



SLOVENSKI STANDARD
SIST EN 60269-6:2011/A1:2024

01-april-2024

Nizkonapetostne varovalke - 6. del: Dopolnilne zahteve za taljive vložke za zaščito sončnih fotonapetostnih energijskih sistemov - Dodatek A1 (IEC 60269-6:2010/A1:2021 + COR1:2021)

Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems (IEC 60269-6:2010/A1:2021 + COR1:2021)

Niederspannungssicherungen - Teil 6: Zusätzliche Anforderungen an Sicherungseinsätze für den Schutz von solaren photovoltaischen Energieerzeugungssystemen (IEC 60269-6:2010/A1:2021 + COR1:2021)

Fusibles basse tension - Partie 6: Exigences supplémentaires concernant les éléments de remplacement utilisés pour la protection des systèmes d'énergie solaire photovoltaïque (IEC 60269-6:2010/A1:2021 + COR1:2021)

<https://standards.iteh.ai/catalog/standards/sist/5b1ab3ed-c521-4606-b926-a94c3b847a6b/sist-en-60269-6-2011-a1-2024>

Ta slovenski standard je istoveten z: EN 60269-6:2011/A1:2023

ICS:

29.120.50	Varovalke in druga nadtokovna zaščita	Fuses and other overcurrent protection devices
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SIST EN 60269-6:2011/A1:2024	en,fr,de
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EUROPEAN STANDARD

EN 60269-6:2011/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2023

ICS 29.120.50

English Version

Low-voltage fuses - Part 6: Supplementary requirements for
fuse-links for the protection of solar photovoltaic energy systems
(IEC 60269-6:2010/A1:2021 + COR1:2021)

Fusibles basse tension - Partie 6: Exigences
supplémentaires concernant les éléments de remplacement
utilisés pour la protection des systèmes d'énergie solaire
photovoltaïque
(IEC 60269-6:2010/A1:2021 + COR1:2021)

Niederspannungssicherungen - Teil 6: Zusätzliche
Anforderungen an Sicherungseinsätze für den Schutz von
solaren photovoltaischen Energieerzeugungssystemen
(IEC 60269-6:2010/A1:2021 + COR1:2021)

This amendment A1 modifies the European Standard EN 60269-6:2011; it was approved by CENELEC on 2021-05-14. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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<https://standards.iteh.ai/catalog/standards/sist/5b1ab3ed-c521-4606-b926-a94c3b847a6b/sist-en-60269-6-2011-a1-2024>



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN 60269-6:2011/A1:2023 (E)

European foreword

The text of document 32B/698/FDIS, future IEC 60269-6/A1 + COR1, 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 EN 60269-6:2011/A1:2023.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2024-04-13 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2026-10-13 document have to be withdrawn

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

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60269-6:2010/A1:2021 + COR1:2021 was approved by CENELEC as a European Standard without any modification.

<https://standards.iteh.ai>
Document Preview

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

Replace the following reference:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60269-1	-	Low-voltage fuses - Part 1: General requirements	EN 60269-1	-

Add the following references:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60364-7-712	-	Electrical installations of buildings - Part 7-712: Requirements for special installations or locations - Solar photovoltaic (PV) power supply systems	-	-
IEC 61386-1	-	Conduit systems for cable management - Part 1: General requirements	EN 61386-1	-
IEC 61730-2	-	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing	-	-
IEC 62548	-	Photovoltaic (PV) arrays - Design requirements	-	-



IEC 60269-6

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

**Low-voltage fuses –
Part 6: Supplementary requirements for fuse-links for the protection of solar
photovoltaic energy systems**

**Fusibles basse tension –
Partie 6: Exigences supplémentaires concernant les éléments de remplacement
utilisés pour la protection des systèmes d'énergie solaire photovoltaïque**

[SIST EN 60269-6:2011/A1:2024](https://standards.iteh.ai/)

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FOREWORD

This amendment has been prepared by subcommittee 32B: Low-voltage fuses, of IEC technical committee 32: Fuses.

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

FDIS	Report on voting
32B/698/FDIS	32B/699/RVD

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

The contents of the corrigendum of November 2021 have been included in this copy.

Iteh Standards
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1.1 Scope and object

Replace the first two sentences of the Scope with the following new text:

These supplementary requirements apply to fuse-links for protecting PV strings and PV arrays in equipment for circuits of nominal voltages up to 1 500 V DC, and also, in so far as they are applicable, for circuits of higher nominal voltages.

1.2 Normative references

Delete the date and the footnote after the following reference:

IEC 60269-1

Add the following new references:

IEC 61386-1, *Conduit systems for cable management – Part 1: General requirements*

IEC 61730-2, *Photovoltaic (PV) module safety qualification – Part 2: Requirements for testing*

IEC 62548, *Photovoltaic (PV) arrays – Design requirements*

IEC 60364-7-712, *Low voltage electrical installations – Part 7-712: Requirements for special installations or locations – Solar photovoltaic (PV) power supply systems*

2 Terms and definitions

2.2 General terms

Add, after the title of 2.2, the following new note:

NOTE Photovoltaic = PV.

2.2.101

Replace the existing title and text of 2.2.101 with the following new title and text:

2.2.101

PV fuse-link

2.2.101.1

PV fuse-link (general)

fuse-link capable of breaking, under specified conditions, any current value within the breaking range

NOTE A PV fuse-link operates under two main conditions:

- Short-circuit in a string (see IEC 62548 and IEC 60634-7-712 or in an array or sub-array (see IEC 62548 and IEC 60634-7-712) which leads to a very low over-current.
- Short-circuit current supplied by the discharge of the PV inverter through a very low inductance. This condition leads to a very high rate of rise of current equivalent to a low value of time constant, corresponding to Table 104.

2.2.101.2

PV string fuse-link

fuse-link for the short-circuit and overload protection in a string

2.2.101.3

sub-array or array or array field fuse-link

fuse-link for the short-circuit and cable overload protection in an sub-array or array or array field

2.2.101.4

functional earthing fuse-link

fuse-link for earthing circuit protection of the photovoltaic (or PV) arrays. Functional earthing fuse-link arrangement can be found in IEC 60364-7-712 and IEC 62548

2.2.102

Delete existing Subclause 2.2.102.

2.2.103

Delete existing Subclause 2.2.103.

2.2.104

Delete the words “array field, assembly, generator, panel” from the text of Subclause 2.2.104 and renumber 2.2.104 to 2.2.102 and 2.104.1 to 2.2.102.1

Delete Subclauses 2.2.104.2, 2.2.104.3, 2.2.104.4 and 2.2.104.5.

Renumber 2.2.104.6 as 2.2.102.2 and 2.2.104.7 as 2.2.102.3.

2.2.105

Delete Subclause 2.2.105.

2.2.106

Delete Subclause 2.2.106.

2.2.107

Renumber 2.2.107 as 2.2.102.4.

2.2.108

Renumber 2.2.108 as 2.2.102.5.

2.2.109

Renumber 2.2.109 as 2.2.103 and replace the existing text with the following new text:

2.2.103**currents****2.2.103.1****short circuit current**

(symbol I_{SC}), (unit:A)

electric current at the output terminals of a PV device at a particular temperature and irradiance, when the device output voltage is equal or close to zero

2.2.103.2**maximum overcurrent rating**

$I_{MOD_MAX_OCPR}$

PV module maximum overcurrent protection rating determined by IEC 61730-2

2.2.103.3**short circuit current of a PV module**

$I_{SC\ MOD}$

short circuit current of a PV module or PV string at standard test conditions (STC), as specified by the manufacturer

2.2.103.4**short circuit current of an array**

$I_{SC\ ARRAY}$

short-circuit current of the PV array at standard test conditions (STC), which is equal to $I_{SC\ ARRAY} = I_{SC\ MOD} \times N_S$ where N_S is the total number of parallel-connected PV strings in the PV array

NOTE 1 A PV string is a number of PV modules connected in series. The short circuit current of a string is equal to $I_{SC,MOD}$.

2.2.103.5**short circuit current of an sub-array**

$I_{SC\ S-ARRAY}$

short circuit current of a PV sub-array at standard test conditions (STC), which is equal to $I_{SC\ S-ARRAY} = I_{SC\ MOD} \times N_{SA}$ where N_{SA} is the number of parallel-connected PV strings in the PV sub-array

2.2.103.6**maximum reverse current of an array**

(symbol I_{RM}) (unit: A)

maximum reverse current accepted by the module or the panel

2.2.110

Renumber 2.2.110 as 2.2.104.