SLOVENSKI STANDARD
SIST EN 61008-1:2005/A12:2009

01-april-2009

Odklopniki na preostali (diferenļni) tok brez vgrajene nadtokovne zaġļite za gospodinjstva in podobne namene (RCCB) - 1. del: Sploġna pravila

Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCB's) - Part 1: General rules

Fehlerstrom-/Differenzstrom-Schutzschalter ohne eingebauten Überstromschutz (RCCBs) für Hausinstallationen und für ähnliche Anwendungen - Teil 1: Allgemeine Anforderungen

Interrupteurs automatiques à courant différentiel résiduel pour usages domestiques et analogues sans dispositif de protection contre les surintensités incorporées (ID) - Partie 1: Règles générales

Ta slovenski standard je istoveten z: **EN 61008-1:2004/A12:2009**

ICS:

29.120.50	Varovalke in druga medtokovna zaġļita	Fuses and other overcurrent protection devices

SIST EN 61008-1:2005/A12:2009 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61008-1/A12

February 2009

ICS 29.120.50

English version

Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCB's) - Part 1: General rules

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This amendment A12 modifies the European Standard EN 61008-1:2004; it was approved by CENELEC on 2008-12-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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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 61008-1:2004/A12:2009 E

Foreword

This amendment to the European Standard EN 61008-1:2004 was prepared by the Technical Committee CENELEC TC 23E, Circuit breakers and similar devices for household and similar applications.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A12 to EN 61008-1:2004 on 2008-12-01.

The following dates were fixed:

– latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2009-12-01
– latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	2011-12-01

Contents **Add:**

8.Z2 Electromagnetic compatibility (EMC)

9.Z2 Electromagnetic compatibility (EMC)

8 Requirements for construction and operation

8.Z1 **Replace** the second paragraph by the following:

Compliance is checked by the tests of 9.Z1.

8.Z2 **Add** the following new Subclause 8.Z2:

8.Z2 Electromagnetic compatibility (EMC)

RCCBs shall comply with the relevant EMC requirements.

Compliance is checked by the tests of 9.Z2*.*

9 Tests

9.21.1.4 **Replace** the last paragraph by the following new paragraph:

The half-wave current I_1, starting from zero, being steadily increased at an approximate rate of 1,4 $I_{\Delta n}$ /30 A per second for RCCBs with $I_{\Delta n}$ > 0,01 A and 2 $I_{\Delta n}$ /30 A per second for RCCBs with $I_{\Delta n}$ ≤ 0,01 A, the device shall trip before this half-wave current I_1 reaches a value not exceeding 1,4 $I_{\Delta n}$ or 2 $I_{\Delta n}$ respectively.

9.Z2 **Add** the following new Subclause 9.Z2:

9.Z2 Electromagnetic compatibility (EMC)

EMC tests shall be performed according to EN 61543 as follows:

– *Tests listed in the following table are covered by this standard and have not to be repeated:*

Table Z4 – Tests to be applied for EMC

Reference to Tables 4 and 5 of EN 61543	Electromagnetic phenomena	Tests of EN 61008-1
T 1.3	Voltage amplitude variations	9.9.5 and 9.17
T 1.4	Voltage unbalance	9.9.5 and 9.17
T 1.5	Power frequency variations	9.2
T 1.8	Magnetic fields	9.11 and 9.18
T 2.4	Current oscillatory transients	9.19

– The remaining tests in Tables 4, 5 and 6 of EN 61543 shall be done according to the test sequences Z1, Z2 and Z3 listed in Annex A of this standard.

For devices containing a continuously operating oscillator, the test of EN 55014 shall be carried out on the samples prior to the tests of EN 61543.

Figure Z3 **Replace** the title with '**Figure Z3 – Test cycle for low temperature test (9.Z1)**'

Annex A Test sequence and number of samples to be submitted for certification purposes

Table A.1 **Replace** existing row 'H' by the following:

Test sequence	*Clause or subclause*	*Test (or Inspection)*
H	*9.Z1*	*Verification of correct operation at low ambient air temperature of RCCBs for use in the range of -25 °C to +40 °C*

Add the following rows Z1, Z2, Z3 and note a):

Test sequence	*Clause or subclause*	*Test (or Inspection)*
Z1 a)	*EN 61543 Table 4 - T1.1*	*Harmonics, interharmonics*
	EN 61543 Table 4 - T1.2	*Signalling voltage*
	EN 61543 Table 5 - T2.3	*Conducted unidirectional transients of the ms and µs time scale*
Z2	*EN 61543 Table 5 - T2.1 and T2.5*	*Conducted oscillatory voltages or currents*
	EN 61543 Table 5 - T2.2	*Conducted unidirectional transients of the ns time scale (burst)*
Z3	*EN 61543 Table 5 - T2.6*	*Conducted common mode disturbances in the frequency range lower than 150 kHz*
	EN 61543 Table 6 - T3.1	*Electrostatic discharges*
a) For devices containing a continuously operating oscillator, the test of EN 55014 shall be carried out on the samples prior to the tests of this sequence.		

Table A.2 **Add** the following rows Z1, Z2, Z3 and note e):

Test sequence	Number of samples	Minimum number of accepted samples a) b)	Number of samples for repeated tests c)
Z1 e)	3	2	3
Z2 e)	3	2	3
Z3 e)	3	2	3
e) On request of the manufacturer the same set of samples may be subjected to more than one of these test sequences.			

Table A.3 **Replace** Table A.3 by the following new table:

Table A.3

Test sequence	Number of samples according to number of poles [a) g)]		
	2 poles [b)]	**3 poles** [f)]	**4 poles**
A	1 max. rating I_n min. rating $I_{\Delta n}$	1 max. rating I_n min. rating $I_{\Delta n}$	1 max. rating I_n min. rating $I_{\Delta n}$
B	3 max. rating I_n min. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$
C	3 max. rating I_n min. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$
$D_0 + D_1$	3 max. rating I_n min. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$
D_0	1 for all other ratings of $I_{\Delta n}$ with max. I_n		
D_2	3 max. rating I_n min. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$
E	3 max. rating I_n min. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$
F	3 max. rating I_n min. rating $I_{\Delta n}$ 3 min. rating I_n max. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$ 3 min. rating I_n max. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$ 3 min. rating I_n max. rating $I_{\Delta n}$
G	3 max. rating I_n min. rating $I_{\Delta n}$ 3 min. rating I_n max. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$ 3 min. rating I_n max. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$ 3 min. rating I_n max. rating $I_{\Delta n}$
H [h)]	3 max. rating I_n min. rating $I_{\Delta n}$ 3 min. rating I_n max. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$ 3 min. rating I_n max. rating $I_{\Delta n}$	3 max. rating I_n min. rating $I_{\Delta n}$ 3 min. rating I_n max. rating $I_{\Delta n}$
Z1 [h)]	3 samples of the same rating chosen at random	3 samples of the same rating chosen at random	3 samples of the same rating chosen at random
Z2 [h)]	3 samples of the same rating chosen at random	3 samples of the same rating chosen at random	3 samples of the same rating chosen at random
Z3 [h)]	3 samples of the same rating chosen at random	3 samples of the same rating chosen at random	3 samples of the same rating chosen at random

a) If a test is to be repeated according to the minimum performance criteria of A.2, a new set of samples is used for the relevant test. In the repeated test all test results must be acceptable.

b) If only 3-pole and/or 4-pole RCBBs are submitted, this column shall also apply to a set of samples with the smallest number of poles.

c) Void.

d) Void.

e) Void.

f) This column is omitted when 4-pole RCBBs have been tested.

g) If only one value of $I_{\Delta n}$ is submitted, min. rating $I_{\Delta n}$ and max. rating $I_{\Delta n}$ are replaced by $I_{\Delta n}$.

h) If a range of RCCBs of the same fundamental design are submitted, only the samples with the maximum number of poles need to be tested.

A.3.Z1 **Add** the following new Subclause A.3.Z1 after A.3.2:

A.3.Z1 For a sub-range of RCCBs of the same fundamental design as those described in A.3.1 and tested according to A.3.2 but of a different time-delay classification according to 4.7, subsequently submitted for tests, the additional number of samples and sequences shall be as given in Table A.3, except that sequences A, B, may be omitted.

A.3.Z2 **Add** the following new Subclause A.3.Z2 after A.3.Z1:

A.3.Z2 For a sub-range of RCCBs of the same fundamental design as those described in A.3.1, and tested according to A.3.2, but of a different classification according to behaviour due to d.c. components (AC or A type according to 4.6), subsequently submitted for tests, the additional number of samples and sequences may be reduced according to Table A.Z1.

Table A.Z1 **Add** the following new Table A.Z1 after A.3.Z2:

Table A.Z1 – Test sequences for RCCBs of different classification according to 4.6

Test sequence	Number of samples according to the number of poles [a]		
	2-poles [b]	3-poles [e]	4-poles
$D_0 + D_1$	1 max. rating I_n min. rating $I_{\Delta n}$	1 max. rating I_n min. rating $I_{\Delta n}$	1 max. rating I_n min. rating $I_{\Delta n}$
D_0	1 for all other ratings of $I_{\Delta n}$ with max. I_n		

a) If a test is to be repeated according to the minimum performance criteria of A.2, a new set of samples is used for the relevant test. In the repeated test all test results must be acceptable.

b) If only 3-pole or 4-pole RCCBs are submitted, this column shall also apply to a set of samples with the smallest number of poles.

c) Void.

d) Void.

e) This column is omitted when 4-pole RCCBs are being tested.

Annex E (normative) **List of tests, additional test sequences and numbers of samples for verification of compliance of RCCBs with the requirements of electromagnetic compatibility (EMC)**

Delete whole Annex E.