
Varnost gospodinjskih in podobnih električnih aparatov - 2-76. del: Posebne zahteve za generatorje impulzov za električne ograje (IEC 60335-2-76:1997; spremenjen)

Safety of household and similar electrical appliances - Part 2: Particular requirements for electric fence energizers (IEC 60335-2-76:1997, modified)

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English version

Safety of household and similar electrical appliances
Part 2: Particular requirements for electric fence energizers
(IEC 60335-2-76:1997, modified)

Sécurité des appareils
électrodomestiques et analogues
Partie 2: Règles particulières pour
les électrificateurs de clôture
(CEI 60335-2-76:1997, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2: Besondere Anforderungen für
Elektrozaungeräte
(IEC 60335-2-76:1997, modifiziert)

This European Standard was approved by CENELEC on 1999-08-01. 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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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 61H/96/FDIS, future first edition of IEC 60335-2-76 prepared by SC 61H of the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote in December 1996. The results of the vote were discussed during the Fehrltorf meeting of CENELEC TC 61 in October 1997 when it was decided to submit a modified draft for EN 60335-2-76 to the formal vote (3MV).

This draft was circulated in February 1999 and was approved by CENELEC as EN 60335-2-76 on 1999-08-01.

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) 2000-08-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 2006-08-01

This standard has to be used in conjunction with EN 60335-1, Safety of household and similar electrical appliances, Part 1: General requirements. It was established on the basis of the 1994 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 electric fence energizers.

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.

Subclauses, figures and tables which are additional to those in part 1 are numbered starting with 101. Annexes which are additional to those in part 1 are lettered AA, BB, etc.

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.

NOTE - 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 2. When a definition of part 1 concerns an adjective, the adjective and the associated noun are also in bold.

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

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Introduction

An investigation by CENELEC TC 61 has concluded that all risks from products within the scope of this standard are fully covered by the Low Voltage Directive, 73/23/EEC. If the product has mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 89/392/EEC, 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 60335-2-76:1997 was approved by CENELEC as a European Standard with common modifications as given below.

COMMON MODIFICATIONS

2 Definitions

- p 2.118 Replace this definition by "Void".

5 Output characteristics

- p 5.101 In the third dashed item, delete "for medium power energizers".
p Delete the fourth dashed item.

7 Marking and instructions

- p 7.1 In the last paragraph, replace "Medium power energizers" by "**Energizers**".
p Add:
7.12.1 *Addition:*
The installation instructions for **energizers** fitted with polyvinyl chloride sheathed cords shall state that the **energizer** has to be located in a shelter and must not be handled when the ambient temperature is below +5 °C.

10 Power input and current

- p 10.101 Replace "medium power energizer" by "**energizer**" (in two places).

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Annex A:

p Replace by:

Annex A
(normative)

Normative references

Addition:

<u>IEC standard</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
60068-2-11	1981	Environmental testing -- Part 2: Tests Test Ka: Salt mist	EN 60068-2-11	1999
60417-1	1998	Graphical symbols for use on equipment Part 1: Overview and application	EN 60417-1	1999
60479-2	1987	Effects of current on human beings and livestock -- Part 2: Special aspects Chapter 4: Effects of alternating current with frequencies above 100 Hz Chapter 5: Effects of special waveforms of current Chapter 6: Effects of unidirectional single impulse currents of short duration	-	-

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NORME
INTERNATIONALE

CEI
IEC

INTERNATIONAL
STANDARD

60335-2-76

Première édition
First edition
1997-05

**Sécurité des appareils électrodomestiques
et analogues –**

**Partie 2:
Règles particulières pour les électrificateurs
de clôture**

**Safety of household and similar electrical
appliances –**

**Part 2:
Particular requirements for electric fence
energizers**

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

Part 2: Particular requirements for electric fence energizers

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 the 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 National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The 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 61H: Safety of electrically operated farm appliances, of IEC technical committee 61: Safety of household and similar electrical appliances.

It forms the first edition of IEC 60335-2-76, and replaces IEC 61011, IEC 61011-1, IEC 61011-2 and their amendments.

The text of this part is based on the following documents:

FDIS	Report on voting
61H/96/FDIS	61H/106/RVD

Full information on the voting for the approval of this part can be found in the report on voting indicated in the above table.

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 third edition (1991) of that standard and its amendment 1 (1994).

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert it into the IEC standard: Safety requirements for electric fence energizers.

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.

NOTES

1 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 2. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

2 Subclauses, tables and figures which are additional to those in part 1 are numbered starting from 101. Annexes which are additional to those in part 1 are lettered AA, BB, etc.

The following additional difference exists in some countries:

- 5.101: Only medium power energizers are allowed (Austria, Denmark, France, Germany, Netherlands, Norway, and Switzerland).

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SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

Part 2: Particular requirements for electric fence energizers

1 Scope

This clause of part 1 is replaced by:

This standard deals with the safety of **electric fence energizers**, the **rated voltage** of which is not more than 250 V and by means of which fence wires in agricultural, feral animal control and security fences may be electrified or monitored.

NOTE 1 – Examples of **electric fence energizers** coming within the scope of this standard are:

- **mains-operated energizers**;
- **battery-operated electric fence energizers suitable for connection to the mains**, as shown in figure 101;
- **electric fence energizers** operated by non-rechargeable batteries either incorporated or separate.

This standard does not in general take into account

- the use of appliances by young children or infirm persons without supervision;
- playing with appliances by young children.

NOTES

2 Attention is drawn to the fact that

- for appliances intended to be used on board ships or aircraft, additional requirements may be necessary;
- for appliances intended to be used in tropical countries special requirements may be necessary;
- 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.

3 This standard does not apply to

- 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);
- separate battery chargers (IEC 60335-2-29);
- electric fishing machines (IEC 60335-2-86);
- electric animal-stunning equipment (IEC 60335-2-87);
- appliances for medical purposes (IEC 60601).

2 Definitions

[SIST EN 60335-2-76:2000](https://standards.iteh.ai/catalog/standards/sist/bee24ff2-5741-4df4-9766-c088937057c/sist-60335-2-76-2000)

This clause of part 1 is applicable **except as follows**.
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2.2.1 Addition:

For **type D energizers**, the **rated voltage** of the energizer is the **rated voltage for battery supply**.

2.2.6 Addition:

For **battery-operated electric fence energizers not for connection to the mains**, it is the average input current assigned to the **energizer** by the manufacturer.

2.2.9 Replacement:

normal operation: Operation of the appliance under the following conditions: the **electric fence energizer** is operated as in normal use when connected to the supply, with no load connected to the output terminals.

2.4.8 Addition:

NOTE – In **class II electric fence energizers** provision may be made for connecting at least one of the output terminals to the **earth electrode**.

2.9.3 Addition:

It also includes terminals for the connection of the battery and other metal parts in a battery compartment which become accessible when replacing batteries even with the aid of a **tool**.

2.9.4 Replacement:

live part: Conductive part which may cause an electric shock.

2.101 **electric fence energizer:** Appliance which is intended to deliver periodically voltage impulses to a **fence** connected to it.

NOTE – **Electric fence energizers** are hereinafter also referred to as **energizers**.

2.102 **mains-operated energizer: Energizer** designed for direct connection to the mains.

2.103 **battery-operated energizer suitable for connection to the mains: Energizer**

- operated by batteries and having, or being designed for connection to, facilities for charging these batteries from the mains, or
- designed for operation from the mains and from batteries.

2.104 **type A energizer: Battery-operated energizer suitable for connection to the mains** consisting of an impulse generating circuit, a battery charging circuit and a battery, the impulse generating circuit being connected to the mains or the battery when the **energizer** is in operation.

NOTE – **Type A energizers** are shown schematically in figure 101.

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