



SLOVENSKI STANDARD

SIST EN 60269-1:1995

01-december-1995

Low-voltage fuses - Part 1: General requirements (IEC 269-1:1986)

Low-voltage fuses -- Part 1: General requirements

Niederspannungssicherungen -- Teil 1: Allgemeine Anforderungen

Fusibles basse tension -- Partie 1: Règles générales

Ta slovenski standard je istoveten z: **EN 60269-1:1989/A1:1994**

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ICS:

29.120.50	Varovalke in druga medtokovna zaščita	Fuses and other overcurrent protection devices
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EUROPEAN STANDARD

EN 60 269-1

NORME EUROPEENNE

January 1989

EUROPÄISCHE NORM

UDC: 621.316.923.027.2

KEY WORDS: Low-voltage fuse; definition; classification;
characteristic; operation; breaking capacity; test

ENGLISH VERSION

LOW-VOLTAGE FUSES
PART 1: GENERAL REQUIREMENTS

Usibles basse tension, Niederspannungssicherungen,
Première partie: Règles générales, Teil 1: Allgemeine Anforderungen

This European Standard was ratified by CENELEC on 1988-06-28. CENELEC members are bound to comply with the requirements of the CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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

Central Secretariat: rue Bréderode 2, B-1000 Brussels

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Ref. No. EN 60 269-1:1989 E

BRIEF HISTORY

The CENELEC Questionnaire Procedure performed for finding out whether or not IEC 269-1 (2nd edition - 1986) could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as European Standard (EN). The Reference Document was submitted to the CENELEC members for formal vote and acceptance by CENELEC.

TECHNICAL TEXT**iTeh STANDARD PREVIEW**

The text of the International Standard IEC 269-1 (2nd edition - 1986) was approved by CENELEC on 28 June 1988 as a European Standard.

Annexes designated "normative" are part of the body of the standard. Annexes designated "informative" are given only for information.

In this standard annex ZA, added by CENELEC, is normative.

The following dates were fixed:

- | | |
|---|--------------|
| - date of announcement (doa) | : 1989-01-01 |
| - date of publication (dop) | : 1989-07-01 |
| - date of withdrawal of conflicting national standard (dow) | : 1990-01-01 |

ANNEX ZA (normative)

Other international publications quoted in this standard

* This publication is under revision or a revised version has been issued.

1	IEC publications	EN/HD	Date of publication of EN/HD
38 (1983)	IEC standard voltages	-	-
50 (441) (1984)*	International Electrotechnical Vocabulary Chapter 441: Switchgear, controlgear and fuses	-	-
127 (1974)	Cartridge fuse-links for miniature fuses	HD 109 S3	04.83
257 (1968)	Fuse-holders for miniature cartridge fuse-links	HD 119	05.74
269-2 (1973)*	Low-voltage fuses. Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)	-	-
291 (1969)	Fuse definitions	-	-
364-3 (1977)	Electrical installations of buildings Part 3: Assessment of general characteristics	HD 384.3	10.85
364-5-523 (1983)	Electrical installations of buildings Part 5: Selection and erection of electrical equipment Chapter 52: Wiring systems Section 523 - Current-carrying capacities	-	-

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1 IEC publications	EN/HD	Date of publication of EN/HD
408 (1972)* Low-voltage air-break switches, air-break disconnectors, air-break switchdisconnectors and fuse- combination units	HD 422	06.82
417 (1973)* Graphical symbols for use on equipment Index, survey and compilation of the single sheets	HD 243 S6	06.84
529 (1976)* Classification of degrees of protection provided by enclosures	HD 365 S3	05.85
584-1 (1977) Thermocouples Part 1: Reference tables	HD 466.1	03.84
695-2-1 (1980) Fire hazard testing. Part 2: Test methods. Glow-wire test and guidance	HD 444.2.1	03.83

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2 ISO publications	EN/HD	Date de publication des EN/HD
3 (1973) Preferred numbers. Serie of preferred numbers	-	-
478 (1974) Paper - Untrimmed stock sizes for the ISO A series; ISO primary range	-	-
593 (1974) Paper - Untrimmed stock sizes for the ISO A series; ISO supplementary range	-	-
4046 (1978) Paper, board, pulp and related terms - Vocabulary - Bilingual edition	-	-

EUROPEAN STANDARD

EN 60269-1/A1

NORME EUROPEENNE

EUROPÄISCHE NORM

April 1994

UDC 621.316.923.027.2:621.37.001.365

Descriptors: Electrical equipment, low-voltage switchgear, low voltage fuses, characteristics, test

Amendment A1 to the English version of EN 60269-1

Low-voltage fuses
Part 1: General requirements
(IEC 269-1:1986/A1:1994)

Fusibles basse tension
première partie: Règles
générales
(CEI 269-1:1986/A1:1994)

Niederspannungssicherungen
Teil 1: Allgemeine Anforderungen
(IEC 269-1:1986/A1:1994)

This amendment A1 modifies the European Standard EN 60269-1:1989. It was approved by CENELEC on 1993-09-22. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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

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Ref. No. EN 60269-1:1989/A1:1994 E

FOREWORD

The text of document 32B(CO)94, as prepared by Sub-Committee 32B: Low-voltage fuses, of IEC Technical Committee 32: Fuses, was submitted to the IEC-CENELEC parallel vote in November 1992.

The reference document was approved by CENELEC as amendment A1 to EN 60269-1 on 22 September 1993.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1995-03-01
- latest date of withdrawal of conflicting national standards (dow) 1995-03-01

For products which have complied with EN 60269-1:1989 before 1995-03-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2000-03-01.

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NOTE: The UDC and descriptors of this amendment replace those given for EN 60269-1:1989.

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[7e34763673b/sist-en-60269-1-1995](#)

ENDORSEMENT NOTICE

The text of amendment 1:1994 to the International Standard IEC 269-1:1986 was approved by CENELEC as an amendment to the European Standard without any modification.

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE
NORME DE LA CEI

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC STANDARD

Publication 269-1

Deuxième édition — Second edition

1986

Fusibles basse tension

Première partie: Règles générales

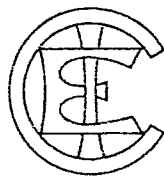
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Low-voltage fuses

Part 1: General requirements

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Bureau Central de la Commission Electrotechnique Internationale
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE FUSES

Part 1: General requirements

FOREWORD

- 1) 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.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.
- 4) The desirability is recognized of extending international agreement on these matters through an endeavour to harmonize national standardization rules with these recommendations in so far as national conditions will permit. The National Committees pledge their influence towards that end.

iTeh STANDARD PREVIEW

PREFACE

This standard has been prepared by IEC Sub-Committee 32B: Low-voltage fuses, of IEC Technical Committee No. 32: Fuses.

This second edition replaces the first edition of IEC Publication 269-1 published in 1968 and reprinted in 1973.

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

Six Months' Rule	Report on Voting	Two Months' Procedure	Report on Voting
32B (CO) 47	32B (CO) 53	32B (CO) 54 32B (CO) 55 32B (CO) 56 32B (CO) 57	32B (CO) 60 32B (CO) 61 32B (CO) 62 32B (CO) 63

Further information can be found in the relevant Reports on Voting indicated in the table above.

The new edition of Publication 269 is divided into the following parts:

- Part 1:** General requirements (Publication 269-1).
- Second part:** Supplementary requirements for fuses for use by authorized persons (Fuses Mainly for Industrial Application) (Publication 269-2).
- **Part 2:** Examples of types of standardized fuses for use by authorized persons (Publication 269-2-1) (in preparation).
- **Part 2-1:** Supplementary requirements for fuses for use by unskilled persons (Publication 269-3) (in preparation).
- Third part:** Supplementary requirements for fuses for use by unskilled persons (Publication 269-3).
- **Part 3:** Examples of standardized fuses for use by unskilled persons (Publication 269-3-1) (in preparation).
- **Part 3-1:** Supplementary requirements for fuse-links for the protection of semiconductor devices (Publication 269-4).
- Part 4:** Supplementary requirements for fuse-links for the protection of semiconductor devices (Publication 269-4).

The following IEC publications are quoted in this standard:

- Publications Nos. 38 (1983): IEC Standard Voltages.
50 (441) (1984): International Electrotechnical Vocabulary (IEV), Chapter 441: Switchgear, Control Gear and Fuses.

- 127 (1974): Cartridge Fuse-Links for Miniature Fuses.
- 257 (1968): Fuse-Holders for Miniature Cartridge Fuse-Links.
- 269-2 (1973): Low-Voltage Fuses, Part 2: Supplementary Requirements for Fuses for Use by Authorized Persons.
- 291 (1969): Fuse Definitions.
- 364-3 (1977): Electrical Installations of Buildings, Part 3: Assessment of General Characteristics.

- 364-5-523 (1983): Part 5: Selection and Erection of Electrical Equipment, Chapter 52: Wiring Systems, Section 523: Current-carrying Capacities.
- 408 (1972): Low-Voltage Air-Break Switches, Air-Break Disconnectors, Air-Break Switch Disconnectors and Fuse-Combination Units.
- 417 (1973): Graphical Symbols for Use on Equipment. Index, Survey and Compilation of the Single Sheets.
- 529 (1976): Classification of Degrees of Protection provided by Enclosures.
- 584-1 (1977): Thermocouples, Part I: Reference Tables.
- 695-2-1 (1980): Fire Hazard Testing, Part 2: Test Methods, Glow-wire Test and Guidance.

Other publications quoted:

- ISO 3-1973: Preferred Numbers – Series of Preferred Numbers.
- ISO 478-1974: Paper – Untrimmed Stock Sizes for the ISO-A Series – ISO Primary Range.
- ISO 593-1974: Paper – Untrimmed Stock Sizes for the ISO-A Series – ISO Supplementary range.
- ISO 4046-1978: Paper, Board, Pulp and Related Terms – Vocabulary – Bilingual Edition.

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LOW-VOLTAGE FUSES

Part 1: General requirements

1. General

1.1 Scope

This standard is applicable to fuses incorporating enclosed current-limiting fuse-links with rated breaking capacities of not less than 6 kA, intended for protecting power-frequency a.c. circuits of nominal voltages not exceeding 1 000 V or d.c. circuits of nominal voltages not exceeding 1 500 V.

Subsequent parts of this standard, referred to herein, cover supplementary requirements for such fuses intended for specific conditions of use or applications.

Fuse-links intended to be included in fuse-switch combinations according to IEC Publication 408: Low-voltage Air-break Switches, Air-break Disconnectors, Air-break Switch Disconnectors and Fuse-combination Units, should also comply with the following requirements.

Notes 1. - For "a" fuse-links, details of performance (see Sub-clause 2.2.4) on d.c. circuits should be subject to agreement between user and manufacturer.

2. - Modifications of, and supplements to, this standard required for certain types of fuses for particular applications - for example certain fuses for rolling stock, or fuses for high-frequency circuits - will be covered, if necessary, by separate standards.
3. - This standard does not apply to miniature fuses, these being covered by IEC Publication 127: Cartridge Fuse-links for Miniature Fuses, and IEC Publication 257: Fuse-holders for Miniature Cartridge Fuse-links.

1.2 Object

The object of this standard is to establish the characteristics of fuses or parts of fuses (fuse-base, fuse-carrier, fuse-link) in such a way that they can be replaced by other fuses or parts of fuses having the same characteristics provided that they are interchangeable as far as their dimensions are concerned. For this purpose, this standard refers in particular to:

1.2.1 The following characteristics of fuses:

- a) their rated values;
- b) their insulation;
- c) their temperature rises in normal service;
- d) their power dissipation and acceptance;
- e) their time/current characteristics;
- f) their breaking capacity;
- g) their cut-off current characteristic and their I^2t characteristics.

1.2.2 Type test for verification of the characteristics of fuses

1.2.3 The marking on fuses

2. Definitions

Note. – For general definitions concerning fuses, see also IEC Publication 291: Fuse Definitions, and IEC Publication 50 (441): International Electrotechnical Vocabulary (IEV), Chapter 441: Switchgear, Controlgear and Fuses.

For the purpose of this standard, the following definitions shall apply.

2.1 Fuses and their component parts

2.1.1 Fuse

A device that by the fusing of one or more of its specially designed and proportioned components opens the circuit in which it is inserted by breaking the current when this exceeds a given value for a sufficient time. The fuse comprises all the parts that form the complete device.

2.1.2 Fuse-holder

The combination of the fuse-base with its fuse-carrier. (Where in this standard the term “fuse-holder” is used, it covers fuse-bases and/or fuse-carriers, if no clearer distinction is necessary.)

2.1.2.1 Fuse-base (fuse-mount)

The fixed part of a fuse provided with contacts, terminals and covers, where applicable.

2.1.2.2 Fuse-carrier

The movable part of a fuse designed to carry a fuse-link.

2.1.3 Fuse-link

The part of a fuse including the fuse-element(s), intended to be replaced after the fuse has operated.

2.1.4 Fuse-contact

Two or more conductive parts designed to ensure circuit continuity between a fuse-link and the corresponding fuse-holder.

2.1.5 Fuse-element

A part of a fuse-link designed to melt when the fuse operates. The fuse-link may comprise several fuse-elements in parallel.

2.1.6 Indicating device (indicator)

A device provided to indicate whether the fuse has operated.

2.1.7 Striker

A mechanical device forming part of a fuse-link which, when the fuse operates, releases the energy required to cause operation of other apparatus or indicators or to provide interlocking.