Madalpingelised sulavkaitsmed. Osa 2: Lisanõuded volitatud isikute poolt (peamiselt tööstusrakendustes) kasutatavatele sulavkaitsmetele. Kaitsmete standardsüsteemide A kuni K näited

Low-voltage fuses -- Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application) - Examples of standardized systems of fuses A to K

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-HD 60269-2:2013 sisaldab Euroopa standardi HD 60269-2:2013 ingliskeelset teksti.	This Estonian standard EVS-HD 60269-2:2013 consists of the English text of the European standard HD 60269-2:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 06.09.2013.	Date of Availability of the European standard is 06.09.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 29.120.50

HARMONIZATION DOCUMENT

DOCUMENT D'HARMONISATION

HARMONISIERUNGSDOKUMENT

HD 60269-2

September 2013

ICS 29.120.50

Supersedes HD 60269-2:2010

English version

Low-voltage fuses - Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application) - Examples of standardized systems of fuses A to K

(IEC 60269-2:2013, modified)

Fusibles basse tension - Partie 2: Exigences supplémentaires pour les fusibles destinés à être utilisés par des personnes habilitées (fusibles pour usages essentiellement industriels) - Exemples de systèmes de fusibles normalisés A à K

(CEI 60269-2:2013, modifiée)

Niederspannungssicherungen - Teil 2: Zusätzliche Anforderungen an Sicherungen zum Gebrauch durch Elektrofachkräfte bzw. elektrotechnisch unterwiesene Personen (Sicherungen überwiegend für den industriellen Gebrauch) - Beispiele für genormte Sicherungssysteme A bis K

(IEC 60269-2:2013, modifiziert)

CENELEC

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. HD 60269-2:2013 E

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Foreword

The text of document 32B/611/FDIS, future edition 5 of IEC 60269-2:2013, prepared by SC 32B, "Low-voltage fuses", of IEC/TC 32, "Fuses" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as HD 60269-2:2013.

A draft amendment, which covers common modifications to IEC 60269-2:2013, was prepared by CLC/SR 32B "Low-voltage fuses" and approved by CENELEC.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-08-15
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2016-08-15

This document supersedes HD 60269-2:2010.

HD 60269-2:2013 includes the following significant technical changes with respect to HD 60269-2:2010:

a) fuse systems A and B: modified values for the power dissipation of NH aM fuse-links;

b) fuse systems A and B: introduction of dimension *r* for NH fuse-links;

c) addition of new fuse system K: gK fuse-links with contacts for bolted connections.

This part is to be used in conjunction with EN 60269-1:2007 + A1:2009, *Low-voltage fuses – Part 1: General requirements*.

This Part 2 supplements or modifies the corresponding clauses or subclauses of Part 1.

Where no change is necessary, this Part 2 indicates that the relevant clause or subclause applies.

Tables and figures which are additional to those in Part 1 are numbered starting from 101 in fuse system A, from 201 in fuse system B, etc. Additional annexes are numbered AA, BB, etc.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60269-2:2013 are prefixed “Z”.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 60269-2:2013 was approved by CENELEC as a Harmonisation Document with agreed common modifications.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60060-1	NOTE	Harmonised as EN 60060-1.
IEC 60060-2	NOTE	Harmonised as EN 60060-2.
IEC 60060-3	NOTE	Harmonised as EN 60060-3.
IEC 60529	NOTE	Harmonised as EN 60529.
IEC 60672-1	NOTE	Harmonised as EN 60672-1.
IEC 60672-2	NOTE	Harmonised as EN 60672-2.
IEC 60672-3	NOTE	Harmonised as EN 60672-3.
IEC 62262	NOTE	Harmonised as EN 62262.
ISO 898-1	NOTE	Harmonised as EN ISO 898-1.
ISO 1207	NOTE	Harmonised as EN ISO 1207.
ISO 4589-1	NOTE	Harmonised as EN ISO 4589-1.

COMMON MODIFICATIONS

1 Modification to 1.1 "Scope"

Replace the note by the following:

The following fuse systems are standardized systems in respect to their safety aspects. The National Committees shall select at least one complete fuse system of this European Standard for their national standards. The time current characteristics "gD" and "gN" are only relevant for the fuse system H.

2 Modification to 6.2 "Marking of fuse-links" in 'Fuse system A – Fuses with fuse-links with blade contacts (NH fuse system)'

Replace the first sentence after the table by the following:

Fuse-links with isolated gripping-lugs shall be marked in a place visible at the front with the graphical symbol of a gripping-lug in a square.

3 Modification to 8.5.5.1 "Verification of the peak withstand current of a fuse-base" in 'Fuse system A – Fuses with fuse-links with blade contacts (NH fuse system)'

Add the following at the end of the first sentence:

... or if the minimum withdrawal forces according to 8.11 are exceeded.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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 60112	-	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	-
IEC 60269-1	-	Low-voltage fuses Part 1: General requirements	EN 60269-1	-
IEC 60664-1	-	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	EN 60664-1	-
IEC 60999	Series	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units	EN 60999	Series
IEC 60999-1	-	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)	EN 60999-1	-
IEC 60999-2	-	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units Part 2: Particular requirements for clamping units for conductors above 35 mm² up to 300 mm² (included)	EN 60999-2	-
ISO 6988	-	Metallic and other non-organic coatings - Sulfur dioxide test with general condensation of moisture	EN ISO 6988	-

CONTENTS

INTRODUCTION

IEC 60269 consists of the following parts, under the general title *Low-voltage fuses*:

Part 1: General requirements

Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application) – Examples of standardized systems of fuses A to K

Part 3: Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household or similar application) – Examples of standardized systems of fuses A to F

Part 4: Supplementary requirements for fuse-links for the protection of semiconductor devices

Part 5: Guidance for the application of low-voltage fuses

Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems

LOW-VOLTAGE FUSES –

Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application) – Examples of standardized systems of fuses A to K

1 General scope

1.1 Scope

Fuses for use by authorized persons are generally designed to be used in installations where the fuse-links are accessible to, and may be replaced by, authorized persons only.

Fuses for use by authorized persons according to the following fuse systems also comply with the requirements of the corresponding subclauses of IEC 60269-1, unless otherwise defined in this standard.

This standard is divided into fuse systems, each dealing with a specific example of standardized fuses for use by authorized persons:

Fuse system A: Fuses with fuse-links with blade contacts (NH fuse system)

Fuse system B: Fuses with striker fuse-links with blade contacts (NH fuse system)

Fuse system C: Fuse-rails (NH fuse system)

Fuse system D: Fuse-bases for busbar mounting (NH fuse system)

Fuse system E: Fuses with fuse-links for bolted connections (BS bolted fuse system)

Fuse system F: Fuses with fuse-links having cylindrical contact caps (NF cylindrical fuse system)

Fuse system G: Fuses with fuse-links with offset blade contacts (BS clip-in fuse system)

Fuse system H: Fuses with fuse-links having "gD" and "gN" characteristic (class J and class L time delay and non time delay fuse types)

Fuse system I: gU fuse-links with wedge tightening contacts

Fuse system J: Fuses with fuse-links having "gD class CC" and "gN class CC" characteristics (class CC time delay and non-time delay fuse types)

Fuse system K: gK fuse-links with blade for bolted connections – High fuse-link ratings from 1 250 A up to 4 800 A (master fuse-links)

NOTE The above-mentioned fuse systems are standardized systems in respect to their safety aspects. The National Committees can select from the examples of standardized fuses one or more systems for their own standards.

1.2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60112, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60269-1, *Low-voltage fuses – Part 1: General requirements*

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

IEC 60999 (all parts), *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units*

IEC 60999-1, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm^2 up to 35 mm^2 (included)*

IEC 60999-2, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 2: Particular requirements for clamping units for conductors above 35 mm^2 up to 300 mm^2 (included)*

ISO 6988, *Metallic and other non organic coatings – Sulfur dioxide test with general condensation of moisture*

Fuse system A – Fuses with fuse-links with blade contacts (NH fuse system)

1 General

IEC 60269-1 applies with the following supplementary requirements.

1.1 Scope

The following additional requirements apply to fuses with fuse-links having blade contacts intended to be replaced by means of a device, for example, replacement handle (see Figure 103), which complies with the dimensions specified in Figures 101 and 102. Such fuses have rated currents up to and including 1 250 A and rated voltages up to and including 1 000 V a.c. or 1 500 V d.c.

The following characteristics of the fuses are specified in addition to IEC 60269-1:

- minimum rated breaking capacities;
- time-current characteristics;
- I^2t characteristics;
- standard conditions of construction;
- power dissipation and acceptable power dissipation.

2 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60269-1, as well as the following, apply.

2.1.101
gripping-lugs
parts of a fuse-link which are engaged with the replacement handle or the fuse-carrier

Note 1 to entry: Gripping-lugs may be made of metal or insulating material. Metal gripping-lugs may be live or not live under service conditions.

2.1.102
live gripping-lugs
metal gripping-lugs electrically connected to the blade contacts of the fuse-link

Note 1 to entry: Metal gripping-lugs without electrical contact to the blade contacts are also deemed to be live in case of inadequate creepage distances and clearances according to this standard.

2.1.103
isolated gripping-lugs
not-live gripping-lugs made of insulating material or metal

Note 1 to entry: If they are made of metal the required creepage distances and clearances according to the relevant overvoltage category should be met between the gripping-lugs and the blade contacts as well as between the gripping-lugs and the fuse-base contacts.