



SLOVENSKI STANDARD SIST EN 60335-2-95:2015

01-april-2015

Nadomešča:

SIST EN 60335-2-95:2005

Gospodinjski in podobni električni aparati - Varnost - 2-95. del: Posebne zahteve za pogonske sklope dviznih garažnih vrat za stanovanjsko rabo

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

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

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Ta slovenski standard je istoveten z: EN 60335-2-95:2015

ICS:

13.120	Varnost na domu	Domestic safety
91.060.50	Vrata in okna	Doors and windows
91.090	Konstrukcije zunaj stavb	External structures

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en

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EUROPEAN STANDARD

EN 60335-2-95

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2015

ICS 13.120; 29.120.01; 91.090

Supersedes EN 60335-2-95:2004

English Version

**Household and similar electrical appliances - Safety - Part 2-95:
Particular requirements for drives for vertically moving garage
doors for residential use
(IEC 60335-2-95:2011 , modified)**

Appareils électrodomestiques et analogues - Sécurité -
Partie 2-95: Règles particulières pour les motorisations de
portes de garage à ouverture verticale, pour usage
résidentiel
(CEI 60335-2-95:2011 , modifiée)

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 60335-2-95:2011 , modifiziert)

This European Standard was approved by CENELEC on 2014-09-29. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 European Standard 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 60335-2-95:2015](https://standards.iteh.ai/SIST/EN/60335-2-95/2015)

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

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Foreword

The text of document 61/4103/CDV, future edition 3 of IEC 60335-2-95, prepared by IEC/TC 61 "Safety of household and similar electrical appliances" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60335-2-95:2015.

A draft amendment, which covers common modifications to IEC 60335-2-95, was prepared by CLC/TC 61, "Safety of household and similar electrical appliances" and approved by CENELEC.

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) 2015-09-29
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2017-09-29

This document is to be used in conjunction with EN 60335-1:2012 including its amendments.

When this standard states "addition", "modification" or "replacement" it is to be understood as addition or modification or replacement to the published IEC Part 2, unless the introductory sentence mentions Part 1.

NOTE The following numbering system is used: [SIST EN 60335-2-95:2015](http://standards.cenelec.eu/standards/sis/195-4956-tab1-489-bdoc)

- 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 are placed clause or subclause;
- additional annexes are lettered AA, BB, etc.;

Clauses, subclauses, notes, tables, figures and annexes that are additional to those in the IEC standard are prefixed with the letter Z.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] 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 Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 60335-2-95:2011 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

Introduction

Add:

This European Standard has been prepared to provide a means of conforming to essential safety requirements of the Machinery Directive 2006/42/EC. Other requirements and other EU Directives may be applicable to the drives falling within the scope of this standard.

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

Therefore, compliance with the requirements of EN 60335-1 and of this Part 2 gives presumption of conformity of the product with the Essential Health and Safety Requirements (EHSR) of Directive 2006/42/EC as stated in Annex ZZ.

Drives put on the market as machines may be installed by the final user. The requirements of this standard 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 standard can, anyhow, be used as guidance.

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1 Scope

Replacement:

This clause of part 1 is replaced by the following.

This European Standard 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 garage doors are shown in Figure 101.

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

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

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

This standard 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.

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

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 standard also covers **automatic drives**.

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

- for rolling shutters, awnings, blinds and similar equipment (EN 60335-2-97);
- for garage doors for use by more than one household (EN 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 European Standard 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 $L_{pA} \leq 70$ dB(A).

2 Normative references

Add the following reference:

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

3 Terms and definitions

3.101 Modification:

Replace the text of the note by the following:

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**.

3.102 Modification:

entrapment protection system

system that provides protection against crushing

3.104 Replacement:

biased-off switch

control device which initiates and maintains the drive movement only as long as the manual control (actuator) is actuated

Note Z1 to entry: A **biased-off switch** is also called a **hold to run control**.

Add the following new definitions:

3.Z101

rated operating time iTeh STANDARD PREVIEW
duration of continuous operation assigned to the **drive** by the manufacturer
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Note 1 to entry: During continuous operation, the **drive** may reverse its direction.

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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

a complete opening and closing movement of the door

4 General requirement

Replacement:

This clause of Part 1 is applicable except as follows.

Add to the first paragraph:

Drives shall be constructed in such a way that they ensure transportation, installation, adjusting, maintenance are carried out safely.

5 General conditions for the tests

5.3 Addition:

When a **drive** incorporates a sub-assembly or a part which has already been tested against relevant clause(s) of this standard, those tests need not be repeated, if the incorporation of the sub-assembly or part into the drive does not change the performance of the sub-assembly or part.

5.5 In the addition, replace the text by the following:

When a test has to be carried out with a door with a wicket door, this is kept in the safe position during the tests.

Safe position of a wicket door is the closed position when it travels together with the door or the open position when it does not travel with the door.

5.7 Addition:

If **drives** are intended to operate beyond the ambient temperature range of +5 °C to +40 °C, the tests of Clause 20 are carried out at the most unfavourable marked temperature.

Add one new sub-clause:

5.2101 Drives shall be tested for compliance with this standard for any of the following **modes of operation** as intended by the manufacturer. (standards.iteh.ai)

Modes of operation are:

- automatic operation (only one activation needed for at least one cycle);
- impulse operation (one activation needed for a movement);
- biased off (hold to run) operation.

Whenever required by the instructions, components shall be added or changed to perform the tests.

6 Classification

6.2 Modification

In the addition add “or part of **drives**” after “**Drives**”.

7 Marking and instructions

7.1 Replacement

7.1 Replace the third, fourth and fifth dashed items in part 1 as follows:

- **rated power input** in Watts;
- trade mark or identification mark. Business name and postal address or code of the manufacturer and, where applicable, his authorized representative;
- model or type reference, serial number, if any, and production year;

NOTE Z101 Production year is the year when the production process is completed. The production year can be part of the serial number.

Add a new dashed item:

- designation of the **drive**. The designation enables the identification of the drive as specified in the instructions and may be the generic denomination and function of the product (e.g. the terms used in the title of this standard – drive for garage door - may be used) or a combination of letters and/or numbers.

Add the following text before the compliance clause in part 1:

Drives shall be marked with the **rated number of operating cycles** or the **cycles** per hour, unless the **drive** is intended for continuous operation.

Drives intended to operate beyond the ambient temperature range of +5 °C to +40 °C shall be marked with the minimum and maximum ambient temperatures in which they are intended to operate.

Devices used in the **entrapment protection system** to be installed separately shall be marked at least with the manufacturer name and type or model identification.

Drives supplied without a door shall be marked with the **rated load** in N or in Nm.

7.6 Addition



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Upper limit of temperature (ISO 7000/0533)

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Lower limit of temperature (ISO 7000/0534)

7.12 *Add the following text after the first paragraph in part 1:*

The instructions shall contain at least the following information:

- the business name and full address of the manufacturer, if relevant explanation of the code and, where applicable, his authorized representative;
- model or type reference of the drive as marked on the drive itself, except for the serial number;
- designation of the **drive** together with its explanation if it is composed by a combination of letters and/or numbers.

Add after the warning the following new warning:

WARNING: the drive shall be disconnected from its power source during cleaning, maintenance and when replacing parts.

Replace the first dashed item by:

- do not allow children to play with the appliance or its controls, including remotes;

Replace the fifth dashed item by:

- each month check that the drive reverses or the object can be freed when the door contacts a 50 mm high object placed on the floor (for drives incorporating an **entrapment protection system** depending on contact with the bottom edge of the door).

When adjustment is described in the instructions, the instructions shall contain the substance of the following:

- if necessary, adjust and recheck since an incorrect adjustment can present a hazard. If re-adjustment does not restore the correct operation, call for authorised service.

When adjustment is not described in the instructions, the instructions shall contain the substance of the following:

- if necessary, call for authorised service.

Delete the eighth dashed item.

Addition:

The instructions shall state that the A-weighted emission sound pressure level of the drive is equal or less than 70 dB(A), e.g. by writing $LpA \leq 70$ dB(A).

NOTE Z101 The sound emitted by the structure to which the drive will be connected to is not considered.

7.12.1 Addition

Replace the second paragraph after the warning by

For **drives** supplied without a door, the installation instructions shall indicate the type, size and mass of the garage door leaf for which the **drive** is intended to be used and the position(s) where the **drive** can be installed.

Replace the third dashed item by: [SIST EN 60335-2-95:2015](https://standards.iteh.ai/catalog/standards/sist/19347556-1e81-4483-b1bc-d13f19014122/sist-en-60335-2-95-2015)

- install the actuating member for the manual release at a height less than 1,8 m. If removable, the actuating member should be stored in direct vicinity of the door;

Replace the seventh dashed item by the following:

- after installation, ensure that the mechanism is properly adjusted and that the drive reverses or the object can be freed when the door contacts a 50 mm high object placed on the floor (for drives incorporating an entrapment protection system depending on contact with the bottom edge of the door);

In the ninth dashed item replace "open" with "put in the safe position".

Add the following new dashed items:

- description of intended operation of the entrapment protection system, when incorporated in or supplied with the drive;
- if applicable, that the drive is intended to be installed at least 2,5 m above the floor or other access level;
- if applicable, that the drive is not to be used with doors having openings exceeding 50 mm in diameter or having edges or protruding parts a person could grip or stand on;
- after installation, ensure that the entrapment protection system operates as intended;
- a list of all components included in the drive when delivered not assembled.

7.12.Z1 Modification

Replace the first sentence of the first paragraph by the following:

The specific instructions related to the safe operation of this appliance (as given in 7.12 of this standard) shall be collated together in the front section of the user instructions, or in a separate dedicated document.

7.15 Addition:

When it is not practical for the marking to be visible after the **drive** has been installed, the marking shall also be included in the instructions.

7.101 Modification

Replace the text by the following:

Drives, shall be supplied with a label suitable for permanent fixing with a warning sign to keep children away when the door is moving, having a height of at least 60 mm.

NOTE An example of a suitable warning sign is shown in Figure 102.

For **automatic drives**, the label shall also state the substance of the following:

WARNING: Automatic drive

Compliance is checked by inspection and measurement.

7.102 Replace the text by "Void".**7.104** Replace the 2nd dashed item by the following:

- can be used with doors having openings greater than 50 mm in diameter or having edges or protruding parts a person could grip or stand on;

Add the following new sub clause

7.2101 If the **drive** is not to be used with doors having openings exceeding 50 mm in diameter or having edges or protruding parts a person could grip or stand on, the packaging shall be marked accordingly.

Compliance is checked by inspection.

11 Heating**11.7** Replace the second paragraph by the following:

Drives for rolling garage doors are operated for 20% more than the rated number of **cycles per hour** and relevant rest period declared by the manufacturer.

Replace the third paragraph by the following:

Other **drives** are operated without rest periods for 3 cycles or the **rated number of operating cycles**, whichever is longer.

15 Moisture resistance**15.1.1** Delete the addition**15.1.2** Modification

In the addition, delete "IPX4" at the beginning of the sentence.

19 Abnormal operation

19.10 *Delete the addition.*

19.11.4.8 *Add after the second paragraph:*

NOTE Z101 Same point of operating cycle should be understood as the same movement of the operating cycle (i.e. closing or opening) and not as the same point of the travelling of the driven part.

19.13 *Modification*

In the addition, add at the end of the sentence “*the drive, however, being supplied at rated voltage*”.

20 Stability and mechanical hazards

20.102 *Add the following new paragraph:*

The speed of the door measured between the bottom edge of the door and the opposing edge (floor or lintel), shall not exceed 0,5 m/s both during closing and opening movement.

20.103 *Modification*

In the second sentence of the sixth paragraph add “*stop or*” after “*door to*”.

Delete the last paragraph.

20.104 *Delete the last paragraph.*

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20.104.1 *Delete the first dashed item after the second “or”.*

20.104.2 *Modification*

In the second sentence of the last paragraph add “*stop or*” after “*door to*”.

20.109 *Replace the compliance clause by the following:*

Compliance is checked by the following test.

The drive is supplied at the most unfavourable voltage between 0,94 and 1,06 times rated voltage. The drive is adjusted for the highest opening and closing forces, if the adjustment is mentioned in the instructions.

The manual release is activated when the drive has stopped at each terminal position in turn. The release shall be operable with a force not exceeding 220 N or a torque not exceeding 1,6 Nm.

After the manual release has been activated, the power supply is disconnected. The power supply is then restored and the drive activated. It shall not move or create any hazard.

22 Construction

22.46 *Addition*

If compliance with the requirements in Clause 20 relies on the operation of a programmable electronic circuit, the software shall contain measures to control the fault/error conditions specified in Table R1.