SVENSK STANDARD SS-EN 62423

Fastställd	Utgåva	Sida	Ansvarig kommitté
2010-02-22	1	1 (1+51)	SEK TK 17B

Jordfelsbrytare av typ B med eller utan inbyggt överströmsskydd för bostadsinstallationer och liknande (RCCB och RCBO)

Type B residual current operated circuit-breakers with and without integral overcurrent protection for household and similar uses (Type B RCCBs and Type B RCBOs)

Som svensk standard gäller europastandarden EN 62423:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 62423:2009.

Nationellt förord

Europastandarden EN 62423:2009

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 62423, Second edition, 2007 - Type B residual current operated circuit-breakers with and without integral overcurrent protection for household and similar uses (Type B RCCBs and Type B RCBOs)**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 29.120; 29.120.50

Denna standard är fastställd av SEK Svensk Elstandard,
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@elstandard.se. *Internet*: www.elstandard.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.

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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 Svensk Elstandard
Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62423

October 2009

ICS 29.120; 29.120.50

English version

Type B residual current operated circuit-breakers with and without integral overcurrent protection for household and similar uses (Type B RCCBs and Type B RCBOs)

(IEC 62423:2007, modified)

Interrupteurs automatiques
à courant différentiel résiduel de Type B
avec et sans protection contre
les surintensités incorporée
pour usages domestiques et analogues
(ID et DD de Type B)
(CEI 62423:2007, modifiée)

Typ B Fehlerstsrom-/Differenzstrom-
Schutzschalter mit und ohne eingebautem
Überstromschutz für Hausinstallationen
und für ähnliche Anwendungen
(Typ B RCCBs und Typ B RCBOs)
(IEC 62423:2007, modifiziert)

This European Standard was approved by CENELEC on 2009-07-01. 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: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 62423:2009 E

SEK Svensk Elstandard

Foreword

The text of the International Standard IEC 62423:2007, prepared by SC 23E, Circuit-breakers and similar equipment for household use, of IEC TC 23, Electrical accessories, together with the common modifications prepared by the Technical Committee CENELEC TC 23E, Circuit breakers and similar devices for household and similar applications, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 62423 on 2009-07-01.

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)	2010-07-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-07-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 2004/108/EC. See Annex ZZ.

Clauses, subclauses, notes, tables and figures which are additional to those in IEC 62423 are prefixed “Z”.

Annexes ZA, ZB and ZZ have been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 62423:2007 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

[redacted]

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
CISPR 14	series	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus	EN 55014	series
IEC/TS 60479-1	-[1)]	Effects of current on human beings and livestock - Part 1: General aspects	-	-
IEC 60479-2	-	Effects of current passing through the human body - Part 2: Special aspects	-	-
IEC 61008-1 (mod) + A1 A2	1996 2002 2006	Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCB's) - Part 1: General rules	EN 61008-1 - A11 A12	2004 - 2007 2009
IEC 61008-2-1	1990	Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCB's) - Part 2-1: Applicability of the general rules to RCCB's functionally independent of line voltage	EN 61008-2-1 A11 + corr. March	1994 1998 1999
IEC 61009-1 (mod) + A1 + corr. May A2	1996 2002 2003 2006	Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBO's) - Part 1: General rules	EN 61009-1 - + corr. July A11 A12 A13	2004 - 2006 2008 2009 2009
IEC 61009-2-1	1991	Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBO's) - Part 2-1: Applicability of the general rules to RCBO's functionally independent of line voltage	EN 61009-2-1 + A11 + corr. March	1994 1998 1999
IEC 61543	1995	Residual current-operated protective devices (RCDs) for household and similar use - Electromagnetic compatibility	EN 61543 + corr. Dec. + A11 + corr. May + A12	1995 1997 2003 2004 2005

[1)] Undated reference.

CONTENTS

INTRODUCTION

RCCBs and RCBOs designed according to IEC 61008-1 and IEC 61009-1 are suitable in most of the applications. IEC 61008-1 and 61009-1 provide appropriate requirements and tests for general use in household and similar uses. However, the use of new electronic technology in equipment may result in particular residual currents not covered in IEC 61008-1 or IEC 61009-1. This standard covers specific applications where additional requirements and testing are needed.

This standard includes definitions, additional requirements and tests for Type F and Type B RCCBs and/or RCBOs to cover particular situations.

The tests shall first be applied according to IEC 61008-1 for Type F or Type B RCCBs and according to IEC 61009-1 for Type F or Type B RCBOs.

After completion of the tests given either in IEC 61008-1 or IEC 61009-1 the additional tests given in this standard shall be applied in order to show conformity to this standard (see Annex A, Annex B for Type F or Annex C, Annex D for Type B respectively).

The number of samples to be submitted and test sequences to be applied for verification of conformity for Type F RCCBs and Type F RCBOs are given in Annex A and Annex B respectively.

The number of samples to be submitted and test sequences to be applied for verification of conformity for Type B RCCBs and Type B RCBOs are given in Annex C and Annex D respectively.

This standard introduces Type F RCDs (F for Frequency) with rated frequency 50 Hz or 60 Hz intended for protection of circuits with frequency inverters supplied between phase and neutral or phase and earthed middle conductor taking into account the necessary features for these particular situations in addition to the cases covered by type A RCDs. Type F RCDs cannot be used where electronic equipment with double bridge rectifiers supplied from two phases is found or if a smooth d.c. residual current can occur.

In case of a frequency inverter, e.g. used for motor speed control, supplied between phase and neutral, a composite residual current including the power frequency, the motor frequency and the chopper clock frequency of the frequency inverter may occur in addition to alternating or pulsating d.c. residual currents.

This standard introduces Type B RCDs to be used in case of residual pulsating rectified direct current which results from one or more phases, and smooth d.c. residual current in addition to the cases covered by Type F RCDs. For these applications, two, three or four pole Type B RCDs can be used.

TYPE F AND TYPE B RESIDUAL CURRENT OPERATED CIRCUIT-BREAKERS WITH AND WITHOUT INTEGRAL OVERCURRENT PROTECTION FOR HOUSEHOLD AND SIMILAR USES

1 Scope

The scope of IEC 61008-1 and IEC 61009-1 applies with the following additions.

This standard specifies requirements and tests for Type F and Type B RCDs (Residual Current Devices). Requirements and tests given in this standard are in addition to the requirements of Type A residual current devices. This standard can only be used together with IEC 61008-1 and IEC 61009-1.

Type F RCCBs (Residual Current Circuit Breaker) and Type F RCBOs (Residual current Circuit Breaker with Overcurrent protection) with rated frequency 50 Hz or 60 Hz are intended for installations when frequency inverters are supplied between phase and neutral or phase and earthed middle conductor and are able to provide protection in case of alternating residual sinusoidal at the rated frequency, pulsating direct residual currents and composite residual currents that may occur.

Type B RCCBs and Type B RCBOs are able to provide protection in case of alternating residual sinusoidal currents up to 1 000 Hz, pulsating direct residual currents and smooth direct residual currents.

RCDs according to this standard are not intended to be used in d.c. supply systems.

Further requirements and tests for products to be used in situations where the residual current was not intended to be covered in IEC 61008-1 or IEC 61009-1 are under consideration.

For the purpose of manufacturer's declaration or verification of conformity, type tests should be carried out in test sequences in compliance with Annex A, Annex B, Annex C or Annex D of this standard.

The complete test sequence for type test of Type F RCCBs and Type F RCBOs is given in Tables A.1 and B.1 respectively. The complete test sequence for type test of Type B RCCBs and Type B RCBOs is given in Tables C.1 or D.1 respectively.

NOTE 1 Throughout the document, the term RCD refers to RCCBs and RCBOs.

NOTE 2 Requirements for 1 pole with solid neutral are under consideration.

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 61008-1:1996, *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – Part 1: General rules* [1]

[1] A consolidated edition (2.2) exists including IEC 61008-1 (1996), its Amendment 1 (2002) and Amendment 2 (2006).

Amendment 1 (2002)
Amendment 2 (2006)

IEC 61009-1:1996, *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) – Part 1: General rules* [2]
Amendment 1 (2002)
Amendment 2 (2006)

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

IEC/TS 60479-2*, Effects of current on human beings and livestock – Part 2: Special aspects*

[redacted]

2 A consolidated edition (2.2) exists including IEC 61009-1 (1996), its Amendment 1 (2002) and Amendment 2 (2006).