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MARKIISIDE, ALLATÕMMATAVATE AKNAKARDINATE JA  
MUUDE TAOLISTE SEADMETE AJAMITELE**

**Household and similar electrical appliances - Safety -  
Part 2-97: Particular requirements for drives for  
shutters, awnings, blinds and similar equipment  
(IEC 60335-2-97:2016 + IEC 60335-2-97:2016/A1:2019)**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

|  |  |
|--|--|
| See Eesti standard EVS-EN IEC 60335-2-97:2023+A1+A11:2023 sisaldab Euroopa standardi EN IEC 60335-2-97:2023 ja selle muudatuste A1:2023 ja A11:2023 ingliskeelset teksti.  | This Estonian standard EVS-EN IEC 60335-2-97:2023+A1+A11:2023 consists of the English text of the European standard EN IEC 60335-2-97:2023 and its amendments A1:2023 and A11:2023.  |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.<br><br>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 12.05.2023, muudatused A1 12.05.2023 ja A11 12.05.2023.  | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.<br><br>Date of Availability of the European standard is 12.05.2023, for A1 12.05.2023 and A11 12.05.2023.   |
| Muudatusega A1 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega <b>A1</b> <b>A1</b> .<br><br>Muudatusega A11 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega <b>A11</b> <b>A11</b> .<br><br>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest. | The start and finish of text introduced or altered by amendment A1 is indicated in the text by tags <b>A1</b> <b>A1</b> .<br><br>The start and finish of text introduced or altered by amendment A11 is indicated in the text by tags <b>A11</b> <b>A11</b> .<br><br>The standard is available from the Estonian Centre for Standardisation and Accreditation. |

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ICS 29.120.01; 91.060.50

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English Version

Household and similar electrical appliances - Safety - Part 2-97:  
Particular requirements for drives for shutters, awnings, blinds  
and similar equipment  
(IEC 60335-2-97:2016 + IEC 60335-2-97:2016/A1:2019)

Appareils électrodomestiques et analogues - Sécurité -  
Partie 2-97: Exigences particulières pour les motorisations  
de volets, stores, rideaux et équipements analogues  
(IEC 60335-2-97:2016 + IEC 60335-2-97:2016/A1:2019)

Sicherheit elektrischer Geräte für den Hausgebrauch und  
ähnliche Zwecke - Teil 2-97: Besondere Anforderungen für  
Antriebe für Rollläden, Markisen, Jalousien und ähnliche  
Einrichtungen  
(IEC 60335-2-97:2016 + IEC 60335-2-97:2016/A1:2019)

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Europäisches Komitee für Elektrotechnische Normung

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## European foreword

This document (EN IEC 60335-2-97:2023) consists of the text of document IEC 60335-2-97:2016, prepared by IEC/TC 61 "Safety of household and similar electrical appliances".

The following dates are fixed:

- latest date by which this document has to be (dop) 2024-03-01 implemented at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards (dow) 2026-03-01 conflicting with this document have to be withdrawn

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## Endorsement notice

The text of the International Standard IEC 60335-2-97:2016 was approved by CENELEC as a European Standard without any modification.

## **A1** Amendment A1 European foreword

This document (EN IEC 60335-2-97:2023/A1:2023) consists of the text of document IEC 60335-2-97:2016/A1:2019, prepared by IEC/TC 61 "Safety of household and similar electrical appliances".

The following dates are fixed:

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This document is read in conjunction with EN IEC 60335-2-97:2023 and EN IEC 60335-2-97:2023/A11:2023.

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The text of the International Standard IEC 60335-2-97:2016/A1:2019 was approved by CENELEC as a European Standard without any modification. **A1**

## **A11 Amendment A11 European foreword**

This document (EN IEC 60335-2-97:2023/A11:2023) has been prepared by CLC/TC 61 "Safety of household and similar electrical appliances".

The following dates are fixed:

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conflicting with this document have to be  
withdrawn

This document is read in conjunction with EN IEC 60335-2-97:2023 and EN IEC 60335-2-97:2023/A1:2023.

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".

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# VERSION CONSOLIDÉE



**Household and similar electrical appliances – Safety –  
Part 2-97: Particular requirements for drives for shutters, awnings, blinds and  
similar equipment**

**Appareils électrodomestiques et analogues – Sécurité –  
Partie 2-97: Exigences particulières pour les motorisations des volets, stores,  
rideaux et équipements analogues**



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### **HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –**

#### **Part 2-97: Particular requirements for drives for shutters, awnings, blinds and similar equipment**

### FOREWORD

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

This third edition cancels and replaces the second edition published in 2002 including its Amendment 1 (2004) and its Amendment 2 (2008). It constitutes a technical revision.

The principal changes in this edition as compared with the second edition of IEC 60335-2-97 are as follows (minor changes are not listed):

- Deleted "rolling" from the title and modified the scope to cover appliance types other than shutters, awnings, and blinds that are operated in a rolling way;
- Revised 19.13 to allow drives to obtain a safe position;
- Added 19.101 to provide a new abnormal test for drives with rated operating time;
- Added 20.104.4 to establish a test intended to cover horizontal movement (non-rolling) drive parts;

- Added 20.104.5 to provide an additional test to cover rolling grills to address the risk of being lifted;
- Modified 22.46 and Annex R to introduce software requirements for programmable electronic circuits used to comply with Clause 20;
- Added 22.101 to introduce a requirement to prevent inadvertent adjustments that would lead to unsafe application of drives;
- Added examples of swing shutters and sliding shutters in Figure 101.

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

| FDIS         | Report on voting |
|--------------|------------------|
| 61/5111/FDIS | 61/5141/RVD      |

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

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

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments. It was established on the basis of the fifth edition (2010) of that standard.

NOTE 1 When “Part 1” is mentioned in this standard, it refers to IEC 60335-1.

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Safety requirements for drives for shutters, awnings, blinds and similar equipment.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states “addition”, “modification” or “replacement”, the relevant text in Part 1 is to be adapted accordingly.

NOTE 2 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.

NOTE 3 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 publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
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- amended.

NOTE 4 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 the Amendment 2 be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

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## **A1** Amendment A1 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 |
|--------------|------------------|
| 61/5928/FDIS | 61/5944/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 website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
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- 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. **A1**

## INTRODUCTION

It has been assumed in the drafting of this International Standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

This standard takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

When a part 2 standard does not include additional requirements to cover hazards dealt with in Part 1, Part 1 applies.

NOTE 1 This means that the technical committees responsible for the part 2 standards have determined that it is not necessary to specify particular requirements for the **drive** in question over and above the general requirements.

This standard is a product family standard dealing with the safety of drives and takes precedence over horizontal and generic standards covering the same subject.

NOTE 2 Horizontal and generic standards covering a hazard are not applicable since they have been taken into consideration when developing the general and particular requirements for the IEC 60335 series of standards. For example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 standards.

An appliance that complies with the text of this standard will not necessarily be considered to comply with the safety principles of the standard if, when examined and tested, it is found to have other features that impair the level of safety covered by these requirements.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

**A11** The relevant requirements of Annex ZE of Part 1 have been incorporated in the text of this Part 2.

The intended use of the **drives** covered by this standard is for them to be installed together with shutters, awnings or blinds and the necessary ancillary components (e.g. controls, safety devices) to create a power operated shutter, awning or blind, the safety of which is ensured by this standard and the product standards EN 13659 for shutters, EN 13120 for internal blinds, and EN 13561 for external blinds (including awnings).

This document covers the hazards generated by the **drive**.

**Drives** put on the market as machines may be installed by the final user. The requirements of this standard cover **drives** and also the foreseeable misuse of the power operated shutters, blinds and awnings.



**Drives** placed on the market as partly completed machines should not be installed by the final user. In case of partly completed machines, reference should be made to the specific procedures of the Machinery Directive; this document can be used as guidance.

This document does not deal with any specific requirements on noise emitted from **drives** for shutters, awnings, blinds and similar equipment as the generated noise is not considered to be a relevant hazard.

With European Amendment A11, EN 60335-2-97:2006+A11:2008+A2:2010+A12:2015 is superseded.

This European Amendment A11, supplements or modifies the corresponding clauses of the standards below:

- EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019+A15:2021+A16:—<sup>1</sup> (Part 1)
- EN IEC 60335-2-97:2023+A1:2023 (Part 2) A11

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<sup>1</sup> To be published in 2023. Stage at the time of publication: FprEN 60335-1:2012/A16:2021.

## HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

### Part 2-97: Particular requirements for drives for shutters, awnings, blinds and similar equipment

#### 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric **drives** for shutters, blinds and awnings, intended for household and similar purposes, their **rated voltage** being not more than 250 V for single-phase **drives** and 480 V for other **drives**. **[A11]** It also covers the hazards associated with the movement of the equipment such as shutters, blinds and awnings **[A11]**

NOTE 101 Battery-operated **drives** and other d.c. supplied **drives** are within the scope of this standard.

NOTE 102 Examples of equipment that can be driven are

- spring controlled folding arm awnings;
- curtains;
- grilles covering doors and windows;
- projection screens;
- shutters covering doors and windows;
- draperies.

Examples are shown in Figure 101.

NOTE 103 **Drives** may be supplied with a **driven part**.

**[A11]** This document deals with the reasonably foreseeable hazards presented by **drives** that are encountered by all persons in and around the installation place. However, in general, it does not take into account:

- **children** playing with the **drive**;
- the use of the **drive** by **very young children**;
- the use of the **drive** by **young children** without supervision.

It is recognized that **very vulnerable people** can have needs beyond the level addressed in this document.

**Drives** being part of power operated shutters, blinds and awnings which are intended to be used by trained users in shops, in light industry and on farms, are also within the scope of this document.

NOTE Z101 Examples of places where shutters, blinds and awnings for household environment can also be used by non-expert users:

- shops, offices and other working environments;
- farm houses;
- hotels, motels and other residential type environments where they are used by clients;

— bed and breakfast type environments.

NOTE Z102 Household environment includes the dwelling and its associated buildings, the garden, etc. A11

NOTE 104 Attention is drawn to the fact that

- for **drives** intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
- in many countries, additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour and similar authorities.

NOTE 105 This standard does not apply to

- **drives** intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- **drives** for vertically moving garage doors for residential use (IEC 60335-2-95);
- A1 drives for gates, doors and windows (IEC 60335-2-103); A1
- **drives** used in premises such as hangars or in heavy industry;
- **drives** for theatre curtains.

A11 NOTE Z103 Within this document the terms **drive** and appliance are interchangeable.

Products covered by this document and installed according to the manufacturer instructions do not create a noise hazard. A11

## 2 Normative references

This clause of Part 1 is applicable except as follows.

*Addition:*

IEC 60068-2-52:1996, *Environmental testing – Part 2: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)*

A11 EN 60825-1:2014<sup>2</sup>, *Safety of laser products – Part 1: Equipment classification and requirements*

EN 60811-605:2012, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 605: Physical tests - Measurement of carbon black and/or mineral filler in polyethylene compounds* A11

## 3 Terms and definitions

This clause of Part 1 is applicable except as follows.

### 3.1.9 Replacement:

#### **normal operation**

operation of the **drive** under the following conditions:

- **drives** supplied without a **driven part** are operated at **rated load**;
- **drives** supplied with a **driven part** are operated with the **driven part** installed in accordance with the instructions

<sup>2</sup> As impacted by EN 60825-1:2014/AC:2017-06, EN 60825-1:2014/A11:2021, and EN 60825-1:2014/A11:2021/AC:2022-03.