SLOVENSKI STANDARD
SIST HD 60364-4-442:2012

01-marec-2012

Nizkonapetostne električne inštalacije - 4-442. del: Zaščitni ukrepi - Zaščita nizkonapetostnih inštalacij pred trenutnimi prenapetostnimi zaradi zemeljskega stika v visokonapetostnem sistemu in zaradi napak v nizkonapetostnem sistemu (IEC 60364-4-44:2007 (Točka 442), spremenjen)

Low-voltage electrical installations - Part 4-442: Protection for safety - Protection of low-voltage installations against temporary overvoltages due to earth faults in the high-voltage system and due to faults in the low voltage system

Errichten von Niederspannungsanlagen - Teil 4-442: Schutzmaßnahmen - Schutz von Niederspannungsanlagen bei vorübergehenden Überspannungen infolge von Erdschlüssen im Hochspannungssystem und infolge von Fehlern im Niederspannungssystem

Installations électriques à basse tension - Partie 4-442: Protection pour assurer la sécurité - Protection des installations électriques à basse tension contre les surtensions temporaires dues à des défauts à la terre dans le réseau haute tension et dues à des défauts dans le réseau basse tension

Ta slovenski standard je istoveten z: **HD 60364-4-442:2012**

ICS:

91.140.50 Sistemi za oskrbo z elektriko Electricity supply systems

SIST HD 60364-4-442:2012 **en**

HARMONIZATION DOCUMENT

DOCUMENT D'HARMONISATION

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HD 60364-4-442

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English version

Low-voltage electrical installations - Part 4-442: Protection for safety - Protection of low-voltage installations against temporary overvoltages due to earth faults in the high-voltage system and due to faults in the low voltage system

(IEC 60364-4-44:2007 (CLAUSE 442), modified)

Installations électriques à basse tension - Partie 4-442: Protection pour assurer la sécurité - Protection des installations électriques à basse tension contre les surtensions temporaires dues à des défauts à la terre dans le réseau haute tension et dues à des défauts dans le réseau basse tension (CEI 60364-4-44:2007 (CLAUSE 442), modifiée)

Errichten von Niederspannungsanlagen - Teil 4-442: Schutzmaßnahmen - Schutz von Niederspannungsanlagen bei vorübergehenden Überspannungen infolge von Erdschlüssen im Hochspannungssystem und infolge von Fehlern im Niederspannungssystem (IEC 60364-4-44:2007 (CLAUSE 442), modifiziert)

This Harmonization Document was approved by CENELEC on 2011-12-07. 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).

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. HD 60364-4-442:2012 E

Foreword

This document (HD 60364-4-442:2012) consists of the text of IEC 60364-4-44:2007 prepared by IEC/TC 64, "Electrical installations and protection against electric shock", together with the common modifications prepared by CLC/TC 64 "Electrical installations and protection against electric shock".

The following dates are fixed:

– latest date by which the HD has to be implemented at national level by publication of a harmonized national standard or by endorsement	(dop)	2012-12-07
– latest date by which the national standards conflicting with the HD have to be withdrawn	(dow)	2014-12-07

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Endorsement notice

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

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

IEC 60364-5-51:2005	NOTE	Harmonized as HD 60364-5-51:2009 (modified).
IEC 61000-2 series	NOTE	Harmonized in EN 61000-2 series (not modified).
IEC 61000-5 series	NOTE	Harmonized in EN 61000-5 series (not modified).
IEC 61386 series	NOTE	Harmonized in EN 61386 series (not modified).
IEC 61663-1	NOTE	Harmonized as EN 61663-1.
IEC 62020:1998	NOTE	Harmonized as EN 62020:1998 (not modified).

COMMON MODIFICATIONS

Title:

Replace the title of HD 60364-4-442 as follows:

Low-voltage electrical installations - Part 4-442: Protection for safety - Protection of low-voltage installations against temporary overvoltages due to earth faults in the high-voltage system and due to faults in the low voltage system

Table 44.A1 - Power-frequency stress voltages and power-frequency fault voltage in low-voltage system

In the footnote**) **delete** “second paragraph”.

442.2.1 Magnitude and duration of power-frequency fault voltage

Replace 442.2.1 and its contents as follows:

442.2.1 Power-frequency fault voltage

The fault voltage U_f as calculated in Table 44.A1 which appears in the LV installation between exposed conductive parts and earth shall not exceed a dangerous level, see HD 60364-4-41.

In a TN system where R_E and R_B are connected together (see Table 44.A1), their connection to a L.V. global earthing system as described in EN 50522:2010, 3.4.19 can then be considered to be a safety measure against dangerous fault voltages.

NOTE 1 A global earthing system is an earthing system created by the interconnection of local earthing systems that ensures, by the proximity of these earthing systems, that there are no dangerous touch voltages.

Such systems cause the division of the earth fault current in a way that results in a reduction of the earth potential rise at the local earthing system. Such a system could be said to form a quasi equipotential surface.

In installations outside a global earthing system, the PEN conductor shall be earthed additionally at least one more time.

NOTE 2 The existence of a global earthing system may be determined by sample measurements or calculation for typical systems. Typical examples of global earthing systems are in city centres; urban or industrial areas with distributed low- and high-voltage earthing.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
-	-	Earthing of power installations exceeding 1 Kv a.c.	EN 50522	2010
IEC 60038 (mod)	1983	Nominal voltages for low-voltage public electricity supply systems	HD 472 S1 + corr. February + A1	1989 2002 1995
IEC 60050-604	1987	International Electrotechnical Vocabulary (IEV) - Chapter 604: Generation, transmission and distribution of electricity - Operation	-	-
IEC 60364-1	-	Low-voltage electrical installations - Part 1: Fundamental principles, assessment of general characteristics, definitions	HD 60364-1	-
IEC 60364-4-41 (mod)	2005	Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock	HD 60364-4-41 + corr. July	2007 2007
IEC 60364-5-54 (mod)	2002	Electrical installations of buildings - Part 5-54: Selection and erection of electrical equipment - Earthing arrangements, protective conductors and protective bonding conductors	HD 60364-5-54	2007
IEC/TS 60479-1	2005	Effects of current on human beings and livestock - Part 1: General aspects	-	-
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60950-1	-	Information technology equipment - Safety - Part 1: General requirements	EN 60950-1	-

Publication	Year	Title	EN/HD	Year
IEC/TS 61000-2-5	1995	Electromagnetic compatibility (EMC) - Part 2-5: Environment - Classification of electromagnetic environments - Basic EMC publication		
IEC 61000-6-1	-	Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments	EN 61000-6-1	2007 [1)]
IEC 61000-6-2	-	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments	EN 61000-6-2 + corr. September	2005 [1)] 2005
IEC 61000-6-3	-	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments	EN 61000-6-3	2007 [1)]
IEC 61000-6-4	-	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments	EN 61000-6-4	-
IEC 61558-2-1	-	Safety of power transformers, power supplies, reactors and similar products - Part 2-1: Particular requirements and tests for separating transformers and power supplies incorporating separating transformers for general applications	EN 61558-2-1	-
IEC 61558-2-4	-	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers	EN 61558-2-4	-
IEC 61558-2-6	-	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers	EN 61558-2-6	-

1) Dated reference in accordance with CLC Guide 25.

Publication	Year	Title	EN/HD	Year
IEC 61558-2-15	-	Safety of power transformers, power supply units and similar - Part 2-15: Particular requirements for isolating transformers for the supply of medical locations	EN 61558-2-15	-
IEC 61643	series	Low-voltage surge protective devices	EN 61643/ CLC/TS 61643	series
IEC 61936-1	-	Power installations exceeding 1 kV a.c. - Part 1: Common rules	EN 61936-1	-
IEC 62305-1	-	Protection against lightning - Part 1: General principles	EN 62305-1	-
IEC 62305-3	-	Protection against lightning - Part 3: Physical damage to structures and life hazard	EN 62305-3	-
IEC 62305-4	-	Protection against lightning - Part 4: Electrical and electronic systems within structures	EN 62305-4	-

Annex ZB
(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.

Clause	Special national condition
442.2 **Table 44.A1**	**Italy** In Italy the permissible power-frequency stress voltage on equipment in low-voltage installations in case of a duration of the earth fault in the high-voltage system ≤ 5 s is U_o + 500 V.

IEC 60364-4-44

Edition 2.0 2007-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE ELECTRICAL INSTALLATIONS –

Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances

FOREWORD

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International Standard IEC 60364-4-44 has been prepared by IEC technical committee 64: Electrical installations and protection against electric shock.

This second edition of IEC 60364-4-44 cancels and replaces the first edition published in 2001, amendment 1 (2003) and amendment 2 (2006).

The document 64/1600/FDIS, circulated to the National Committees as Amendment 3, led to the publication of the new edition.