# BS EN IEC 60335-2-75:2023+A11:2023



**BSI Standards Publication** 

# Household and similar electrical appliances — Safety

Part 2-75: Particular requirements for commercial dispensing appliances and vending machines



# National foreword

This British Standard is the UK implementation of EN IEC 60335-2-75:2023+A11:2023. It is derived from IEC 60335-2-75:2012, incorporating amendments 1:2015 and 2:2018. It supersedes BS EN 60335-2-75:2004+A2:2008, which will be withdrawn on 5 May 2026.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  $A_{11}$ .

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by  $[A_1\rangle$  (A).

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.

## **Contractual and legal considerations**

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2023 Published by BSI Standards Limited 2023

ISBN 978 0 580 77960 2

ICS 55.230

# Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 December 2023.

#### Amendments/corrigenda issued since publication

Date Text affected

BS EN IEC 60335-2-75:2023+A11:2023

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

# EN IEC 60335-2-75

May 2023

ICS 55.230

Supersedes EN 60335-2-75:2004; EN 60335-2-75:2004/A1:2005; EN 60335-2-75:2004/A11:2006; EN 60335-2-75:2004/A2:2008; EN 60335-2-75:2004/A12:2010

**English Version** 

# Household and similar electrical appliances - Safety - Part 2-75: Particular requirements for commercial dispensing appliances and vending machines (IEC 60335-2-75:2012)

Appareils électrodomestiques et analogues - Sécurité -Partie 2-75: Exigences particulières pour les distributeurs commerciaux avec ou sans moyen de paiement (IEC 60335-2-75:2012) Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-75: Besondere Anforderungen für Ausgabegeräte und Warenautomaten für den gewerblichen Gebrauch (IEC 60335-2-75:2012)

This European Standard was approved by CENELEC on 2020-11-16. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



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

# **European foreword**

This document (EN IEC 60335-2-75:2023) consists of the text of document IEC 60335-2-75:2012 edition 3.0 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) 2023-11-05 implemented at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards (dow) 2026-05-05 conflicting with this document have to be withdrawn

This document supersedes EN 60335-2-75:2004+A1:2005+A11:2006+A2:2008+A12:2010 when EN IEC 60335-2-75/A11:2023 is published.

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

This document is read in conjunction with EN IEC 60335-2-75:2023/A1:2023, EN IEC 60335-2-75:2023/A2:2023 and EN IEC 60335-2-75:2023/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 60335-2-75:2012 was approved by CENELEC as a European Standard without any modification.

# **European foreword to amendment A1**

This document EN IEC 60335-2-75:2023/A1:2023 consists of the text of IEC 60335-2-75:2012/A1:2015 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)	2023-11-05
	implemented at national level by publication of an	
	identical national standard or by endorsement	

• latest date by which the national standards (dow) 2026-05-05 conflicting with this document have to be withdrawn

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

This document is read in conjunction with EN IEC 60335-2-75:2023, EN IEC 60335-2-75:2023/A2:2023 and EN IEC 60335-2-75:2023/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 60335-2-75:2012/A1:2015 was approved by CENELEC as a European Standard without any modification.

# **European foreword to amendment A2**

This document EN IEC 60335-2-75:2023/A2:2023 consists of the text of IEC 60335-2-75:2012/A2:2018 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 implemented at national level by publication of an identical national standard or by endorsement	(dop)	2023-11-05
•	latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2026-05-05

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

This document is read in conjunction with EN IEC 60335-2-75:2023, EN IEC 60335-2-75:2023/A1:2023 and EN IEC 60335-2-75:2023/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 60335-2-75:2012/A2:2018 was approved by CENELEC as a European Standard without any modification.

# European foreword to amendment A11

This document (EN IEC 60335-2-75:2023/A11:2023) has been prepared by CLC/TC 61 "Safety of household and similar electrical appliances".

The following dates are fixed:

withdrawn

•	latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2023-11-05
•	latest date by which the national standards conflicting with this document have to be	(dow)	2026-05-05

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".

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

This document is read in conjunction with EN IEC 60335-2-75:2023, EN IEC 60335-2-75:2023/A1:2023 and EN IEC 60335-2-75:2023/A2:2023.

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.

# - 2 - IEC 60335-2-75:2012+A2:2018 © IEC 2018

# CONTENTS

FO	REWORD	3	
ΙΝΤ	RODUCTION	6	
1	Scope	7	
2	Normative references	8	
3	Terms and definitions	8	
4	General requirement	10	
5	General conditions for the tests	11	
6	Classification	11	
7	Marking and instructions	12	
8	Protection against access to live parts	14	
9	Starting of motor-operated appliances	14	
10	Power input and current	14	
11	Heating	14	
12	Void	15	
13	Leakage current and electric strength at operating temperature	15	
14	Transient overvoltages	16	
15	Moisture resistance	16	
16	Leakage current and electric strength	19	
17	Overload protection of transformers and associated circuits	19	
18	Endurance	19	
19	Abnormal operation	19	
20	Stability and mechanical hazards	21	
21	Mechanical strength	21	
22	Construction	22	
23	Internal wiring	24	
24	Components	25	
25	Supply connection and external flexible cords	26	
26	Terminals for external conductors	26	
27	Provision for earthing	26	
28	Screws and connections	26	
29	Clearances, creepage distances and solid insulation	27	
30	Resistance to heat and fire	27	
31	Resistance to rusting	27	
32	Radiation, toxicity and similar hazards	27	
	nexes		
	nex AA (normative) Aging test for elastomeric parts		
	Bibliography		
_			
Fig	ure 101 – Splash apparatus	28	

IEC 60335-2-75:2012+A2:2018 © IEC 2018 -

#### - 3 -

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

# HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

# Part 2-75: Particular requirements for commercial dispensing appliances and vending machines

# 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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

- 4 - IEC 60335-2-75:2012+A2:2018 © IEC 2018

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

The principal changes in this edition as compared with the second edition of IEC 60335-2-75 are as follows (minor changes are not listed):

- some notes have been deleted or converted to normative text (5.2, 5.6, 5.104, 7.12.1, 7.12.101.1, 11.2, 11.8, 15.2.103, 15.2.104, 15.2.106, 15.2.109, 15.2.111, 19.102, 19.6, 19.13, 19.101, 22.6, 22.7, 22.112, 22.113, 22.114, 24.102, 27.2).
- added requirements for espresso coffee makers in 3.115, 22.114 and throughout standard;
- modified 11.4 to address heating appliances with electronic process controls and 11.6 to address combined appliances without electronic process controls;
- modified Clause 22 to indicate that pressure regulating devices are to be rendered inoperable;
- deleted ISO 13732-1 from Bibliography.

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 commercial dispensing appliances and vending machines.

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.

### IEC 60335-2-75:2012+A2:2018 © IEC 2018 - 5 -

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.

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.

The following differences exist in the countries indicated below.

- 6.1: Class 0I is allowed for appliances used indoors having a rated voltage not exceeding 150 V (Japan).
- 13.2: The leakage current limits are different (Japan).
- 16.2: The leakage current limits are different (Japan).

#### - 6 - IEC 60335-2-75:2012+A2:2018 © IEC 2018

## 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.

And This amendment supplements or modifies the corresponding clauses of the standards below:

- EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019 (Part 1)
- EN IEC 60335-2-75:2023+A1:2023+A2:2023 (Part 2) (A11

IEC 60335-2-75:2012+A2:2018 © IEC 2018 - 7 -

# HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

# Part 2-75: Particular requirements for commercial dispensing appliances and vending machines

## 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric commercial **dispensing appliances** and **vending machines** for preparation or delivery of food, drinks and consumer products, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

NOTE 101 Examples of appliances that are within the scope of this standard are

- bulk tea or coffee brewing machines;
- cigarette vending machines;
- coffee grinders;
- commercial liquid heaters;
- coffee makers with or without integrated coffee grinder;
- coffee makers with cooling systems;
- hot and cold beverage vending machines;
- hot water dispensers;
- ice cream and whipped cream dispensers;
- ice dispensers;
- newspaper, audio or video tape or disc vending machines;
- packaged food and drink vending machines;
- refrigerated merchandisers.

Appliances can have more than one function.

NOTE 102 Other standards may be applicable for some functions such as

- refrigeration (A11) IEC 60335-2-89 (A11);
- heating by microwaves ( $\boxed{\text{A11}}$  IEC 60335-2-90 ( $\boxed{\text{A11}}$ ).

This standard also deals with the hygiene aspects of appliances.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by users and **maintenance persons**. However, in general, it does not take into account young children playing with the appliance.

#### NOTE 103 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
- in many countries, additional requirements for appliances incorporating pressure vessels are specified;
- in many countries, additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities;
- $|A_{11}\rangle$  for scrapping of appliances, additional requirements can be necessary.  $|A_{11}\rangle$

NOTE 104 This standard does not apply to

- appliances intended to be used exclusively for household purposes;
- appliances intended to be used exclusively for industrial purposes;

### – 8 – IEC 60335-2-75:2012+A2:2018 © IEC 2018

- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- commercial electric boiling pans (IEC 60335-2-47);
- commercial electric bains-marie (IEC 60335-2-50);
- amusement machines and personal service machines (IEC 60335-2-82);
- A commercial refrigerating appliances (IEC 60335-2-89); A
- appliances solely used for dispensing money;
- display cabinets;
- appliances incorporating electrode-type water heaters.
- A) requirements for dispensed **potentially hazardous food** (these are covered by national health regulations in many countries).

## 2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

IEC 60335-2-34, Household and similar electrical appliances – Safety – Part 2-34: Particular requirements for motor-compressors

(A) ISO 1817:2015, Rubber, vulcanized or thermoplastic – Determination of the effect of liquids (A)

## 3 Terms and definitions

This clause of Part 1 is applicable except as follows.

#### 3.1.9 Replacement:

#### normal operation

operation of the appliance under the following conditions:

The appliance is operated in the **standby mode** until steady conditions are established and then under the most unfavourable dispensing procedure. The appliance is refilled when necessary in accordance with the instructions for use, or the **instructions for maintenance**, and the next operating period started as soon as possible.

Lids and covers of **appliances of the professional type** and of **appliances of the supervised type** are placed in their intended positions.

Coffee makers are operated with their container filled with the **rated capacity** of water, or connected to the water mains, if applicable. Coffee makers with a heated surface intended to keep the liquid warm are operated with or without the container, whichever is the more unfavourable.

#### 3.6.2 Replacement:

#### detachable part

part that can be removed without the aid of a **tool**, a part that is removed in accordance with the instructions for use or the **instructions for maintenance**, even if a **tool** or **access key** is needed for removal, or a part that does not fulfill the test of 22.11

Note 1 to entry: If a part has to be removed for installation purposes, this part is not considered to be detachable even if the instructions state that it is to be removed.

Note 2 to entry: A part that can be opened is considered to be a part that can be removed.