
Gospodinjski in podobni električni aparati - Varnost - 2-89. del: Posebne zahteve za komercialne hladilne naprave z vgrajeno ali zunanjo hladilno kondenzatorsko enoto ali kompresorjem (IEC 60335-2-89:2002)

Household and similar electrical appliances - Safety - Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor

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EUROPEAN STANDARD

EN 60335-2-89

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2002

ICS 97.130.20

English version

**Household and similar electrical appliances -
Safety**

**Part 2-89: Particular requirements for commercial refrigerating appliances
with an incorporated or remote refrigerant condensing unit or compressor
(IEC 60335-2-89:2002)**

Appareils électrodomestiques et
analogues - Sécurité
Partie 2-89: Règles particulières
pour les appareils de réfrigération
à usage commercial avec une unité
de condensation du fluide frigorigène
ou un compresseur incorporés
ou à distance
(CEI 60335-2-89:2002)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2-89: Besondere Anforderungen
für gewerbliche Kühl-/Gefriergeräte
mit eingebautem oder getrenntem
Verflüssigersatz oder Motorverdichter
(IEC 60335-2-89:2002)

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This European Standard was approved by CENELEC on 2002-09-24. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 61C/208/FDIS, future first edition of IEC 60335-2-89, prepared by SC 61C of the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60335-2-89 on 2002-09-24.

The following dates are applicable:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2003-07-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 2005-10-01

This part 2 has to be used in conjunction with EN 60335-1, Household and similar electrical appliances – Safety – Part 1: General requirements. It was established on the basis of the 2002 edition of that standard. Amendments and revisions of Part 1 have also to be taken into account and the dates when such changes become applicable will be stated in the relevant amendment or revision of Part 1.

This part 2 supplements or modifies the corresponding clauses of EN 60335-1, so as to convert it into the European Standard: Safety requirements for commercial electric refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor.

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 of Part 1 is to be adapted accordingly.

NOTE 1 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.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letter Z.

NOTE 2 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.

There are no special national conditions causing a deviation from this European Standard, other than those listed in Annex ZA to EN 60335-1.

There are no national deviations from this European Standard, other than those listed in Annex ZB to EN 60335-1.

Annex AA is normative and forms an integral part of this standard.

- p NOTE In this document, p is used in the margin to indicate instructions for preparing the printed version.
-

Introduction

p Add:

An investigation by CENELEC TC 61 has shown that all risks from products within the scope of this standard are fully covered by the Low Voltage Directive, 73/23/EEC. For products having mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 98/37/EC, has shown that the risks are mainly of electrical origin and consequently this directive is not applicable. However, the relevant essential safety requirements of the Machinery Directive are covered by this standard together with the principal objectives of the Low Voltage Directive.

Endorsement notice

The text of the International Standard IEC 60335-2-89:2002 was approved by CENELEC as a European Standard without any modification.

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p Add:

Annex ZC (normative)

Normative references to international publications with their corresponding European publications

Addition:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60079	Series	Electrical apparatus for explosive gas atmospheres	– ¹⁾	–
IEC 60079-4	– ²⁾	Electrical apparatus for explosive gas atmospheres – Part 4: Method of test for ignition temperature	–	–
IEC 60079-4A	– ²⁾	Electrical apparatus for explosive gas atmospheres – Part 4: Method of test for ignition temperature – First supplement	–	–
IEC/TR 60079-15	1987	Electrical apparatus for explosive gas atmospheres – Part 15: Type of protection "n"	–	–
IEC/TR3 60079-20	– ²⁾	Electrical apparatus for explosive gas atmospheres – Part 20: Data for flammable gases and vapours, relating to the use of electrical apparatus	–	–
IEC 60335-2-5	– ²⁾	Household and similar electrical appliances - Safety – Part 2-5: Particular requirements for dishwashers	–	–
IEC 60335-2-34	– ²⁾	Household and similar electrical appliances - Safety – Part 2-34: Particular requirements for motor-compressors	–	–
ISO 817	– ²⁾	Organic refrigerants – Number designation	–	–
ISO 3864	– ²⁾	Safety colours and safety signs	–	–
ISO 5149	– ²⁾	Mechanical refrigerating systems used for cooling and heating – Safety requirements	–	–

¹⁾ partly harmonized in EN 60079 series; see also EN 50014 and related standards

²⁾ undated reference

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC

60335-2-89

Edition 1.1
2005-04

Edition 1:2002 consolidée par l'amendement 1:2005
Edition 1:2002 consolidated with amendment 1:2005

**Appareils électrodomestiques et analogues –
Sécurité –**

**Partie 2-89:
Règles particulières pour les appareils de
réfrigération à usage commercial avec une unité
de condensation du fluide frigorigène ou un
compresseur incorporés ou à distance**

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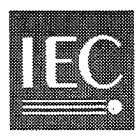
**Household and similar electrical appliances –
Safety –**

**Part 2-89:
Particular requirements for commercial
refrigerating appliances with an incorporated
or remote refrigerant condensing unit
or compressor**

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International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –**Part 2-89: Particular requirements for commercial refrigerating appliances
with an incorporated or remote refrigerant condensing unit or compressor**

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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- 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.

This part of International Standard IEC 60335 has been prepared by subcommittee 61C: Household appliances for refrigeration, of IEC technical committee 61: Safety of household and similar electrical appliances.

This consolidated version of IEC 60335-2-89 is based on the first edition (2002) [documents 61C/208/FDIS and 61C/211/RVD] and its amendment 1 (2005) [documents 61C/290/FDIS and 61C/301/RVD].

It bears the edition number 1.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

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 fourth edition (2001) 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 refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor.

Where a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. Where 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 maintenance result 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.

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.

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.

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 which 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.

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HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 specifies safety requirements for electrically operated commercial refrigerating appliances that have an incorporated compressor or that are supplied in two units for assembly as a single appliance in accordance with the manufacturer's instructions (split system).

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

- refrigerated display and storage cabinets;
- refrigerated trolley cabinets;
- service counters and self-service counters;
- blast chillers and blast freezers.

As far as is practicable, this standard deals with the common hazards presented by these types of appliances.

It does not cover those features of construction and operation of refrigerating appliances which are dealt with in ISO standards.

NOTE 102 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 are specified by national health authorities, the national authorities responsible for the protection of labour, national water authorities, the national authorities responsible for transportation and similar authorities.

NOTE 103 This standard does not apply to

- domestic refrigerating appliances (IEC 60335-2-24)
- industrial refrigerating systems;
- motor-compressors (IEC 60335-2-34);
- commercial dispensing appliances and vending machines (IEC 60335-2-75);
- commercial ice-cream appliances;
- commercial ice makers;
- cold temperature rooms;
- multiple refrigerated chambers with a remote compressor.

NOTE 104 Appliances with a charge of more than 150 g of **flammable refrigerant** in each separate refrigerant circuit are not covered by this standard. For appliances with a charge greater than 150 g of **flammable refrigerant** in each refrigerant circuit and for the installation, ISO 5149 may be applied. Consequently, such appliances cannot be assessed for safety using this part 2.