SVENSK STANDARD SS-EN 88528-11

Fastställd	Utgåva	Sida	Ingår i
2004-10-25	1	1 (1+48)	SEK Område 2

Svenska Elektriska Kommissionen, SEK

Förbränningsmotordrivna växelströmsgeneratorer – Del 11: Utrustning för avbrottsfri elförsörjning (UPS) – Prestandafordringar och provning

Reciprocating internal combustion engine driven alternating current generating sets – Part 11: Rotary uninterruptible power systems – Performance requirements and test methods

Som svensk standard gäller europastandarden EN 88528-11:2004. Den svenska standarden innehåller den officiella engelska språkversionen av EN 88528-11:2004.

Nationellt förord

Europastandarden EN 88528-11:2004

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC

– **IEC 88528-11, First edition, 2004 - Reciprocating internal combustion engine driven alternating current generating sets - Part 11: Rotary uninterruptible power systems - Performance requirements and test methods**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 29.160

Denna standard är fastställd av Svenska Elektriska Kommissionen, SEK,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
Postadress: SEK, Box 1284, 164 29 KISTA
Telefon: 08 - 444 14 00. *Telefax*: 08 - 444 14 30
E-post: sek@sekom.se. *Internet*: www.sekom.se

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

Svenska Elektriska Kommissionen, SEK, 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.

SEK
Box 1284
164 29 Kista
Tel 08-444 14 00
www.sekom.se

EUROPEAN STANDARD **EN 88528-11**

NORME EUROPÉENNE

EUROPÄISCHE NORM April 2004

ICS 29.160

English version

Reciprocating internal combustion engine driven alternating current generating sets Part 11: Rotary uninterruptible power systems - Performance requirements and test methods
(IEC 88528-11:2004)

Groupes électrogènes à courant alternatif entraînés par moteurs alternatifs à combustion interne
Partie 11: Alimentations sans interruption à accumulation d'énergie cinétique - Prescriptions de performances et méthodes d'essai
(CEI 88528-11:2004)

Stromerzeugungsaggregate mit Hubkolben-Verbrennungsmotoren
Teil 11: Dynamische, unterbrechungsfreie Stromversorgung - Leistungsanforderungen und Prüfverfahren
(IEC 88528-11:2004)

This European Standard was approved by CENELEC on 2004-04-01. 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and 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 88528-11:2004 E

Foreword

The text of document 2/1275/FDIS, future edition 1 of IEC 88528-11, prepared by IEC TC 2, Rotating machinery and ISO TC 70, Internal combustion engines, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 88528-11 on 2004-04-01.

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)	2005-01-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2007-04-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 88528-11:2004 was approved by CENELEC as a European Standard without any modification.

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

Publication	Year	Title	EN/HD	Year
IEC 60034-1	- [1)]	Rotating electrical machines Part 1: Rating and performance	-	-
IEC 60034-22	1996	Part 22: AC generators for reciprocating internal combustion (RIC) engine driven generating sets	EN 60034-22	1997
IEC 60417 database	-	Graphical symbols for use on equipment	-	-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 61000	Series	Electromagnetic compatibility (EMC)	EN 61000	Series
ISO 3046-1	2002	Reciprocating internal combustion engines - Performance Part 1: Declarations of power, fuel and lubricating oil consumptions, and test methods - Additional requirements for engines for general use	-	-
ISO 7000	- [2)]	Graphical symbols for use on equipment - Index and synopsis	-	-
ISO 8178-1	- [2)]	Reciprocating internal combustion engines - Exhaust emission measurement Part 1: Test-bed measurement of gaseous and particulate exhaust emissions	EN ISO 8178-1	1996 [3)]
ISO 8528-1	- [2)]	Reciprocating internal combustion engine driven alternating current generating sets Part 1: Application, ratings and performance	-	-
ISO 8528-6	- [2)]	Part 6: Test methods	-	-

[1)] To be published.

[2)] Undated reference.

[3)] Valid edition at date of issue.

Publication	Year	Title	EN/HD	Year
ISO 8528-9	- [2)]	Part 9: Measurement and evaluation of mechanical vibrations	-	-
ISO 8528-10	- [2)]	Part 10: Measurement of airborne noise by the enveloping surface method	-	-

CONTENTS

RECIPROCATING INTERNAL COMBUSTION ENGINE DRIVEN ALTERNATING CURRENT GENERATING SETS –

Part 11: Rotary uninterruptible power systems – Performance requirements and test methods

1 Scope

This International Standard, which forms part of the ISO 8528 series, specifies criteria, including performance and test methods, for rotary uninterruptible power systems (UPS) arising out of a combination of mechanical and electrical rotating machines. This standard applies to power supplies primarily designed for supplying uninterrupted a.c. power to the consumer. When operated without input mains feed, the power is provided by stored energy and/or reciprocating internal combustion (RIC) engine and the output power is provided by one or more rotating electrical machines.

This part 11 applies to a.c. power supplies primarily designed for supplying uninterruptible electrical power for stationary land and marine use, excluding supplies for aircraft, land vehicles or locomotives. It also excludes power supplies where the output power is generated by static converters. (See IEC 62040-3.)

The use of a rotary UPS installation to improve the quality of a.c. power supply, to provide voltage and/or frequency conversion, and to provide peak shaving is also described.

For some specific applications (for example, essential hospital supplies, offshore, non-stationary applications, high rise buildings, nuclear, etc.) supplementary requirements may be necessary. The provisions of this part of ISO 8528 should be used as a basis.

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 60034-1:2003, *Rotating Electrical Machines – Part 1: Rating and performance*

IEC 60034-22:1996, *Rotating Electrical Machines – Part 22: AC generators for reciprocating internal combustion (RIC) engine driven generating sets*

IEC 60417 (all parts), *Graphical symbols for use on equipment. Index, survey and compilation of the single sheets*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 61000, *Electromagnetic compatibility (EMC)*

ISO 3046-1:2003, *Reciprocating internal combustion engines*

ISO 7000, *Graphical symbols for use on equipment*

ISO 8178-1, *Reciprocating internal combustion engines – Exhaust emission measurement – Part 1: Test-bed measurement of gaseous and particulate exhaust emissions*

ISO 8528-1, *Reciprocating internal combustion engine driven alternating current generating sets – Part 1: Application, ratings and performance*