible by means of test probe 19 of EN 61032:1998 under the conditions specified for test probe 18 in 20.2.
- **Live parts** shall not be accessible by means of test probe 19 of EN 61032:1998 under the conditions specified for test probe 18 in 8.1.1.
- Liquid in the appliance shall not exceed 38 °C in normal use when it is accessible by means of test probe 19 or can get out of the appliance when positioned in different positions. Vessels, in which two independent and sequential actions are needed to access the liquid, are considered meeting the requirement.
- The requirement of 22.12 is applicable for all **accessible parts** of the appliance.

The existence of a toy shaped like the appliance is not sufficient to apply this clause.

NOTE Z1 An example of a toy shaped like an appliance is a toy refrigerator.

*Compliance is checked by inspection and appropriate tests.*

## 13 Modification to Clause 24, Components

### 24.1 Addition

*Add the following notes at the end of the subclause:*

NOTE Z1 For details of plugs used in CENELEC countries listed in IEC/TR 60083 see Annex ZG.

NOTE Z2 When in the clause “IEC standards” is written, this means “EN standards”, if existing.

## 14 Modification to Clause 25, Supply connection and external flexible cords

### 25.1 Addition

*Add the following before the compliance criteria:*

Plugs and pins for insertion into socket outlets shall be in accordance with Annex ZG.

### 25.7 Addition

**EN IEC 60335-1:2023/A11:2023 (E)**

Add a new paragraph before the compliance criteria:

**Supply cords** shall be in accordance with the EN 50525 series.

NOTE Z1 The correlation between IEC code designations and the CENELEC harmonized code designations are given in informative Annex ZD.

**25.13 Modification**

Delete “**class 0 appliances** or a”.

**25.16 Modification**

Delete “**class 0 appliances, class 0I appliances** and”.

**25.20 Modification**

Delete “**class 0 appliances, class 0I appliances** and”.

**25.25 Modification**

In the second sentence starting with “Dimensions of the pins and engagement face...”, replace “of the relevant plug listed in IEC/TR 60083.” by “given in the national standards as referenced in Annex ZG.”.

**15 Modification to Clause 27, Provision for earthing****27.1 Modification**

In the first paragraph, delete “**class 0I appliances** and”.

In the third paragraph, delete “**class 0 appliances,**”.

**16 Modification to Clause 29, Clearances, creepage distances and solid insulation****29.1 Modification**

In the fourth paragraph, delete the dashed item starting with “for **basic insulation** of **class 0 appliances**...”.

**17 Modification to Clause 32, Radiation, toxicity and similar hazards****32.1 Modification**

In the second paragraph starting with “Unless otherwise specified in the relevant part 2...”, add the following:

However, appliances are tested in accordance with the following standards to ensure compliance regarding electromagnetic fields:

- EN 62233:2008 for products without **radio function**;
- EN IEC 62311:2020 for products with **radio function**.

NOTE Z1 Guidelines are given in informative Annex ZH.

**18 Modification to annexes**

## Annex A (informative)

### Routine tests

#### A.2 Earth continuity test

*In the first dashed item delete “class 0I appliances, and for”.*

#### A.3 Electric strength test

*In the Table A.1, delete “class 0 appliances, class 0I appliances.”.*

*In the Table A.1, in footnote a, replace the sentence “This test is not applicable...” by “Void”.*

*In the Table A.1, delete in footnote b “class 0I appliances and”.*

## Annex L (informative)

### Guidance for the measurement of clearances and creepage distances

#### L.1 Modification

*In the fourth paragraph, delete “or if the appliance is class 0 or class 01,”.*

*In the Figure L.1, delete the box “class 0, 01 appliances”.*

## Annex P (informative)

### Guidance for the application of this standard to appliances used in tropical climates

Delete the first paragraph.

*In the second paragraph, replace “They may also be applied” with “The following modifications to this document may also be applicable”.*

**EN IEC 60335-1:2023/A11:2023 (E)**

Add the following new annexes:

## Annex ZA (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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
		Voltage characteristics of electricity supplied by public electricity networks	EN 50160	2022
IEC 60034-1	-	Rotating electrical machines – Part 1: Rating and performance	EN 60034-1 +Cor	2010 2010
IEC 60061-1	-	Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 1: Lamp caps	EN 60061-1 + A1 + A2 + A3 + A4 + A5 + A6 + A7 + A21 + A22 + A23 + A24 + A25 + A26 + A27 + A28 + A29 + A30 + A31 + A32 + A33 + A34 + A35 + A36 + A37 + A38 + A39	1993 1995 1995 1995 1996 1996 1996 1996 1997 1998 1999 1999 2000 2001 2001 2014 2002 2002 2002 2002 2003 2003 2003 2004 2005 2005 2006 2007 2007

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
			+ A40 + A41 + A42 + A43 + A44 + A45 + A46 + A47 + A48 + A49 + A50 + A51 + A52 + A53 + A54 + A55 + A56 + AC + A57 + A58 + AC + A60 + A61 + A59 + A62 + A11 + A63	2008 2009 2009 2010 2010 2011 2011 2012 2012 2013 2014 2015 2016 2015 2016 2017 2017 2017 2018 2018 2019 2020 2021 2022 2022 2022 2022
IEC 60065	2014	Audio, video and similar electronic apparatus – Safety requirements	-	-
IEC 60068-2-2	-	Environmental testing - Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	2007
IEC 60068-2-31	-	Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens	EN 60068-2-31	2008
IEC 60068-2-75	-	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	2014
IEC 60068-2-78	-	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady-state	EN 60068-2-78	2013
IEC/TR 60083	2015	Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC	-	-
IEC 60085	2007	Electrical insulation - Thermal evaluation and designation	EN 60085	2008
IEC 60112 + A1	2003 2009	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN IEC 60112 + A1	2003 2009

## EN IEC 60335-1:2023/A11:2023 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60127	series	Miniature fuses	EN 60127-1 + A1 + A2	2006 2011 2015
			EN 60127-2 + A1	2014 2022
			EN 60127-3 + A1	2015 2020
			EN 60127-4 + A1 + A2	2005 2009 2013
			EN 60127-5	2017
			EN 60127-6	2014
			EN 60127-7	2016
			EN IEC 60127-8	2018
			EN 60127-10	2002
IEC 60227	series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	- 1	-
-	-	Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U) - Part 1: General requirements	EN 50525-1 + A1	2011 2022
-	-	Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U) - Part 2-12: Cables for general applications - Cables with thermoplastic PVC insulation for extensible leads	EN 50525-2-12	2011
-	-	Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U) - Part 2-21: Cables for general applications - Flexible cables with crosslinked elastomeric insulation	EN 50525-2-21 + AC	2011 2013
-	-	Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U) - Part 2-22: Cables for general applications - High flexibility braided cables with crosslinked elastomeric insulation	EN 50525-2-22	2011

<sup>1</sup> EN 50525 series applies instead of IEC 60227 series (see details above).