SLOVENSKI STANDARD
SIST EN 60335-2-29:1997

01-junij-1997

Varnost gospodinjskih in podobnih električnih aparatov - 2-29. del: Posebne zahteve za polnilnike baterij (IEC 60335-2-29:1994; spremenjen)

Safety of household and similar electrical appliances -- Part 2-29: Particular requirements for battery chargers

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 2-29: Besondere Anforderungen für Batterieladegeräte

Sécurité des appareils électrodomestiques et analogues -- Partie 2-29: Règles particulières pour les chargeurs de batterie

Ta slovenski standard je istoveten z: **EN 60335-2-29:1996**

ICS:

13.120	Varnost na domu	Domestic safety
97.180	Razna oprema za dom in trgovino	Miscellaneous domestic and commercial equipment

SIST EN 60335-2-29:1997 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60335-2-29

December 1996

ICS 29.200

Supersedes EN 60335-2-29:1991 and its amendment

Descriptors: Household electrical appliances, battery chargers, safety requirements, protection against electric shock, fire protection, protection against mechanical hazard

English version

Safety of household and similar electrical appliances Part 2: Particular requirements for battery chargers (IEC 335-2-29:1994, modified)

Sécurité des appareils électrodomestiques et analogues Partie 2: Règles particulières pour les chargeurs de batterie (CEI 335-2-29:1994, modifiée)

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke Teil 2: Besondere Anforderungen für Batterieladegeräte (IEC 335-2-29:1994, modifiziert)

This European Standard was approved by CENELEC on 1996-10-01. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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 proposal to endorse IEC 335-2-29:1994, document CLC/TC 61 (SEC) 990, was circulated under the enquiry procedure in December 1994. This proposal was discussed during the Amsterdam meeting in September 1995, when it was decided to submit a draft for EN 60335-2-29 to the formal vote.

This draft was circulated in March 1996 and was ratified by CENELEC as EN 60335-2-29 on 1996-10-01.

This European Standard has been prepared by the secretariat of CENELEC Technical Committee TC 61.

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)	1997-04-01
- date on which national standards conflicting with the EN have to be withdrawn	(dow)	1999-04-01

For products which have complied with EN 60335-2-29:1991 including its amendment A2:1993 before 1999-04-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2004-04-01.

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 battery chargers.

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 of part 1 is to be adapted accordingly.

Subclauses and figures which are additional to those in part 1 are numbered starting with 101.

Special national conditions causing a deviation from this European Standard are listed in annex ZA and are in addition to those in 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.

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

Endorsement notice

The text of the International Standard IEC 335-2-29:1994 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

25 Supply connection and external flexible cords

p 25.7 Add:

NOTE Z1: Refer to annex ZA.

Annexes

Annex A - Normative references

p Replace by:

Annex A

Normative references

International publications with their relevant European publication

Addition:

IEC standard	Year	Title	EN/HD	Year
68-2-6	1982	Test Fc and guidance: Vibration (sinusoidal) Vibration (sinusoidal)	HD 323.2.6 S2[1)]	1988
491	1984	Safety requirements for electronic flash apparatus for photographic purposes	HD 327 S2	1988
718	1992	Electrical equipment for the supply of energy to battery powered road vehicles	---	---

p Add:

Annex ZA (normative)

Special national conditions

Addition:

Clause	Special national condition
25.7	**Finland** Polyvinylchloride sheathed cords are not allowed for battery chargers for charging automobile batteries.

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1) HD 323.2.6 S2 is superseded by EN 60068-2-6:1995.

NORME INTERNATIONALE
INTERNATIONAL STANDARD

CEI
IEC
335-2-29

Troisième édition
Third edition
1994-11

Sécurité des appareils électrodomestiques et analogues

Partie 2:
Règles particulières pour les chargeurs de batterie

Safety of household and similar electrical appliances

Part 2:
Particular requirements for battery chargers

Numéro de référence
Reference number
CEI/IEC 335-2-29: 1994

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

Part 2: Particular requirements for battery chargers

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 cooperation 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, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

3) They have the form of recommendations for international use 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.

This part of International Standard IEC 335 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

It forms the third edition of IEC 335-2-29 and replaces the second edition and its amendments.

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

DIS	Report on voting
61(CO)793	61/867/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 335-1 and its amendments. It was established on the basis of the third edition (1991) of that standard.

This part 2 supplements or modifies the corresponding clauses in IEC 335-1, so as to convert it into the IEC standard: *Safety requirements for electric battery chargers.*

Annex A is an integral part of this standard.

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

Part 2: Particular requirements for battery chargers

1 Scope

This clause of part 1 is replaced by:

This standard deals with the safety of battery chargers for household and similar use having an output at **safety extra-low voltage**, their **rated voltage** being not more than 250 V.

Battery chargers not intended for normal household use, but which nevertheless may be a source of danger to the public, such as battery chargers intended for use in garages, shops, light industry and on farms, are within the scope of this standard.

So far as is practicable, this standard deals with the common hazards presented by appliances which are encountered by all persons in and around the home.

This standard does not in general take into account:

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

- playing with the appliance by young children.

NOTES

1 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;

- 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 and similar authorities.

2 This standard does not apply to

- built-in battery chargers, except those for installing in caravans and similar vehicles;

- battery chargers which are part of an appliance, the battery of which is not accessible to the user;

- battery chargers intended exclusively for industrial purposes;

- battery chargers intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);

- rechargeable battery-operated appliances (IEC 335-1, annex B);

- battery chargers comprising more than one unit;

- battery chargers for toys;

- supply units for electronic equipment;

- battery chargers and supply units for electronic flash apparatus for photographic purposes (IEC 491);

- battery chargers intended for use in electric vehicles (IEC 718).

2 Definitions

This clause of part 1 is applicable except as follows:

2.2.1 *Addition:*

The **rated voltage** is the rated input voltage.

2.2.6 *Addition:*

The **rated current** is the rated input current.

2.2.9 *Replacement:*

normal operation: The battery charger is operated as follows:

Battery chargers for charging lead-acid batteries and battery chargers which have a **rated d.c. output current** not exceeding 20 A for charging other batteries, are connected to the circuit of figure 101. The variable resistor is adjusted so that the current in the circuit is the **rated d.c. output current** when the battery charger is supplied at **rated voltage**.

When the charging current is controlled by the state of charge of the battery, the variable resistor and the capacitor are replaced by a discharged battery of the type and having the largest capacity specified in the instructions for use.

Other battery chargers are connected to a discharged battery of the type and having the largest capacity specified in the instructions for use.

NOTE – Batteries are considered to be discharged when:

- for lead-acid batteries, the specific gravity of the electrolyte is less than 1,16;
- for nickel-cadmium batteries, the voltage per cell is less than 0,9 V.

2.101 **rated d.c. output voltage**: The d.c. output voltage assigned to the battery charger by the manufacturer.

NOTE – The **rated d.c. output voltage** of a battery charger is equal to the product of the number of cells connected in series and the nominal voltage of one cell of the battery for which the charger is to be used.

2.102 **rated d.c. output current:** The d.c. output current assigned to the battery charger by the manufacturer.

2.103 **d.c. distribution board:** Panel in a caravan having circuits for distributing d.c. power to socket-outlets or terminals.

3 General requirement

This clause of part 1 is applicable.