
Električne inštalacije zgradb – 4. del: Zaščitni ukrepi – 44. poglavje: Zaščita pred prenapetostmi – 443. oddelek: Zaščita pred atmosferskimi in stikalnimi prenapetostmi (IEC 60364-4-443:1995, spremenjen)

Electrical installations of buildings - Part 4: Protection for safety - Chapter 44: Protection against overvoltages - Section 443: Protection against overvoltages of atmospheric origin or due to switching (IEC 60364-4-443:1995, modified)

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ICS 91.140.50

Referenčna številka
SIST HD 384.4.443 S1:2001(en)

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English version

Electrical installations of buildings
Part 4: Protection for safety
Chapter 44: Protection against overvoltages
Section 443: Protection against overvoltages of atmospheric origin
or due to switching
(IEC 60364-4-443:1995, modified)

Installations électriques des bâtiments
Partie 4: Protection pour assurer la
sécurité
Chapitre 44: Protection contre les
surtensions
Section 443: Protection contre les
surtensions d'origine atmosphérique ou
dues à des manoeuvres
(CEI 60364-4-443:1995, modifiée)

Elektrische Anlagen von Gebäuden
Teil 4: Schutzmaßnahmen
Kapitel 44: Schutz bei Überspannungen
Hauptabschnitt 443: Schutz bei
Überspannungen infolge
atmosphärischer Einflüsse oder
von Schaltvorgängen
(IEC 60364-4-443:1995, modifiziert)

This Harmonization Document was approved by CENELEC on 1999-08-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document on a national level.

Up-to-date lists and bibliographical references concerning such national implementation may be obtained on application to the Central Secretariat 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the International Standard IEC 60364-4-443:1995, prepared by IEC TC 64, Electrical installations and protection against electric shock, together with common modifications prepared by the Joint Working Group 443 of CENELEC SC 64A, Protection against electric shock, and SC 64B, Protection against thermal effects, of Technical Committee CENELEC TC 64, Electrical installations of buildings, was submitted to the formal vote and was approved by CENELEC as HD 394.4.443 S1 on 1999-08-01.

The following dates were fixed:

- latest date by which the existence of the HD has to be announced at national level (doa) 2000-02-01
- latest date by which the HD has to be implemented at national level by publication of a harmonized national standard or by endorsement (dop) 2001-05-01
- latest date by which the national standards conflicting with the HD have to be withdrawn (dow) 2002-08-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60364-4-443:1995 was approved by CENELEC as a Harmonization Document with agreed common modifications as given below.

COMMON MODIFICATIONS

443.1.1 At the end of the 4th paragraph, add the following text:

Protection according to Section 443 can *only* be expected if the equipment complies at least with the values of rated withstand voltage of table 44B.

443.2.2 Replace the first paragraph by the following:

Equipment of impulse withstand category I is equipment which is intended to be connected to the fixed electrical installations of buildings when protective means are outside of the equipment - either in the fixed installation or between the fixed installation and the equipment - to limit the transient overvoltages to the specific level.

In the note after the paragraph beginning with "Equipment of impulse category III", delete the bracket after "socket-outlets".

In the note after the paragraph beginning with "Equipment of impulse category IV", replace "overcurrent protection device" with "overcurrent protective device".

443.3.2 Replace this subclause by the following:

443.3.2 Protective control

443.3.2.1 Where an installation is supplied by or includes an overhead line, a measure of protection against overvoltages of atmospheric origin shall be provided according to subclause 443.3.2.2, if the ceramic level of the location corresponds to the condition of external influences AQ2 (> 25 days per year). The protection level of the protective device shall not be higher than the level of overvoltage category II, given in table 44B.

NOTE 1 Decision on the use of *surge protection* may be based, alternatively to AQ conditions, on the use of a specified risk assessment method.

NOTE 2 Particular protection may be necessary where high reliability or higher risks (e.g fire) are expected and where the acceptable risk depending on the utilization of the installation is exceptionally low.

443.3.2.2 In the conditions according to subclause 443.3.2.1, a measure of protection against overvoltages of atmospheric origin can be provided in the installation of the building by:

- a surge protective device with a protection level of category II in accordance with IEC 60364-5-534;
- or by other means providing at least an equivalent attenuation of overvoltages.

NOTE 1 The overvoltage level may be controlled by overvoltage protective devices applied close to the origin of the installation either in the overhead lines or in the building installation.

NOTE 2 Guidance for coordination of cascaded surge protective devices is under consideration.

Table 44B Replace this table with the following:

Table 44B - Required rated impulse withstand voltage of equipment

Nominal voltage of the installation * V	Required rated impulse withstand voltage of equipment			
	kV			
	Impulse withstand category IV (equipment with very high impulse voltage)	Impulse withstand category III (equipment with high impulse voltage)	Impulse withstand category II (equipment with normal impulse voltage)	Impulse withstand category I (equipment with reduced impulse voltage)
230/400 277/480	6	4	2,5	1,5
400/690	8	6	4	2,5
1000	Values subject to system engineers or in the absence of information, the values of the above line can be chosen			
* according to IEC 60038				

NOTE This table is extracted from HD 625.1, excluding single phase systems with middle point 120-240 V.

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Annex ZA
 (normative)

**Normative references to international publications
 with their corresponding European publications**

This Harmonization Document incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Harmonization Document only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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 60038 (mod)	1983	IEC Standard voltages ¹⁾	HD 472 S1	1989
IEC 60050(826) + A1 + A2 + A3	1982 1990 1995 1999	International electrotechnical vocabulary Chapter 826: Electrical installations of buildings	HD 384.2 S2	2000
IEC 60364-4-442 ¹⁾	1993	Electrical installations of buildings Part 4: Protection for safety Chapter 44: Protection against overvoltages Section 442: Protection of low-voltage installations against faults between high-voltage systems and earth	-	-
IEC 60364-5-534	1997	Part 5: Selection and erection of electrical equipment Section 534: Devices for protection against overvoltages	-	-
IEC 60664-1 (mod)	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	HD 625.1 S1 + corr. Nov.	1996 1996
IEC 61024-1 (mod)	1990	Protection of structures against lightning Part 1: General principles	ENV 61024-1	1995

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¹⁾ The title of HD 472 S1 is: Nominal voltages for low-voltage public electricity supply systems.

²⁾ HD 384.4.442 S1:1997, which is related to, but not directly equivalent with, IEC 60364-4-442:1993, applies instead.

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**NORME
INTERNATIONALE
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STANDARD**

**CEI
IEC
364-4-443**

Deuxième édition
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Installations électriques des bâtiments –

Partie 4:

Protection pour assurer la sécurité –

Chapitre 44: Protection contre les surtensions –

**Section 443: Protection contre les surtensions
d'origine atmosphérique ou dues à des
manoeuvres**

Electrical installations of buildings –

Part 4:

Protection for safety –

Chapter 44: Protection against overvoltages –

**Section 443: Protection against overvoltages
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