



SLOVENSKI STANDARD
SIST HD 60364-4-42:2011/A1:2015
01-april-2015

Nizkonapetostne električne inštalacije - 4-42. del: Zaščitni ukrepi - Zaščita pred toplotnimi učinki - Dopolnilo A1

Low voltage electrical installations - Part 4-42: Protection for safety - Protection against thermal effects

Errichten von Niederspannungsanlagen - Teil 4-42: Schutzmaßnahmen - Schutz gegen thermische Einflüsse

Installations électriques basse tension - Partie 4- 42: Protection pour assurer la sécurité - Protection contre les effets thermiques

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Ta slovenski standard je istoveten z: HD 60364-4-42:2011/A1:2015

ICS:

29.120.50	Varovalke in druga medtokovna zaščita	Fuses and other overcurrent protection devices
91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems

SIST HD 60364-4-42:2011/A1:2015 **en**

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HARMONIZATION DOCUMENT
DOCUMENT D'HARMONISATION
HARMONISIERUNGSDOKUMENT

HD 60364-4-42:2011/A1

January 2015

ICS 29.120.50; 91.140.50

English Version

**Low voltage electrical installations - Part 4-42: Protection for
safety - Protection against thermal effects
(IEC 60364-4-42:2010/A1:2014)**

Installations électriques basse tension - Partie 4-42:
Protection pour assurer la sécurité - Protection contre les
effets thermiques
(IEC 60364-4-42:2010/A1:2014)

Errichten von Niederspannungsanlagen - Teil 4-42:
Schutzmaßnahmen - Schutz gegen thermische Einflüsse
(IEC 60364-4-42:2010/A1:2014)

This amendment A1 modifies the Harmonization Document HD 60364-4-42:2011; it was approved by CENELEC on 2014-12-18. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this amendment 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 amendment 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.



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

Foreword

The text of document 64/1974/FDIS, future IEC 60364-4-42:2010/A1, prepared by IEC/TC 64 "Electrical installations and protection against electric shock" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as HD 60364-4-42:2011/A1:2015.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-09-18
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-12-18

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.

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The text of the International Standard IEC 60364-4-42:2010/A1:2014 was approved by CENELEC as a European Standard without any modification.

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

ISO 1182	NOTE	Harmonized as EN ISO 1182.
ISO 1716	NOTE	Harmonized as EN ISO 1716.
IEC 60898-1	NOTE	Harmonized as EN 60898-1.
IEC 61009-1	NOTE	Harmonized as EN 61009-1.
IEC 60269	NOTE	Harmonized in EN/HD 60269 series (modified).
IEC 61008-1	NOTE	Harmonized as EN 61008-1.
IEC 62423	NOTE	Harmonized as EN 62423.

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 1 When 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.cenelec.eu.

Addition in Annex ZA of HD 60364-4-42:2011:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62606	-	General requirements for arc fault detection devices	EN 62606	-

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IEC 60364-4-42

Edition 3.0 2014-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

**Low-voltage electrical installations –
Part 4-42: Protection for safety – Protection against thermal effects**

**Installations électriques basse tension –
Partie 4-42: Protection pour assurer la sécurité – Protection contre les effets
thermiques**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

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ICS 29.120.50; 91.140.50

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FOREWORD

This amendment has been prepared by IEC technical committee 64: Electrical installations and protection against electric shock.

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

FDIS	Report on voting
64/1974/FDIS	64/1982/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 web site 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.

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Add, at the end of 420.2, the following new reference:

IEC 62606, *General requirements for arc fault detection devices*

Add, after 421.6, the following new clause:

421.7 It is recommended that special measures be taken to protect against the effects of arc faults in final circuits:

- in premises with sleeping accommodation;
- in locations with risks of fire due to the nature of processed or stored materials, i.e. BE2 locations, (e.g. barns, wood-working shops, stores of combustible materials);
- in locations with combustible constructional materials, i.e. CA2 locations (e.g. wooden buildings);
- in fire propagating structures, i.e. CB2 locations;
- in locations with endangering of irreplaceable goods.

NOTE 1 A material is considered to be non-combustible if, in compliance with ISO 1182 [31] and ISO 1716 [32], it does not support combustion.

In a.c. circuits, the use of arc fault detection devices (AFDD) in compliance with IEC 62606 will satisfy the above-mentioned recommendation.

If used, an AFDD shall be placed at the origin of the circuit to be protected.

NOTE 2 An AFDD is a device intended to mitigate the effects of arcing faults by initiating disconnection of the circuit when an arc fault is detected, see Annex B.

The use of AFDDs does not obviate the need to apply one or more measures provided in other clauses in this standard.

NOTE 3 National committees may decide if the use of AFDDs is made a requirement or a recommendation in their national standard.

Annex A (informative)

List of notes concerning certain countries

Add the following:

Country	Clause	Text
USA	421.7	In the USA, AFDDs are required in the following additional locations: family rooms, dining rooms, living rooms, parlors, libraries, dens, sunrooms, recreation rooms, closets, hallways or other rooms in which movement or placement of furniture or movement by persons has increased the likelihood of damaging exposed cables
USA	421.7	In the USA, special measures to protect against the effects of arc faults in final circuits are required in accordance with NFPA 70 article 210.12 [37].

Add the following new Annex B:

Annex B (informative)

Arc fault detection devices (AFDD)

Fires by electrical installations are often initiated by arc faults that result from parallel arcs, or series arcs caused by insulation defects between active conductors or loose terminal connections.

During a series arc fault, there is no leakage current to earth therefore RCDs cannot detect such a fault. Moreover, the impedance of the series arc fault reduces the load current, in such case, and the current remains below the tripping threshold of a circuit-breaker or a fuse. In the case of a parallel arc between line and neutral conductor, the current is limited by the impedance of the installation and the arc itself, therefore, the resulting fault current could be lower than the operating current of the overcurrent protective device.

Arc fault detection devices are capable of detecting fault conditions that result from a sustained arcing junction that could be either limited by the available current from the distribution wiring (considered as parallel arc faults) or limited by a load within the protected circuit (considered as series arc faults).