SVENSK STANDARD SS-EN 61071

Fastställd	Utgåva	Sida	Ansvarig kommitté
2007-06-25	1	1 (1+46)	SEK TK 33

Kondensatorer för kraftelektronik

Capacitors for power electronics

Som svensk standard gäller europastandarden EN 61071:2007. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61071:2007.

Nationellt förord

Europastandarden EN 61071:2007

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61071, First edition, 2007 - Capacitors for power electronics**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61071-1, utgåva 1, 1997 och SS-EN 61071-2, utgåva 1, 1996, gäller ej fr o m 2010-04-01.

ICS 31.060.70

Denna standard är fastställd av SEK Svensk Elstandard,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
Postadress: SEK, Box 1284, 164 29 KISTA
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Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61071

April 2007

ICS 31.060.70

Supersedes EN 61071-1:1996 and EN 61071-2:1996

English version

Capacitors for power electronics
(IEC 61071:2007)

Condensateurs
pour électronique de puissance
(CEI 61071:2007)

Kondensatoren
der Leistungselektronik
(IEC 61071:2007)

This European Standard was approved by CENELEC on 2007-04-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 61071:2007 E

Foreword

The text of document 33/432/FDIS, future edition 1 of IEC 61071, prepared by IEC TC 33, Power capacitors, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61071 on 2007-04-01.

This European Standard supersedes EN 61071-1:1996 and EN 61071-2:1996.

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)	2008-01-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2010-04-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 61071:2007 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 60077-1	NOTE Harmonized as EN 60077-1:2002 (modified).
IEC 60077-2	NOTE Harmonized as EN 60077-2:2002 (modified).
IEC 60146-1-1	NOTE Harmonized as EN 60146-1-1:1993 (not modified).
IEC 61287-1	NOTE Harmonized as EN 61287-1:2006 (not modified).
IEC 60110-1	NOTE Harmonized as EN 60110-1:1998 (not modified).
IEC 60143	NOTE Harmonized in EN 60143 series (partially modified).
IEC 60252-1	NOTE Harmonized as EN 60252-1:2001 (not modified).
IEC 60252-2	NOTE Harmonized as EN 60252-2:2003 (not modified).
IEC 60358	NOTE Harmonized as HD 597 S1:1992 (not modified).
IEC 60384-14	NOTE Harmonized as EN 60384-14:2005 (not modified).
IEC 60831-1	NOTE Harmonized as EN 60831-1:1996 (not modified).
IEC 60831-2	NOTE Harmonized as EN 60831-2:1996 (not modified).
IEC 60871-1	NOTE Harmonized as EN 60871-1:2005 (not modified).
IEC 60931-1	NOTE Harmonized as EN 60931-1:1996 (not modified).
IEC 60931-2	NOTE Harmonized as EN 60931-2:1996 (not modified).

IEC 61048	NOTE Harmonized as EN 61048:2006 (not modified).
IEC 61049	NOTE Harmonized as EN 61049:1993 (modified).
IEC 61270-1	NOTE Harmonized as EN 61270-1:1996 (not modified).
IEC 61881	NOTE Harmonized as EN 61881:1999 (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 60068-2-6	-[1)]	Environmental testing - Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	1995[2)]
IEC 60068-2-14	-[1)]	Environmental testing - Part 2: Tests - Test N: Change of temperature	EN 60068-2-14	1999[2)]
IEC 60068-2-20	-[1)]	Environmental testing - Part 2: Tests - Test T: Soldering	HD 323.2.20 S3	1988[2)]
IEC 60068-2-21	-[1)]	Environmental testing - Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	2006[2)]
IEC 60068-2-78	-[1)]	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2001[2)]
IEC 60071-1	-[1)]	Insulation co-ordination - Part 1: Definitions, principles and rules	EN 60071-1	2006[2)]
IEC 60071-2	-[1)]	Insulation co-ordination - Part 2: Application guide	EN 60071-2	1997[2)]
IEC 60269-1	-[1)]	Low-voltage fuses - Part 1: General requirements	EN 60269-1	200X[3)]
IEC 60664-1	-[1)]	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2003[2)]
IEC 60695-2-11	-[1)]	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001[2)]
IEC 60695-2-12	-[1)]	Fire hazard testing - Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability test method for materials	EN 60695-2-12	2001[2)]
IEC 60947-1	-[1)]	Low-voltage switchgear and controlgear - Part 1: General rules	EN 60947-1 + corr. November	2004[2)] 2004

[1)] Undated reference.

[2)] Valid edition at date of issue.

[3)] To be published.

CONTENTS

CAPACITORS FOR POWER ELECTRONICS

1 Scope

This International Standard applies to capacitors for power electronics applications.

The operating frequency of the systems in which these capacitors are used is usually up to 15kHz, while the pulse frequencies may be up to 5 to 10 times the operating frequency.

The standard distinguishes between a.c. and d.c. capacitors which are considered as components when mounted in enclosures.

This standard covers an extremely wide range of capacitor technologies for numerous applications, e.g. overvoltage protection, d.c. and a.c. filtering, switching circuits, d.c. energy storage, auxiliary inverters, etc.

The following are excluded from this standard:

– capacitors for induction heat-generating plants operating at frequencies between 40 Hz and 24 000 Hz (see IEC 60110-1 and IEC 60110-2);
– capacitors for motor applications and the like (see IEC 60252-1 and IEC 60252 -2);
– capacitors to be used in circuits for blocking one or more harmonics in power supply networks;
– small a.c. capacitors as used for fluorescent and discharge lamps (see IEC 61048 and IEC 61049);
– capacitors for suppression of radio interference (see IEC 60384-14);
– shunt capacitors for a.c. power systems having a rated voltage above 1 000 V (see IEC 60871-1 and IEC 60871-2);
– shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 1 000 V (see IEC 60831-1 and IEC 60831-2);
– shunt power capacitor of the non-self-healing type for a.c. systems having a rated voltage up to and including 1 000 V (see IEC 60931-1 and IEC 60931-2);
– electronic capacitors not used in power circuits;
– series capacitors for power systems (see IEC 60143);
– coupling capacitors and capacitors dividers (see IEC 60358);
– capacitors for microwave ovens (see IEC 61270-1);
– capacitors for railway applications (see IEC 61881).

Examples of applications are given in Clause 9.1.