SLOVENSKI STANDARD
SIST EN 60934:2003

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Nadomešča:
SIST EN 60934:1996
SIST EN 60934:1996/A11:1999
SIST EN 60934:1996/A2:1997

Odklopniki za opremo (CBE) (IEC 60934:2000)

Circuit-breakers for equipment (CBE)

Geräteschutzschalter (GS)

Disjoncteurs pour équipement (DPE)

Ta slovenski standard je istoveten z: **EN 60934:2001**

ICS:

29.120.40	Stikala	Switches
29.120.50	Varovalke in druga medtokovna zaščita	Fuses and other overcurrent protection devices

SIST EN 60934:2003 **en**

EUROPEAN STANDARD **EN 60934**

NORME EUROPÉENNE

EUROPÄISCHE NORM January 2001

ICS 29.120.40;29.120.50 Supersedes EN 60934:1994 + A1:1994 + A2:1997 + A11:1998

English version

Circuit-breakers for equipment (CBE)
(IEC 60934:2000)

Disjoncteurs pour équipement (DPE)
(CEI 60934:2000)

Geräteschutzschalter (GS)
(IEC 60934:2000)

This European Standard was approved by CENELEC on 2000-11-01. 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.

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

Ref. No. EN 60934:2001 E

Foreword

The text of document 23E/430/FDIS, future edition 3 of IEC 60934, prepared by SC 23E, Circuit-breakers and similar equipment for household use, of IEC TC 23, Electrical accessories, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60934 on 2000-11-01.

This European Standard supersedes EN 60934:1994 + A1:1994 + A2:1997 + A11:1998.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2001-08-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2003-11-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A, B, C, D, E, G, H, J, K and ZA are normative and annex F is informative.
Annex ZA has been added by CENELEC.

In this standard the following print types are used:
- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in smaller roman type.

Endorsement notice

The text of the International Standard IEC 60934:2000 was approved by CENELEC as a European Standard without any modification.

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60050-151	1978	International Electrotechnical Vocabulary (IEV) Chapter 151: Electrical and magnetic devices	-	-
IEC 60050-441	1984	Chapter 441: Switchgear, controlgear and fuses	-	-
IEC 60050-604	1987	Chapter 604: Generation, transmission and distribution of electricity - Operation	-	-
IEC 60050-826	1982	Chapter 826: Electrical installations of buildings		
+ A1	1990			
+ A2	1995			
+ A3	1999		HD 384.2 S2	2001
IEC 60060-1	1989	High-voltage test techniques	HD 588.1 S1	1991
+ corr. March	1990	Part 1: General definitions and test requirements		
IEC 60068-2-20	1979	Basic environmental testing procedures Part 2: Tests - Test T: Soldering	HD 323.2.20 S3[1)]	1988
IEC 60099-1	1991	Surge arresters Part 1: Non-linear resistor type gapped surge arresters for a.c. systems	EN 60099-1	1994
IEC 60227	Series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	HD 21[2)]	Series
IEC 60269	Series	Low-voltage fuses	EN 60269	Series

[1)] HD 323.2.20 S3 includes A2:1987 to IEC 60068-2-20.

[2)] The HD 21 series is related to but not equivalent to the IEC 60227 series.

Publication	Year	Title	EN/HD	Year
IEC 60417-1	1998	Graphical symbols for use on equipment Part 1: Overview and application	EN 60417-1	1999
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr May	1991 1993
IEC 60664	Series	Insulation coordination for equipment within low-voltage systems	-	-
IEC 60664-1 (mod)	1992	Part 1: Principles, requirements and tests	HD 625.1 S1 + corr. November	1996 1996
IEC 60664-3	1992	Part 3: Use of coatings to achieve insulation coordination of printed board assemblies	HD 625.3 S1	1997
IEC 60695-2-1/X	Series	Fire hazard testing Part 2: Test methods - Section 1: Glow-wire test methods	EN 60695-2-1/X[3)]	Series
IEC 60898	1995[4)]	Electrical accessories - Circuit-breakers for overcurrent protection for household and similar installations	-	-
IEC 60947-1 (mod)	1999	Low-voltage switchgear and controlgear Part 1: General rules	EN 60947-1 + corr. October	1999 1999
IEC 60950 (mod) + corr. January	1999 2000	Safety of information technology equipment	EN 60950	2000
IEC 61000-4-2	1995	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	1995
IEC 61000-4-3 (mod)	1995	Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	1996
IEC 61000-4-4	1995	Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	1995
IEC 61000-4-5	1995	Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	1995
CISPR 22 (mod)	1997	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022 + corr. August	1998 1999

3) EN 60695-2-1/X:1996 are superseded by EN 60695-2-10:2001 to EN 60695-2-13:2001, which are based on IEC 60695-2-10:2000 to IEC 60685-2-13:2000.

4) IEC 60898:1987 + corrigendum May 1988 + A2:1990 + A3:1990 + corrigendum August 1990, mod., are harmonized as EN 60898:1991. This European Standard applies with its corrigendum October 1991 and its amendments A1:1991 (IEC/A1:1989) and A11:1994 up to A19:2000.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
60934

Troisième édition
Third edition
2000-10

Disjoncteurs pour équipement (DPE)

Circuit-breakers for equipment (CBE)

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Commission Electrotechnique Internationale
International Electrotechnical Commission
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For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CIRCUIT-BREAKERS FOR EQUIPMENT (CBE)

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 specifications, 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.

International Standard IEC 60934 has been prepared by subcommittee 23E: Circuit-breakers and similar equipment for household use, of IEC technical committee 23: Electrical accessories.

This third edition cancels and replaces the second edition published in 1993 and its amendments 1 (1994) and 2 (1997), and constitutes a technical revision.

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

FDIS	Report on voting
23E/430/FDIS	23E/441/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

Annexes A, B, C, D, E, G, H, J and K form an integral part of this standard.

Annex F is for information only.

In this standard, the following print types are used:

– Requirements proper: in roman type

– *Test specifications: in italic type*

– Explanatory matter: in smaller roman type.

The committee has decided that the contents of this publication will remain unchanged until 2005-06. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

CIRCUIT-BREAKERS FOR EQUIPMENT (CBE)

1 Scope and object

This International Standard is applicable to mechanical switching devices designed as "circuit-breakers for equipment" (CBE) intended to provide protection to circuits within electrical equipment.

NOTE 1 The term "equipment" includes appliances.

NOTE 2 The protected components are usually motors, transformers, internal wiring, etc.

CBEs may have a rated short-circuit capacity higher than that required for overload conditions and may, in addition, have a conditional short-circuit current rating in association with a specified short-circuit protective device (SCPD).

This standard is also applicable to switching devices for protection of electrical equipment in case of undervoltage and/or overvoltage.

It is applicable for a.c. not exceeding 440 V and/or d.c. not exceeding 250 V and a rated current not exceeding 125 A.

This standard covers CBEs which are intended for

– automatic interruption and non-automatic or automatic resetting;

– automatic interruption and non-automatic or automatic resetting and manual switching operation.

It also covers CBE-switches, in which the means for automatic interruption are inhibited or not present by construction (see 3.1.3).

NOTE 3 This standard may be used as a guiding document for voltages up to 630 V a.c.

NOTE 4 Requirements for CBEs suitable for isolation are under consideration.

This standard contains all the requirements necessary to ensure compliance with the operational characteristics required for these devices by type tests.

It also contains the details relative to test requirements and methods of testing necessary to ensure reproducibility of test results.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

IEC 60050(151):1978, *International Electrotechnical Vocabulary (IEV) – Chapter 151: Electrical and magnetic devices*

IEC 60050(441):1984, *International Electrotechnical Vocabulary (IEV) – Chapter 441: Switchgear, controlgear and fuses*

IEC 60050(604):1987, *International Electrotechnical Vocabulary (IEV) – Chapter 604: Generation, transmission and distribution of electricity – Operation*

IEC 60050(826):1982, *International Electrotechnical Vocabulary (IEV) – Chapter 826: Electrical installations of buildings*
Amendment 1 (1990)
Amendment 2 (1995)
Amendment 3 (1999)

IEC 60060-1:1989, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60068-2-20:1979, *Environmental testing – Part 2: Tests – Test T: Soldering*

IEC 60099-1:1991, *Surge arresters – Part 1: Non-linear resistor type gapped arresters for a.c. systems* [1)]

IEC 60227 (all parts), *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60269 (all parts), *Low-voltage fuses*

IEC 60417-1:1998, *Graphical symbols for use on equipment – Part 1: Overview and application*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60664 (all parts), *Insulation coordination for equipment within low-voltage systems*

IEC 60664-1:1992, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60664-3:1992, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coatings to achieve insulation coordination of printed board assemblies*

IEC 60695-2-1 (all sheets), *Fire hazard testing – Part 2: Test methods – Section 1: Glow-wire test methods*

IEC 60898:1995, *Electrical accessories – Circuit-breakers for overcurrent protection for household and similar installations*

IEC 60947-1:1999, *Low-voltage switchgear and controlgear – Part 1: General rules*

IEC 60950:1999, *Safety of information technology equipment*

[1)] There is a consolidated edition 3.1 (1999) that includes IEC 60099-1 (1991) and its amendment 1 (1999).