

SLOVENSKI STANDARD
SIST EN 61009-1:2013/A2:2014
01-december-2014

Odklopniki na preostali (residualni) tok z vgrajeno nadtokovno zaščito za gospodinjsko in podobno rabo (RCBO's) - 1. del: Splošna pravila (IEC 61009-1:2010/A2:2013, spremenjen)

Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) -- Part 1: General rules (IEC 61009-1:2010/A2:2013, modified)

STANDARD PREVIEW
Fehlerstrom-/Differenzstrom-Schutzschalter mit eingebautem Überstromschutz (RCBOs) für Hausinstallationen und für ähnliche Anwendungen -- Teil 1: Allgemeine Anforderungen (IEC 61009-1:2010/A2:2013, modifiziert)

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Interrupteurs automatiques à courant différentiel résiduel avec dispositif de protection contre les surintensités incorporé pour usages domestiques et analogues (DD) -- Partie 1: Règles générales (CEI 61009-1:2010/A2:2013, modifié)

Ta slovenski standard je istoveten z: EN 61009-1:2012/A2:2014

ICS:

29.120.50	Varovalke in druga medtokovna zaščita	Fuses and other overcurrent protection devices
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SIST EN 61009-1:2013/A2:2014 **en,fr,de**

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EUROPEAN STANDARD

EN 61009-1:2012/A2

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2014

ICS 29.120.50

English Version

Residual current operated circuit-breakers with integral
overcurrent protection for household and similar uses (RCBOs) -
Part 1: General rules
(IEC 61009-1:2010/A2:2013 , modified)

Interrupteurs automatiques à courant différentiel résiduel
avec dispositif de protection contre les surintensités
incorporé pour usages domestiques et analogues (DD) -
Partie 1: Règles générales
(CEI 61009-1:2010/A2:2013 , modifiée)

Fehlerstrom-/Differenzstrom-Schutzschalter mit
eingebautem Überstromschutz (RCBOs) für
Hausinstallationen und für ähnliche Anwendungen - Teil 1:
Allgemeine Anforderungen
(IEC 61009-1:2010/A2:2013 , modifiziert)

This amendment A2 modifies the European Standard EN 61009-1:2012; it was approved by CENELEC on 2014-08-04. 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.

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 amendment 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.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 61009-1:2012/A2:2014) consists of the text of IEC 61009-1:2010/A2:2013 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 CLC/TC 23E "Circuit breakers and similar devices for household and similar applications".

The following dates are fixed:

- latest date by which this document has to be implemented at (dop) 2015-08-04
national level by publication of an identical national standard or
by endorsement
- latest date by which the national standards conflicting with this (dow) 2017-08-04
document have to be withdrawn

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 61009-1:2010/A2:2013 are prefixed "Z".

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).

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

Endorsement notice

The text of the International Standard IEC 61009-1:2010/A2:2013 was approved by CENELEC as a European Standard with agreed common modifications.

Common modifications

Item	Clause	Common modifications
1.	9.7.2	Replace the modification by <i>“Delete in item c) the words ”in an appropriate manner”.”</i>
2.	9.9.1.1	Delete the last paragraph (“For RCCBs having multiple settings of residual operating current, the tests shall be made for each setting.”)
3.	9.9.1.2 d)	Delete the note.
4.	9.12.11.2.1	Replace “105 %” by “110 %”.
5.	Annex ZXX	Add a new modification: “Annex ZXX (informative) List of clauses that require retesting <i>Replace the contents of Annex ZXX by</i> “Based on EN 61009-1:2012/FprA1:2014, the following tests and/or requirements have been technically modified and may require retesting or inspection as applicable: – 8.1.3 Clearances and creepage distances (see Annex B)””

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IEC 61009-1

Edition 3.0 2013-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 2
AMENDEMENT 2

**Residual current operated circuit-breakers with integral overcurrent protection
for household and similar uses (RCBOs) –
Part 1: General rules**

**Interrupteurs automatiques à courant différentiel résiduel avec dispositif de
protection contre les surintensités incorporé pour usages domestiques et
analogues (DD) –
Partie 1: Règles générales**

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FOREWORD

This amendment has been prepared by subcommittee 23E: Circuit-breakers and similar equipment for household use, of IEC technical committee 23: Electrical accessories.

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

FDIS	Report on voting
23E/796/FDIS	23E/820/RVD

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

The committee has decided that the contents of this amendment and the base 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.

iTeh STANDARD PREVIEW

The contents of the corrigendum of January 2014 have been included in this copy.

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SIST EN 61009-1:2013/A2:2014

8.1.3 Clearances and creepage distances (see also Annex B)

Replace the third paragraph of this subclause, and the modifications brought to it by Amendment 1, as follows:

The clearances of items 2 and 4 (except accessible surface after installation, see Note 1) may be reduced provided that the measured clearances are not shorter than the minimum allowed in IEC 60664-1 for homogenous field conditions.

Add the following new note after the third paragraph and renumber the existing notes of this subclause, introduced by Amendment 1, accordingly:

NOTE 1 Accessible surface after installation means any surface accessible by the user when the RCD is installed according to the manufacturer's instructions. The test finger can be applied to determine whether a surface is accessible or not.

8.5 Operating characteristics

Delete "and 9.21" from the existing text

8.15 Behaviour of RCBOs in case of earth fault currents comprising a d.c. component

Replace the second paragraph as follows:

Compliance is checked by the tests of 9.9.3.

Table 12 – List of type tests

Delete the following item:

- Behaviour of RCBOs in case of an earth fault current comprising a d.c. component
9.21

9.7.2 Insulation resistance of the main circuit

Replace the existing text in item c) with the following text:

- c) with the RCBO in the closed position, between all poles connected together and the frame including a metal foil or part in contact with the outer surface of the housing of insulating material but with the terminal areas kept completely free to avoid flashover between terminals and the metal foil;

Replace 9.9.1 and the modifications brought to it by Amendment 1 by the following:

9.9.1 Verification of the operating characteristics under residual current conditions

9.9.1.1 Test circuit and test procedure

The RCBO is installed as for normal use.

The test circuit shall be of negligible inductance. For tests according to 9.9.1.2, the test circuit shall correspond to Figure 4. For tests according to 9.9.1.3, the test circuit shall correspond to Figure 5 or Figure 6, as applicable.

The instruments for the measurement of the residual current shall display (or allow to determine) the true r.m.s. value.

NOTE The information for instrument measurement is available at the following CTL webserver:

<http://www.iecee.org/ctl/sheet/pdf/CTL%20DSH%20251B%20Beijing%202009_05_15.pdf>

Unless otherwise specified, the tests are performed with no load at the reference temperature of $20\text{ °C} \pm 5\text{ °C}$.

The RCBO shall perform the tests of 9.9.1.2, 9.9.1.3 and 9.9.1.4, as applicable. Each test is made on one pole only, taken at random, with five measurements, unless otherwise specified.

For RCBOs having more than one rated frequency, the tests shall be carried out at the lowest and highest frequency, except for test in 9.9.1.2 e), where verification is performed at only one frequency.

For RCBOs having multiple settings of residual operating current, the tests shall be made for each setting.

9.9.1.2 Tests for all RCBOs

The test conditions according to 9.9.1.1 apply to all RCBOs.

- a) Verification of correct operation in case of a steady increase of the residual current.

The test switches S_1 and S_2 and the RCBO being in the closed position, the residual current is steadily increased, starting from a value not higher than $0,2 I_{\Delta n}$, trying to attain the value of $I_{\Delta n}$ within 30 s, the tripping current being measured each time.

All five measured values shall be situated between $I_{\Delta n0}$ and $I_{\Delta n}$.

- b) Verification of correct operation on closing on a residual current

The test circuit being calibrated at the value of the rated residual operating current $I_{\Delta n}$ and the test switches S_1 and S_2 being closed, the RCBO is closed so as to simulate service conditions as closely as possible. The break time is measured five times. No measurement shall exceed the limiting value specified for $I_{\Delta n}$ in Table 2, according to the type of RCBO.

- c) Verification of correct operation in case of sudden appearance of residual current