Irish Standard
I.S. EN 60038:2011

CENELEC standard voltages (IEC 60038:2009 (MOD))

I.S. EN 60038:2011

Incorporating amendments/corrigenda issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie

W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60038

October 2011

ICS 29.020

Supersedes HD 472 S1:1989 + corr. Feb.2002 + A1:1995

English version

CENELEC standard voltages
(IEC 60038:2009, modified)

Tensions normales du CENELEC
(CEI 60038:2009, modifiée)

CENELEC-Normspannungen
(IEC 60038:2009, modifiziert)

This European Standard was approved by CENELEC on 2011-09-05. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, 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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60038:2011 E

Contents

Foreword

This document (EN 60038:2011) consists of the text of IEC 60038:2009 prepared by IEC/TC 8, "Systems aspects for electrical energy supply ", together with the common modifications prepared by CLC Technical Body 8X, "System aspects of electrical energy supply".

The following dates are fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2012-09-05
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2014-09-05

This European Standard supersedes HD 472 S1:1989 + corrigendum February 2002 + A1:1995.

In this standard, the common modifications to the International Standard are indicated by a vertical line in the left margin of the text.

The main common modifications to IEC 60038:2009 are the following.

- All references to 60 Hz are removed in the European Standard (reason: 60 Hz is not used in Europe for a.c. electric systems).
- The "in some countries" notes related to non-CENELEC countries are removed.
- The value of 100 kV as highest voltage for equipment corresponding to the value of 90 kV as nominal system voltage is added to Table 4 (reason: this value already exists in EN 62271-1 and is widely used in French transmission systems).
- Sentences containing recommendations are generally put in notes.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

CENELEC STANDARD VOLTAGES

1 Scope

This publication applies to

– a.c. transmission, distribution and utilization systems and equipment for use in such systems with a standard frequency of 50 Hz having a nominal voltage above 100 V;

– a.c. and d.c. traction systems;

– a.c. and d.c. equipment having nominal voltages below 120 V a.c. or below 750 V d.c., the a.c. voltages being intended (but not exclusively) for 50 Hz applications; such equipment covers batteries (from primary or secondary cells), other power supply devices (a.c. or d.c.), electrical equipment (including industrial and communication), and appliances.

NOTE Z1 Only standard frequency 50 Hz is used in Europe for public a.c. transmission and distribution systems. For systems and equipment at 60 Hz, see IEC 60038.

This publication does not apply to voltages representing or transmitting signals or measured values.

This publication does not apply to standard voltages of components and parts used within electrical devices or items of equipment.

This publication specifies standard voltage values which are intended to serve

– as preferential values for the nominal voltage of electrical supply systems, and

– as reference values for equipment and system design.

NOTE 1 Two main reasons have led to the values specified in this standard:

The values of nominal voltage (or highest voltage for equipment) specified in this standard are mainly based on the historical development of electrical supply systems throughout the world, since these values turned out to be the most common ones, and have achieved worldwide recognition;

The voltage ranges mentioned in this standard have been recognized to be the most appropriate ones as a basis for design and testing of electrical equipment and systems.

NOTE 2 It is nevertheless the task of system and product standards to define appropriate testing values, testing conditions and acceptance criteria.

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.

HD 60364-5-52, Low voltage *electrical installations – Part 5-52: Selection and erection of electrical equipment – Wiring systems* (IEC 60364-5-52)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC STANDARD VOLTAGES

FOREWORD

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International Standard IEC 60038 has been prepared by IEC technical committee 8: System aspects for electrical energy supply.

This seventh edition supersedes the sixth edition (1993), its Amendment 1 (1994) and its Amendment 2 (1997). It constitutes a technical revision. The significant technical changes are:

– a clarification of the scope;
– the addition of the values of 230 V (50 Hz) and 230/400 V (60 Hz) to Table1;
– the update of Table 1 to take into account the end of the transition period for the values of 230/400 V and 400/690 V;
– the replacement of the utilization voltage range at LV by a reference to the relevant standard and an informative annex;
– the addition of the value of 30 kV to Table 3;
– the replacement of the value of 1 050 kV by 1 100 kV in Table 5.

The text of this standard is based on the following documents:

FDIS	Report on voting
8/1260/FDIS	8/1264/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

It has the status of a horizontal standard in accordance with IEC Guide 108.

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

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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.

IEC STANDARD VOLTAGES

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IEC 60364-5-52: *Electrical installations of buildings – Part 5-52: Selection and erection of electrical equipment – Wiring systems*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

For alternating voltages, the voltages stated below are r.m.s. values.