



NSAI
Standards

Irish Standard
I.S. HD 60364-5-534:2008

Low-voltage electrical installations --
Part 5-53: Selection and erection of
electrical equipment - Isolation,
switching and control -- Clause 534:
Devices for protection against
overvoltages (IEC 60364-5
-53:2001/A1:2002 (Clause 534) (MOD))

I.S. HD 60364-5-534:2008

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Údarás um Chaighdeáin Náisiúnta na hÉireann

**Low-voltage electrical installations -
Part 5-53: Selection and erection of electrical equipment -
Isolation, switching and control -
Clause 534: Devices for protection against overvoltages
(IEC 60364-5-53:2001/A1:2002 (Clause 534), modified)**

Installations électriques à basse tension -
Partie 5-53: Choix et mise en oeuvre
des matériels électriques -
Sectionnement, coupure et commande -
Article 534: Dispositifs pour la protection
contre les surtensions
(CEI 60364-5-53:2001/A1:2002
(Article 534), modifiée)

Errichten von Niederspannungsanlagen -
Teil 5-53: Auswahl und Errichtung
elektrischer Betriebsmittel -
Trennen, Schalten und Steuern -
Abschnitt 534: Überspannung-
Schutzeinrichtungen (ÜSE)
(IEC 60364-5-53:2001/A1:2002
(Abschnitt 534), modifiziert)

This Harmonization Document was approved by CENELEC on 2008-05-01. 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 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

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Foreword

The text of the International Standard IEC 60364-5-53:2001/A1:2002, Clause 534, prepared by IEC TC 64, Electrical installations and protection against electric shock, together with the common modifications prepared by SC 64A, Electrical installations and protection against electric shock – Protection against electric shock, of Technical Committee CENELEC TC 64, Electrical installations and protection against electric shock, was submitted to the formal vote and was approved by CENELEC as HD 60364-5-534 on 2008-05-01.

The following dates were fixed:

- latest date by which the existence of the HD
has to be announced at national level (doa) 2008-11-01
- latest date by which the HD has to be implemented
at national level by publication of a harmonized
national standard or by endorsement (dop) 2009-05-01
- latest date by which the national standards conflicting
with the HD have to be withdrawn (dow) 2011-05-01

In this document, the common modifications are indicated by a vertical line at the left margin of the text.

530.2 Normative references

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 Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

IEC 60364-4-41 (mod)	-	Low voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock	HD 60364-4-41	-
IEC 60364-4-44	-	Electrical installations of buildings - Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances	HD 60364-4-443	- ¹⁾
IEC 60364-6 (mod)	-	Low voltage electrical installations - Part 6: Verification	HD 60364-6	-
IEC 60664-1	-	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	-
IEC 62305-4	-	Protection against lightning - Part 4: Electrical and electronic systems within structures	EN 62305-4	-
IEC 61643-11 (mod)	-	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and tests	EN 61643-11	-
IEC 61643-12 (mod)	-	Low-voltage surge protective devices - Part 12: Surge protective devices connected to low-voltage power distribution systems - Selection and application principles	CLC/TS 61643-12	-

¹⁾ HD 60364-4-443:2006 is based on IEC 60364-4-44:2001/A1:2003 (modified), Clause 443: Protection against overvoltages of atmospheric origin or due to switching.

534 Devices for protection against overvoltages

534.1 General

This clause contains provisions for the application of voltage limitation to obtain an insulation coordination in the cases described in HD 60364-4-443, EN 60664-1, EN 62305-4 and CLC/TS 61643-12.

SPDs, specific isolating transformers, filters or a combination of these may be used for protection against overvoltages.

This clause gives the requirements for the selection and erection of

- surge protective devices (SPDs) for electrical installations of buildings to obtain a limitation of transient overvoltages of atmospheric origin transmitted via the supply distribution system and against switching overvoltages;
- SPDs for the protection against transient overvoltages caused by direct lightning strokes or lightning strokes in the vicinity of buildings, protected by a lightning protection system.

This clause does not take into account surge protective components which may be incorporated in the appliances connected to the installation. The presence of such components may modify the behaviour of the main surge protective device of the installation and may need an additional coordination.

This clause also covers protection against overcurrent and consequences in case of SPD failure.

This clause applies to a.c. power circuits.

For d.c. power circuits, the requirements in this clause may be applied as far as is useful.

For special applications, other or additional requirements may be necessary as specified in the relevant Part 7 of HD 60364.

534.2 Selection and erection of SPDs in building installations

534.2.1 Use of SPDs

HD 60364-4-443 deals with protection against overvoltages of atmospheric origin (caused by indirect, distant lightning strokes) and switching overvoltages. This protection is normally provided by the installation of Type 2 SPDs and if necessary Type 3 SPDs.

When required in accordance with HD 60364-4-443 or otherwise specified, SPDs shall be installed near the origin of the installation or in the main distribution assembly, closest to the origin of the installation inside the building.

EN 62305-4 and CLC/TS 61643-12 deal with the protection against the effects of direct lightning strokes or strokes near to the supply system. Both documents describe the selection and the application of SPDs according to the Lightning Protection Zones (LPZ) concept. The LPZ concept describes the installation of Type 1, Type 2 and Type 3 SPDs (see Annex D).

When required in accordance with EN 62305-4 or otherwise specified, SPDs shall be installed at the origin of the installation.

Additional SPDs may be necessary to protect sensitive equipment. Such SPDs shall be coordinated with the SPDs installed upstream (see 534.2.3.6) and they should be installed as close as practicable to the equipment to be protected.

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