



BSI Standards Publication

Household and similar electrical appliances — Safety

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

National foreword

This British Standard is the UK implementation of EN IEC 60335-2-95:2023+A11:2023. It is derived from IEC 60335-2-95:2019. It supersedes BS EN 60335-2-95:2015+A2:2019, which will be withdrawn on 12 May 2026.

The start and finish of text introduced or altered by amendment A11 is indicated in the text by tags. Tags indicating changes to text carry the number of the CENELEC amendment. For example, text altered by CENELEC amendment A11 is indicated by A11 A11.

The UK participation in its preparation was entrusted to Technical Committee CPL/61, Safety of household and similar electrical appliances.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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English Version

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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

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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
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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conflicting with this document have to be withdrawn

This document supersedes EN 60335-2-95:2015 and all of its amendments and corrigenda (if any).

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This document is read in conjunction with EN IEC 60335-2-95:2023/A11:2023.

This document has been prepared under a Standardization Request given to CENELEC by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60335-2-95:2019 was approved by CENELEC as a European Standard without any modification.

European foreword to amendment A11

This document (EN IEC 60335-2-95:2023/A11:2023) has been prepared by CLC/TC 61 "Safety of household and similar electrical appliances".

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This document is read in conjunction with EN IEC 60335-2-95:2023.

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CONTENTS

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

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.

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.

[A11] With European Amendment A11 the EN 60335-2-95:2015+A1:2015+A2:2019 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:—¹ (Part 1)
- EN IEC 60335-2-95:2022 (Part 2)

The relevant requirements of Annex ZE of Part 1 have been incorporated in the text of this Part 2. Even though they are not intended for commercial use, garage door drives within the scope of this document are machines within the meaning of the Machinery Directive 2006/42/EC, and this standard has been written considering the essential requirements listed in the Directive.

Drives put on the market as machines may be installed by the final user. The requirements of this document also cover the foreseeable misuse of the power operated garage door.

Drives put 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 2006/42/EC; this document can, anyhow, be used as guidance.

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

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

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

1 Scope

A11 This clause of Part 1 is replaced by the following.

This document 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 Z101 Examples of types of garage doors are shown in Figure 101.

NOTE Z102 The **drive** can be supplied with a garage door.

NOTE Z103 This document also applies to **entrapment protection devices** for use with **drives**.

NOTE Z104 Within the document the terms **drive** and appliance are interchangeable.

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 appliance;
- the **use of the appliance** by **very young children**;
- the **use of the appliance** by **young children** without supervision.

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

NOTE Z105 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.

This document also covers **automatic drives**.

NOTE Z106 This document does not apply to **drives**

- for shutters, awnings, blinds and similar equipment (EN IEC 60335-2-97);
- for gates, doors and windows (EN 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).

This document does not deal with any specific requirements on noise emitted from these **drives** as the generated noise is not considered to be a relevant hazard. Thus, the emission sound pressure level L_{pA} is considered to be $L_{pA} \leq 70 \text{ dB(A)}$. **A11**

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)*

A11 EN 12978:20032, *Industrial, commercial and garage doors and gates - Safety devices for power operated doors and gates - Requirements and test methods* **A11**

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, components for power transmission from the drive to the driven part (e.g. trolleys, rails, levers, etc.) 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

 Note Z101 to entry: A **biased-off switch** is also called a hold to run control. 

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**.

 *Addition:*

3.Z101

rated operating time

duration of continuous operation assigned to the **drive** by the manufacturer

Note 1 to entry: During continuous operation, the **drive** may reverse its direction.

3.Z102

rated number of operating cycles

number of uninterrupted operating cycles assigned to the **drive** by the manufacturer

Note 1 to entry: An operating cycle consists of an opening and closing movement of the door.

3.Z103

mode of operation

way the movement of the driven part is initiated

3.Z104

cycle

complete opening and closing movement of the door

3.Z105

tubular drive

drive intended to be used in the tube of the rolling driven part 