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**Gospodinjski in podobni električni aparati - Varnost - 2-95. del: Posebne zahteve za pogonske sklope dviznih garažnih vrat za stanovanjsko rabo (IEC 60335-2-95:2019)**

Household and similar electrical appliances - Safety - Part 2-95: Particular requirements for drives for vertically moving garage doors for residential use (IEC 60335-2-95:2019)

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-95: Besondere Anforderungen für Antriebe von Garagentoren mit Senkrechtbewegung zur Verwendung im Wohnbereich (IEC 60335-2-95:2019)

Appareils électrodomestiques et analogues - Sécurité - Partie 2-95: Exigences particulières pour les motorisations de portes de garage à ouverture verticale, pour usage résidentiel (IEC 60335-2-95:2019)

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EUROPEAN STANDARD

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NORME EUROPÉENNE

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Particular requirements for drives for vertically moving garage  
doors for residential use  
(IEC 60335-2-95:2019)

Appareils électrodomestiques et analogues - Sécurité -  
Partie 2-95: Exigences particulières pour les motorisations  
de portes de garage à ouverture verticale, pour usage  
résidentiel  
(IEC 60335-2-95:2019)

Sicherheit elektrischer Geräte für den Hausgebrauch und  
ähnliche Zwecke - Teil 2-95: Besondere Anforderungen für  
Antriebe von Garagentoren mit Senkrechtbewegung zur  
Verwendung im Wohnbereich  
(IEC 60335-2-95:2019)

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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 IEC 60335-2-95:2023 (E)****European foreword**

This document (EN IEC 60335-2-95:2023) consists of the text of document IEC 60335-2-95:2019, 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) 2023-11-12 implemented at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards (dow) 2026-05-12 conflicting with this document have to be withdrawn

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IEC 60335-2-95

Edition 4.0 2019-12

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Household and similar electrical appliances – Safety –  
Part 2-95: Particular requirements for drives for vertically moving garage doors  
for residential use**

**Appareils électrodomestiques et analogues – Sécurité –  
Partie 2-95: Exigences particulières pour les motorisations de portes de garage  
à ouverture verticale, pour usage résidentiel**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
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## CONTENTS

FOREWORD .....	3
INTRODUCTION .....	6
1 Scope .....	7
2 Normative references .....	7
3 Terms and definitions .....	7
4 General requirement .....	8
5 General conditions for the tests .....	8
6 Classification .....	9
7 Marking and instructions .....	9
8 Protection against access to live parts .....	11
9 Starting of motor-operated appliances .....	11
10 Power input and current .....	11
11 Heating .....	12
12 Void .....	12
13 Leakage current and electric strength at operating temperature .....	12
14 Transient overvoltages .....	12
15 Moisture resistance .....	12
16 Leakage current and electric strength .....	12
17 Overload protection of transformers and associated circuits .....	13
18 Endurance .....	13
19 Abnormal operation .....	13
20 Stability and mechanical hazards .....	13
21 Mechanical strength .....	18
22 Construction .....	18
23 Internal wiring .....	19
24 Components .....	19
25 Supply connection and external flexible cords .....	20
26 Terminals for external conductors .....	20
27 Provision for earthing .....	20
28 Screws and connections .....	20
29 Clearances, creepage distances and solid insulation .....	20
30 Resistance to heat and fire .....	20
31 Resistance to rusting .....	20
32 Radiation, toxicity and similar hazards .....	21
Annexes .....	24
Annex R (normative) Software evaluation .....	25
Bibliography .....	26
Figure 101 – Examples of types of garage doors .....	22
Figure 102 – Example of pictogram warning against child entrapment .....	23

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –  
SAFETY –****Part 2-95: Particular requirements for drives for vertically  
moving garage doors for residential use**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60335-2-95 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This fourth edition cancels and replaces the third edition published in 2011, Amendment 1: 2015 and Amendment 2:2017. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) the text has been aligned with edition 5.2 of Part 1;
- b) reference to IEC 60335-2-97 and IEC 60335-2-103 has been revised to correctly state their titles (Clause 1);

- c) specific instruction statements have been revised to separate them from information to be provided (7.12);
- d) the compliance criteria for the tests of 19.11.2 and 19.11.3 has been modified (19.13);
- e) the tests for class III appliances and parts of class III constructions have been modified (25.8, 25.15).

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

FDIS	Report on voting
61/5937/FDIS	61/5946/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.

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

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

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 vertically moving garage doors for residential use.

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 the base publication and its amendments 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.



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 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.

- 6.1: Class 0I appliances are allowed (Japan).
- 7.1: Additional markings are required (USA).
- 7.12.1: Additional warnings and instructions are required (USA).
- 11.7: The test conditions are different (USA).
- 19.9: A running overload test is carried out (USA).
- 20.101: The test is not carried out (USA).

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

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## 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 appliance in question over and above the general requirements.

This standard is a product family standard dealing with the safety of appliances 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.

## HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

### Part 2-95: Particular requirements for drives for vertically moving garage doors for residential use

#### 1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electric **drives** for garage doors for residential use that open and close in a vertical direction, the **rated voltage** of the **drives** being not more than 250 V for single-phase appliances and 480 V for other appliances. It also covers the hazards associated with the movement of these electrically driven garage doors.

NOTE 101 Examples of garage doors are shown in Figure 101.

NOTE 102 The **drive** can be supplied with a garage door.

NOTE 103 This standard also applies to **entrapment protection devices** for use with **drives**. It does not cover hazards related to the mechanisms of the door itself.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account playing with the appliance by young children, but recognizes that children may be in the vicinity of the garage door.

NOTE 104 Attention is drawn to the fact that in many countries additional requirements are specified by the national authorities responsible for the protection of labour and similar authorities.

NOTE 105 This standard does not apply to **drives**

- for shutters, awnings, blinds and similar equipment (IEC 60335-2-97);
- for gates, doors and windows (IEC 60335-2-103);
- for commercial and industrial purposes;
- intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas).

#### 2 Normative references

This clause of Part 1 is applicable except as follows.

*Addition:*

IEC 60068-2-52:2017, *Environmental testing – Part 2-52: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)*

#### 3 Terms and definitions

This clause of Part 1 is applicable except as follows.

### 3.1 Definitions relating to physical characteristics

#### 3.1.9 *Replacement:*

##### **normal operation**

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

**Drives** supplied without a door are operated with their **rated load**.

**Drives** supplied with a door are operated with the door installed in accordance with the instructions.

#### 3.1.101

##### **rated load**

force or torque assigned to the **drive** by the manufacturer

### 3.5 Definitions relating to types of appliances

#### 3.5.101

##### **drive**

motor and other components that control the movement of the door

Note 1 to entry: Examples of components are gears, controls, brakes and **entrapment protection systems**.

#### 3.5.102

##### **automatic drive**

**drive** that operates the door in at least one direction without intentional activation by the user

### 3.7 Definitions relating to safety components

#### 3.7.101

##### **biased-off switch**

switch that automatically returns to the **off position** when its actuating member is released

#### 3.7.102

##### **entrapment protection system**

part of the **drive** that protects against trapping which could result in the human body being squeezed or crushed by the door

Note 1 to entry: Trapping in the garage is covered by the manual release of 20.109.

Note 2 to entry: An **entrapment protection system** may be incorporated in the motor assembly or may be installed separately. It may consist of one or more devices, such as pressure sensitive edges, passive infrared, active light sensing devices or a **biased-off switch**.

## 4 General requirement

This clause of Part 1 is applicable.

## 5 General conditions for the tests

This clause of Part 1 is applicable except as follows.

#### 5.2 *Addition:*

*When a test has to be carried out with a door, the door specified for installation with the **drive** that gives the most unfavourable conditions for the test is used. An artificial load may be used to simulate the door for some of the tests. The **drive** is adjusted in accordance with the instructions.*