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Lågspänningssäkringar – Del 2: Särskilda fordringar på säkringar som betjänas av fackkunniga eller särskilt instruerade personer

Low-voltage fuses –

*Part 2: Supplementary requirements for fuses for use by authorized persons
(fuses mainly for industrial application)*

Som svensk standard för lågspänningssäkringar som betjänas av fackutbildade eller särskilt instruerade personer gäller, tillsammans med i denna standard återgivna CENELEC common modifications, Fuse system A, B, C och D av nedan angiven internationell standard, utarbetad inom International Electrotechnical Commission, IEC. Den svenska standarden överensstämmer med CENELECs harmoniseringsbeslut i HD 60269-2:2013.

Nationellt förord

Europastandarden HD 60269-2:2013

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60269-2, Fifth edition, 2013 - 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**

utarbetad inom International Electrotechnical Commission, IEC.

I den svenska standarden återges den engelskspråkiga versionen av de inledande avsnitten och Fuse system A, B, C och D i IEC 60269-2, Fifth edition, 2013. Övriga delar av IEC 60269-2 gäller inte som svensk standard och återges inte. Standarden utges med beteckningen SS 428 05 37 (ej SS-IEC 60269-2) på grund av avvikelser inom CENELEC.

Standarden ska användas tillsammans med SS-EN 60269-1, utgåva 3, 2008 och SS-EN 60269-1/A1, utgåva 1, 2009.

Tidigare fastställd svensk standard SS 428 05 37, utgåva 8, 2011, gäller ej fr o m 2016-08-15.

ICS 29.120.50

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Postadress: SEK, Box 1284, 164 29 KISTA
Telefon: 08 - 444 14 00. Telefax: 08 - 444 14 30
E-post: sek@elstandard.se. Internet: www.elstandard.se

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SEK Svensk Elstandard

Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

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)

This Harmonization Document was approved by CENELEC on 2013-08-15. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document at national level.

Up-to-date lists and bibliographical references concerning such national implementations may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This Harmonization Document exists in three official versions (English, French, German).

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

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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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 mm ² up to 35 mm ² (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 mm ² up to 300 mm ² (included)	EN 60999-2	-
ISO 6988	-	Metallic and other non-organic coatings - Sulfur dioxide test with general condensation of moisture	EN ISO 6988	-

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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 mm² up to 35 mm² (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 mm² up to 300 mm² (included)*

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