



SLOVENSKI STANDARD

SIST HD 60364-4-443:2016

01-april-2016

Nadomešča:

SIST HD 60364-4-443:2007

Nizkonapetostne električne inštalacije - 4-44. del: Zaščitni ukrepi - Zaščita pred napetostnimi in elektromagnetnimi motnjami - 443. točka: Zaščita pred atmosferskimi in stikalnimi prenapetostmi

Low-voltage electrical installations -- Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances - Clause 443: Protection against overvoltages of atmospheric origin or due to switching

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Installations électriques à basse tension - Partie 4-44: Protection pour assurer la sécurité - Protection contre les perturbations de tension et les perturbations électromagnétiques - Article 443: Protection contre les surtensions d'origine atmosphérique ou dues à des manoeuvres

Ta slovenski standard je istoveten z: HD 60364-4-443:2016

ICS:

91.140.50 Sistemi za oskrbo z elektriko Electricity supply systems

SIST HD 60364-4-443:2016

en

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HARMONIZATION DOCUMENT
DOCUMENT D'HARMONISATION
HARMONISIERUNGSDOKUMENT

HD 60364-4-443

February 2016

ICS 33.100.10; 33.100.20; 91.140.50

Supersedes HD 60364-4-443:2006

English Version

Low-voltage electrical installations - Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances - Clause 443: Protection against transient overvoltages of atmospheric origin or due to switching (IEC 60364-4-44:2007/A1:2015 , modified)

Installations électriques à basse tension - Partie 4-44: Protection pour assurer la sécurité - Protection contre les perturbations de tension et les perturbations électromagnétiques - Article 443: Protection contre les surtensions transitoires d'origine atmosphérique ou dues à des manoeuvres
(IEC 60364-4-44:2007/A1:2015 , modifiée)

Errichten von Niederspannungsanlagen - Teil 4-44: Schutzmaßnahmen - Schutz bei Störspannungen und elektromagnetischen Störgrößen - Abschnitt 443: Schutz bei transienten Überspannungen infolge atmosphärischer Einflüsse oder von Schaltvorgängen
(IEC 60364-4-44:2007/A1:2015 , modifiziert)

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This Harmonization Document was approved by CENELEC on 2015-12-14. 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.

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[4219a107a996/sist-hd-60364-4-443-2016](https://standards.iteh.ai/catalog/standards/sist/fb2a20ec-7a74-45eb-8dbb-4219a107a996/sist-hd-60364-4-443-2016)

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.



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

HD 60364-4-443:2016

European foreword

The text of document 64/2032/FDIS, future IEC 60364-4-44:2007/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 60364-4-443:2016.

A draft amendment, which covers common modifications to IEC 60364-4-44:2007/A1:2015 (64/2032/FDIS), was prepared by CLC/TC 64 “Electrical installations and protection against electric shock” and approved by CENELEC.

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) 2016-12-14
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-12-14

HD 60364-4-443:2016 supersedes HD 60364-4-443:2006.

HD 60364-4-443:2016 includes the following significant technical changes with respect to the previous edition: this document constitutes a complete structural and technical revision of HD 60364-4-443:2006.

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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Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60364-4-44:2007/A1:2015 are prefixed “Z”.

Endorsement notice

The text of the International Standard IEC 60364-4-44:2007/A1:2015 was approved by CENELEC as a Harmonization Document with agreed common modifications.

COMMON MODIFICATIONS

440.2 Normative references

Replace the text of 440.2 by the following:

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.

EN 60038, *CENELEC standard voltages (IEC 60038)*

HD 60364-5-534:2016, *Low-voltage electrical installations – Part 5-53: Selection and erection of electrical equipment – Isolation, switching and control – Clause 534: Devices for protection against transient overvoltages (IEC 60364-5-53:2001/A2:2015, mod.)*

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

EN 61000-4-5, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test (IEC 61000-4-5)*

EN 61643-11, *Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and test methods (IEC 61643-11)*

CLC/TS 61643-22, *Low-voltage surge protective devices – Part 22: Surge protective devices connected to telecommunications and signalling networks – Selection and application principles (IEC 61643-22)*

EN 62305-2, *Protection against lightning – Part 2: Risk management (IEC 62305-2)*

IEC/TR 60664-2-1:2011, *Insulation coordination for equipment within low-voltage systems – Part 2-1: Application guide – Explanation of the application of the IEC 60664 series, dimensioning examples and dielectric testing*

443.4 Overvoltage control

Add after the third indent the following fourth indent:

z1) a large number of individuals, e.g. large buildings, offices, schools.

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443.6.2 Rated impulse withstand voltages of equipment and overvoltage categories

Replace Table 443.2 as follows:

Table 443.2 — Required rated impulse voltage of equipment (U_w)

Nominal voltage of the installation ^a	Voltage line to neutral derived from nominal voltages a.c. or d.c. up to and including	Required rated impulse voltage of equipment ^b			
		kV			
V	V	Overvoltage category IV (equipment with very high rated impulse voltage)	Overvoltage category III (equipment with high rated impulse voltage)	Overvoltage category II (equipment with normal rated impulse voltage)	Overvoltage category I (equipment with reduced rated impulse voltage)
		For example, energy meter, telecontrol systems	For example, distribution boards, switches, socket-outlets	For example, distribution domestic appliances, tools	For example, sensitive electronic equipment
120/208	150	4	2,5	1,5	0,8
230/400 ^c 277/480 ^b	300	6	4	2,5	1,5
400/690	600	8	6	4	2,5
1 000	1000	12	8	6	4
1 500 d.c.	1 500 d.c.	15 ^d	10 ^d	8 ^d	6 ^d

^a According to EN 60038.

^b This rated impulse withstand voltage is applied between live conductors and PE.

^c For IT systems operations at 220–240 V, the 230/400 row shall be used, due to the voltage to earth at the earth fault on one line.

^d Recommended values based on IEC/TR 60664–2-1:2011, Annex D.

Replace Annex C by the following Annexes ZA and ZB:

Annex ZA (normative)

Special national conditions

Special national condition: National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions.

NOTE If it affects harmonization, it forms part of the Harmonization Document.

For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

<u>Clause</u>	<u>Special national condition</u>
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443.1	<p>Norway</p> <p>In Norway, every electrical installation shall be protected by a SPD.</p>
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443.4	<p>Finland</p> <p>In Finland protection against transient overvoltage is not mandatory if an installation is supplied by underground cable.</p> <p>When the installation is supplied by overhead line, a risk assessment should be performed.</p>
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443.4	<p>Germany</p> <p>The following content:</p> <p>For all other cases, a risk assessment according to 443.5 shall be performed in order to determine if protection against transient overvoltage is required. If the risk assessment is not performed, the electrical installation shall be provided with protection against transient overvoltage. However the transient overvoltage protection is not required for single dwelling units where total economic value of the electrical installation to be protected is less than 5 times the economic value of the SPD located at the origin of the installation.</p> <p>is replaced as follows:</p> <p>Protection against transient overvoltage shall be provided where the consequence caused by overvoltage affects individuals e.g. in residential buildings and small offices if overvoltage category I or II equipment is installed.</p> <p>Protection against transient overvoltage should be also considered for buildings with fire risks.</p>
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<u>Clause</u>	<u>Special national condition</u>
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443.4	United Kingdom
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The following content:

For all other cases, a risk assessment according to 443.5 shall be performed in order to determine if protection against transient overvoltage is required. If the risk assessment is not performed, the electrical installation shall be provided with protection against transient overvoltage. However the transient overvoltage protection is not required for single dwelling units where total economic value of the electrical installation to be protected is less than 5 times the economic value of the SPD located at the origin of the installation.

is replaced as follows:

For all other cases, a risk assessment according to 443.5 shall be performed in order to determine if protection against transient overvoltage is required. If the risk assessment is not performed, the electrical installation shall be provided with protection against transient overvoltage, except for single dwelling units where the total value of the installation and equipment therein, does not justify such protection.

443.4	United Kingdom
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The last paragraph of Clause 443.4 is not applicable in the United Kingdom as it is considered out of scope because it will involve work above 1 000 V.

443.5	Germany (standards.iteh.ai)
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This clause is not applied in Germany.

443.5	United Kingdom
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In the United Kingdom, the coefficient F shall be taken equal to 1 for all installations.

Annex A	Germany
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Annex A is not applied in Germany.

Annex B	Germany
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Annex B is normative in Germany.

Annex ZB (informative)

A-deviations

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CENELEC national member.

This Harmonization Document does not fall under any Directive of the EU.

In the relevant CENELEC countries these A-deviations are valid instead of the provisions of the Harmonization Document until they have been removed.

<u>Clause</u>	<u>Deviation</u>
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General	<p>Austria</p> <p>Electrotechnical Ordinance 2002 – Federal gazette Part II No. 222/2002</p> <p>amended by</p> <p>Electrotechnical Ordinance 2002/A1 – Federal gazette Part II No. 33/2006</p> <p>amended by</p> <p>Electrotechnical Ordinance 2002/A2 – Federal gazette Part II No. 223/2010):</p> <p>Protection of electrical installations against transient overvoltages by means of Surge Protective Devices (SPDs) is mandatory for all installations.</p>
443.4	<p>Spain</p> <p>In Spain, according to the Royal Decree 1053/2014, Clause 6.4 of the ITC-BT-52, all the circuits intended to supply energy to electric vehicles must be protected against transient overvoltages.</p>

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Replace the Bibliography as follows:

Bibliography

IEC 60050-826:2004, *International Electrotechnical Vocabulary – Part 826: Electrical installations*

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IEC 60364-4-44

Edition 2.0 2015-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE



AMENDMENT 1
AMENDEMENT 1

**Low-voltage electrical installations –
Part 4-44: Protection for safety – Protection against voltage disturbances and
electromagnetic disturbances**

**Installations électriques à basse tension –
Partie 4-44: Protection pour assurer la sécurité – Protection contre les
perturbations de tension et les perturbations électromagnétiques**

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