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NSAI Standards

Irish Standard
I.S. EN 60252-1:2011

AC motor capacitors -- Part 1: General - Performance, testing and rating - Safety requirements - Guidance for installation and operation (IEC 60252 -1:2010 (EQV))

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I.S. EN 60252-1:2011

Incorporating amendments/corrigenda issued since publication:

EN 60252-1:2011/A1:2013

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

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

This document replaces:	*This document is based on:*	*Published:*
EN 60252-1:2001	EN 60252-1:2011 EN 60252-1:2001	4 February, 2011 18 October, 2001

This document was published under the authority of the NSAI and comes into effect on: 15 February, 2011	ICS number: 31.060.30 31.060.70

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60252-1/A1

November 2013

ICS 31.060.30; 31.060.70

English version

AC motor capacitors - Part 1: General - Performance, testing and rating - Safety requirements - Guidance for installation and operation

(IEC 60252-1:2010/A1:2013)

Condensateurs des moteurs à courant alternatif -
Partie 1: Généralités - Caractéristiques fonctionnelles, essais et valeurs assignées - Règles de sécurité - Lignes directrices pour l'installation et l'utilisation
(CEI 60252-1:2010/A1:2013)

Motorkondensatoren -
Teil 1: Allgemeines - Leistung, Prüfung und Bemessung - Sicherheitsanforderungen - Leitfaden für die Installation und den Betrieb
(IEC 60252-1:2010/A1:2013)

This amendment A1 modifies the European Standard EN 60252-1:2011; it was approved by CENELEC on 2013-10-03. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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Comité Européen de Normalisation Electrotechnique
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Ref. No. EN 60252-1:2011/A1:2013 E

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Foreword

The text of document 33/532/FDIS, future IEC 60252-1:2010/A1, prepared by IEC/TC 33, "Power capacitors and their applications" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60252-1:2011/A1:2013.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2014-07-03
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-10-03

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

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 60252-1:2010/A1:2013 was approved by CENELEC as a European Standard without any modification.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60252-1

February 2011

ICS 31.060.30; 31.060.70

Supersedes EN 60252-1:2001

English version

AC motor capacitors - Part 1: General - Performance, testing and rating - Safety requirements - Guidance for installation and operation

(IEC 60252-1:2010)

Condensateurs des moteurs à courant alternatif -
Partie 1: Généralités -
Caractéristiques fonctionnelles, essais et valeurs assignées -
Règles de sécurité -
Lignes directrices pour l'installation et l'utilisation
(CEI 60252-1:2010)

Motorkondensatoren -
Teil 1: Allgemeines -
Leistung, Prüfung und Bemessung -
Sicherheitsanforderungen -
Leitfaden für die Installation und den Betrieb
(IEC 60252-1:2010)

This European Standard was approved by CENELEC on 2011-01-02. 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.

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

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Ref. No. EN 60252-1:2011 E

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Foreword

The text of document 33/470/FDIS, future edition 2 of IEC 60252-1, prepared by IEC TC 33, Power capacitors, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60252-1 on 2011-01-02.

This European Standard supersedes EN 60252-1:2001.

This EN 60252-1:2011 includes the following significant technical changes with respect to EN 60252-1:2001:

– the definition of “segmented capacitors” has been added, in 3.6;

– the definition of “classes of operation“ has been clarified, with the addition of the concept of “probable life” with reference to statistics, in 3.9;

– the following wording “Operation above the rated voltage will reduce the life expectancy of the capacitor” has been introduced in 6.1;

– some clarifications have been added to Clause 8, Marking, mainly for small capacitors.

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.

The following dates were 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)	2011-10-02
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2014-01-02

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60252-1:2010 was approved by CENELEC as a European Standard without any modification.

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

IEC 60110-1:1998	NOTE	Harmonized as EN 60110-1:1998 (not modified).
IEC 60143-1:2004	NOTE	Harmonized as EN 60143-1:2004 (not modified).
IEC 60252-2	NOTE	Harmonized as EN 60252-2.
IEC 60871-1:2005	NOTE	Harmonized as EN 60871-1:2005 (not modified).
IEC 60931-1:1996	NOTE	Harmonized as EN 60931-1:1996 (not modified).
IEC 61048:2006	NOTE	Harmonized as EN 61048:2006 (not modified).
IEC 61071:2007	NOTE	Harmonized as EN 61071:2007 (not modified).

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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
IEC 60062	-	Marking codes for resistors and capacitors	EN 60062	-
IEC 60068	Series	Environmental testing	EN 60068	Series
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-20	-	Environmental testing - Part 2-20: Tests - Test T: Test methods for solderability and resistance to soldering heat of devices with leads	EN 60068-2-20	-
IEC 60068-2-21	-	Environmental testing - Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	-
IEC 60068-2-78	-	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	-
IEC 60112	-	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	-
IEC 60309-1	-	Plugs, socket-outlets and couplers for industrial purposes - Part 1: General requirements	EN 60309-1	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	-	-
IEC 60695-2-10	-	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	-
IEC 60695-2-11	-	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	-
ISO 4046	-	Paper, board, pulp and related terms - Vocabulary	-	-

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CONTENTS

FOREWORD 4
1 Scope and object 6
2 Normative references 6
3 Terms and definitions 7
4 Service conditions 10
4.1 Normal service conditions 10
4.2 Preferred tolerances on capacitance 10
5 Quality requirements and tests 10
5.1 Test requirements 10
5.1.1 General 10
5.1.2 Test conditions 10
5.2 Nature of tests 11
5.2.1 Type tests 11
5.2.2 Routine tests 11
5.3 Type tests 11
5.3.1 Test procedure 11
5.3.2 Extent of qualification 11
5.4 Routine tests 14
5.4.1 Test procedure 14
5.5 Tangent of loss angle 14
5.6 Visual examination 14
5.7 Voltage test between terminals 14
5.8 Voltage test between terminals and case 15
5.9 Capacitance measurement 15
5.10 Check of dimensions 15
5.11 Mechanical tests 15
5.11.1 Robustness of terminations 16
5.11.2 Soldering 16
5.11.3 Vibration 17
5.11.4 Fixing bolt or stud (if fitted) 17
5.12 Sealing test 17
5.13 Endurance test 18
5.13.1 Testing in air with forced circulation 18
5.13.2 Endurance test procedure 18
5.13.3 Conditions of compliance 19
5.14 Damp-heat test 19
5.15 Self-healing test 19
5.16 Destruction test 20
5.16.1 Test specimens 20
5.16.2 Test apparatus 20
5.16.3 Test procedure 22
5.16.4 Evaluation of the failure 23
5.17 Resistance to heat, fire and tracking 23
5.17.1 Ball-pressure test 23
5.17.2 Glow-wire test 23
5.17.3 Tracking test 24

This is a free page sample. Access the full version online.

6 Permissible overloads 24
6.1 Maximum permissible voltage 24
6.2 Maximum permissible current 24
6.3 Maximum permissible reactive output 24
7 Safety requirements 24
7.1 Creepage distances and clearances 24
7.2 Terminals and connecting cables 25
7.3 Earth connections 25
7.4 Discharge devices 26
8 Marking 26
9 Guidance for installation and operation 26
9.1 General 26
9.2 Choice of rated voltage 27
9.2.1 Measurements of working voltage 27
9.2.2 Influence of capacitance 27
9.3 Checking capacitor temperature 27
9.3.1 Choice of maximum permissible capacitor operating temperature 27
9.3.2 Choice of minimum permissible capacitor operating temperature 27
9.4 Checking transients 27
9.5 Leakage current 28
Annex A (normative) Test voltage 29
Bibliography 30

Figure 1 – Test apparatus for d.c. conditioning 21
Figure 2 – Test apparatus for a.c. destruction test 21
Figure 3 – Arrangement to produce the variable inductor *L* in Figure 2 22

Table 1 – Type test schedule 13
Table 2a – Test voltages 14
Table 2b – Test voltages 14
Table 3 – Torque 16
Table 4 – Endurance test conditions 19
Table 5 – Minimum creepage distances and clearances 25

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

AC MOTOR CAPACITORS –

Part 1: General – Performance, testing and rating – Safety requirements – Guidance for installation and operation

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60252-1 has been prepared by IEC technical committee 33: Power capacitors and their applications.

This second edition cancels and replaces the first edition of IEC 60252-1 published in 2001 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

– the definition of "segmented capacitors" has been added, in 3.6;
– the definition of "classes of operation " has been clarified, with the addition of the concept of "probable life" with reference to statistics, in 3.9;
– the following wording "Operation above the rated voltage will reduce the life expectancy of the capacitor" has been introduced in 6.1;

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– some clarifications have been added to Clause 8, Marking, mainly for small capacitors.

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

FDIS	Report on voting
33/470/FDIS	33/473/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.

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

A list of all parts of IEC 60252 series, under the general title *AC motor capacitors* can be found on the IEC website.

The committee has decided that the contents of this publication 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.

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AC MOTOR CAPACITORS –

Part 1: General – Performance, testing and rating – Safety requirements – Guidance for installation and operation

1 Scope and object

This part of IEC 60252 applies to motor capacitors intended for connection to windings of asynchronous motors supplied from a single-phase system having a frequency up to and including 100 Hz, and to capacitors to be connected to three-phase asynchronous motors so that these motors may be supplied from a single-phase system.

This standard covers impregnated or unimpregnated capacitors having a dielectric of paper, plastic film, or a combination of both, either metallized or with metal-foil electrodes, with rated voltages up to and including 660 V.

Motor start capacitors are covered by IEC 60252-2.

NOTE The following are excluded from this standard:

– shunt capacitors of the self-healing type for a.c. power systems of up to and including 1 000 V nominal voltage (see IEC 60831-1);
– shunt capacitors of non-self-healing type for a.c. power systems of up to and including 1 000 V nominal voltage (see IEC 60931-1);
– shunt capacitors for a.c. power systems having a nominal voltage above 1 000 V (see IEC 60871-1);
– capacitors for induction heat-generating plants, operating at frequencies between 40 Hz and 24 000 Hz (see IEC 60110-1);
– series capacitors (see IEC 60143);
– coupling capacitors and capacitor dividers (see IEC 60358);
– capacitors to be used in power electronic circuits (see IEC 61071);
– small a.c. capacitors to be used for fluorescent and discharge lamps (see IEC 61048);
– capacitors for suppression of radio interference (IEC publication under consideration);
– capacitors intended to be used in various types of electrical equipment and thus considered as components;
– capacitors intended for use with d.c. voltage superimposed on a.c. voltage.

The object of this standard is

a) to formulate uniform rules regarding performance, testing and rating;
b) to formulate specific safety rules;
c) to provide a guidance for installation and operation.

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 60062, *Marking codes for resistors and capacitors*

IEC 60068 (all parts), *Environmental testing*

IEC 60068-2-6, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

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