



NSAI
Standards

Irish Standard Recommendation
S.R. HD 60364-4-442:2012

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

S.R. HD 60364-4-442:2012

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National Foreword

S.R. HD 60364-4-442:2012 is the adopted Irish version of the European Document HD 60364-4-442:2012, 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

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HARMONIZATION DOCUMENT
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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

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



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FINAL VERSION

VERSION FINALE



**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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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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This Consolidated version is not an official IEC Standard and has been prepared for user convenience. Only the current versions of the standard and its amendment(s) are to be considered the official documents.

This Consolidated version of IEC 60364-4-44 bears the edition number 2.1. It consists of the second edition (2007-08) [documents 64/1600/FDIS and 64/1609/RVD] and its amendment 1 (2015-09) [documents 64/2032/FDIS and 64/2073/RVD]. The technical content is identical to the base edition and its amendment.

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

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

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts in the IEC 60364 series, under the general title *Low-voltage electrical installations*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

The reader's attention is drawn to the fact that Annex C lists all of the “in-some-country” clauses on differing practices of a less permanent nature relating to the subject of this standard.

The committee has decided that the contents of the base publication and its amendment 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.

The contents of the corrigenda of May 2010 and October 2011 have been included in this copy.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

IEC 60364-4-44:2007+AMD1:2015 CSV – 7 –
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INTRODUCTION

Part 4-44 of IEC 60364 covers the protection of electrical installations and measures against voltage disturbances and electromagnetic disturbances.

The requirements are arranged into four clauses as follows:

- | | |
|------------|---|
| Clause 442 | 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 |
| Clause 443 | Protection against overvoltages of atmospheric origin or due to switching |
| Clause 444 | Measures against electromagnetic influences |
| Clause 445 | Protection against undervoltage |

LOW-VOLTAGE ELECTRICAL INSTALLATIONS –

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

440.1 Scope

The rules of this Part of IEC 60364 are intended to provide requirements for the safety of electrical installations in the event of voltage disturbances and electromagnetic disturbances generated for different specified reasons.

The rules of this part are not intended to apply to systems for distribution of energy to the public, or power generation and transmission for such systems (see the scope of IEC 60364-1) although such disturbances may be conducted into or between electrical installations via these supply systems.

440.2 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.

IEC 60038:2009, *IEC standard voltages*

IEC 60050-604:1987, *International Electrotechnical Vocabulary – 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*

IEC 60364-4-41:2005, *Electrical installations of buildings – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60364-5-53:2001, *Electrical installations of buildings – Part 5-53: Selection and erection of electrical equipment – Isolation, switching and control*

IEC 60364-5-53:2001/AMD1:2002

IEC 60364-5-53:2001/AMD2:2015

IEC 60364-5-54:2002, *Electrical installations of buildings – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements and protective bonding conductors*¹

IEC 60479-1:2005, *Effects of current on human beings and livestock – Part 1: General aspects*

IEC 60664-1:2007, *Insulation co-ordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60950-1, *Information technology equipment – Safety – Part 1: General requirements*

IEC 61000-2-5:1995, *Electromagnetic compatibility (EMC) – Part 2: Environment – Section 5: 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*

¹ A third edition is currently in preparation.

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