

BS EN 61008-1:2012+A12:2017

Incorporating corrigenda January 2014 and May 2016



BSI Standards Publication

Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs)

Part 1: General rules (IEC 61008-1:2010,
modified)

bsi.

National foreword

This British Standard is the UK implementation of EN 61008-1:2012+A12:2017. It is derived from IEC 61008-1:2010, incorporating amendment 1:2012, amendment 2:2013, corrigendum January 2014 and corrigendum May 2016. It supersedes BS EN 61008-1:2012+A11:2015, which is withdrawn.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags \boxed{C} \boxed{C} .

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by $\boxed{A_1}$ $\boxed{A_1}$.

Where a common modification to an IEC amendment has been introduced, the tags carry the number of the amendment. For example, the common modifications introduced by CENELEC to IEC amendment 1 are indicated by $\boxed{C_1}$ $\boxed{C_1}$.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CENELEC text carry the number of the CENELEC amendment. For example, text altered by CENELEC amendment A11 is indicated by $\boxed{C_{11}}$ $\boxed{C_{11}}$.

The UK participation in its preparation was entrusted by Technical Committee PEL/23, Electrical accessories, to Subcommittee PEL/23/1, Circuit breakers and similar equipment for household use.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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Date	Text affected
30 November 2014	Implementation of IEC amendment 1:2012 with CENELEC modifications
30 November 2014	Implementation of IEC amendment 2:2013 with CENELEC modifications
30 November 2014	Implementation of IEC corrigendum January 2014: Table 20 inserted at the end of subclause 9.9.3.1
31 October 2015	Implementation of CENELEC amendment 11:2015: Annex ZB updated
30 June 2016	Implementation of IEC corrigendum May 2015: Table A.1 (rows E and F) corrected
30 April 2017	Implementation of CENELEC amendment 12:2017: Annex ZC updated

English version

**Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) -
Part 1: General rules
(IEC 61008-1:2010, modified)**

Interrupteurs automatiques à courant différentiel résiduel sans dispositif de protection contre les surintensités incorporé pour usages domestiques et analogues (ID) -
Partie 1: Règles générales
(CEI 61008-1:2010, modifiée)

Fehlerstrom-/Differenzstrom-Schutzschalter ohne eingebauten Überstromschutz (RCCBs) für Hausinstallationen und für ähnliche Anwendungen -
Teil 1: Allgemeine Anforderungen
(IEC 61008-1:2010, modifiziert)

This European Standard was approved by CENELEC on 2012-06-18. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

European foreword

This document (EN 61008-1:2012) consists of the text of IEC 61008-1:2010 prepared by IEC/TC 23E "Circuit-breakers and similar equipment for household use", 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 (dop) 2013-06-18
at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting (dow) 2017-06-18
with this document have to be withdrawn

This document supersedes EN 61008-1:2004 + A11:2007 + A12:2009 + A13:2012 + AC:2012 + IS1:2007.

EN 61008-1:2012 includes the following significant technical changes with respect to EN 61008-1:2004:

- complete revision of EMC sequences, including the new test T.2.6 already approved in EN 61543;
- clarification of RCDs current/time characteristics reported in Tables 1 and 2;
- revision of test procedure for $I_{\Delta n}$ between 5 A and 200 A;
- testing procedure regarding the 6mA d.c. current superimposed to the fault current;
- improvement highlighting RCDs with multiple sensitivity;
- tests for the use of RCCBs in IT systems.

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 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).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 61008-1:2010 are prefixed "Z".

Endorsement notice

The text of the International Standard IEC 61008-1:2010 was approved by CENELEC as a European Standard with agreed common modifications.

Foreword to amendment A1

This document (EN 61008-1:2012/A1:2014) consists of the text of IEC 61008-1:2010/A1:2012 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 national level by publication of an identical national standard or by endorsement (dop) 2015-08-04
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2017-08-04

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 61008-1:2010/A1:2012 are prefixed "Z".

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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 61008-1:2010/A1:2012 was approved by CENELEC as a European Standard with agreed common modifications.

Foreword to amendment A2

This document (EN 61008-1:2012/A2:2014) consists of the text of IEC 61008-1:2010/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 61008-1:2010/A2:2013 are prefixed "Z".

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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 61008-1:2010/A2:2013 was approved by CENELEC as a European Standard with agreed common modifications.

Foreword to amendment A11

This document (EN 61008-1:2012/A11:2015) has been prepared by CLC/TC 23E "Circuit breakers and similar devices for household and similar applications".

The following dates are fixed:

- latest date by which the document has to be implemented at (dop) 2016-07-06
national level by publication of an identical national
standard or by endorsement
- latest date by which the national standards conflicting with (dow) 2018-07-06
the document have to be withdrawn

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For the relationship with EU Directive 2004/108/EC, see informative Annex ZZ, mentioned in EN 61008-1:2012.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Foreword to amendment A12

This document (EN 61008-1:2012/A12:2017) has been prepared by CLC/TC 23E "Circuit breakers and similar devices for household and similar applications".

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- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-02-14
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-02-14

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For the relationship with EU Directive 2004/108/EC, see informative Annex ZZ, mentioned in EN 61008-1:2012.

[C] Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
CISPR 14-1 + corr. January	2005 2009	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission	EN 55014-1	2006
IEC 60038	-	IEC standard voltages	EN 60038	-
[C1] Text deleted [C1]				
IEC 60060-1 + corr. March + corr. March	1989 1990 1992	High-voltage test techniques - Part 1: General definitions and test requirements	HD 588.1 S1 ¹⁾	1991
IEC 60060-2	1994	High-voltage test techniques - Part 2: Measuring systems	EN 60060-2 ²⁾	1994
IEC 60068-2-30	2005	Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)	EN 60068-2-30	2005
IEC 60112 + corr. October + corr. June	2003 2003 2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
[C1] IEC 60228	2004	Conductors of insulated cables	EN 60228 + corr. May	2005 2005 [C1]
IEC 60364	Series	Low-voltage electrical installations	HD 60364	Series
IEC 60417	Data- base	Graphical symbols for use on equipment	-	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
[C1] IEC 60664-3	-	Insulation coordination for equipment within low-voltage systems - Part 3: Use of coating, potting or moulding for protection against pollution	EN 60664-3	- [C1]

¹⁾ HD 588.1 S1 is superseded by EN 60060-1:2010, which is based on IEC 60060-1:2010.

²⁾ EN 60060-2 is superseded by EN 60060-2:2011, which is based on IEC 60060-2:2010. [C]

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60695-2-10	2000	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	2001
IEC 60884-1	-	Plugs and socket-outlets for household and similar purposes - Part 1: General requirements	-	-
IEC 61009	Series	Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs)	EN 61009	Series
<u>C1</u> IEC 61543	1995	Residual current operated protective devices (RCDs) for household and similar use	EN 61543	1995
-	-		+ corr. December	1997
+ A1 (mod)	2004	Electromagnetic compatibility	+ A11	2003
-	-		+ corrMay	2004
+ A2	2005		+ A2	2006
-	-		+ A12	2005 <u>C1</u>
ISO 7000	1989	Graphical symbols for use on equipment - Index and synopsis <u>C1</u>	-	-

Ⓒ Annex ZB
(normative)

Special national conditions

Special national condition: National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions.

NOTE If it affects harmonization, it forms part of the European Standard / Harmonization Document.

For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

Clause Special national condition

General **Germany**

In Germany, the use of RCCBs of type AC is not permitted. Ⓒ

Ⓒ₁₁ General **Ireland**

EN 61008-1 (referred to as Part 1) is applicable with the modifications given below.

For RCCBs, functionally dependant on line voltage IEC 61008-2-2 applies in conjunction with Part 1.

General **Switzerland**

In Switzerland, the use of RCCBs of type AC is not permitted. Ⓒ₁₁

Ⓒ Annex ZC (informative)

A-deviations

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CENELEC member.

This European Standard falls under Directive 2004/108/EC.

NOTE (from CEN/CENELEC IR Part 2:2011 , 2.17) Where standards fall under EC Directives, it is the view of the Commission of the European Communities (OJ No C 59, 1982-03-09) that the effect of the decision of the Court of Justice in case 815/79 Cremonini/Vrankovich (European Court Reports 1980, p. 3583) is that compliance with A-deviations is no longer mandatory and that the free movement of products complying with such a standard should not be restricted except under the safeguard procedure provided for in the relevant Directive.

A-deviations in an EFTA-country are valid instead of the relevant provisions of the European Standard in that country until they have been removed.

<u>Clause</u>	<u>Deviation</u>
	Austria
	Regulations for electrical low voltage installations, statutory order BGBl. II/223/2010, issued 12. July 2010.
4.1	The content of the note of IEC 61008-1 Ed. 3 remains with the adaption to national reference: "The selection of the various types is made according to the requirements of OVE/ONORM E 8001-1:2010."
4.1	Table Z1 is not valid in Austria. Ⓒ
General	Belgium
	The Belgian regulation for Electrical Installation (Art 251, part 5) requires that RCCB's ≤ 40 A installed at the head-end in household electrical installation, upstream the first overcurrent protection, shall withstand an I^2t value not less than 22,5 kA ² s at 3000 A and shall be additionally marked with at least the following data: "3000 A, 22,5 kA ² s".
	This marking shall remain visible after installation.

Ⓒ Annex ZZ
(informative)

Coverage of Essential Requirements of EU Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Article 1 of Annex I of the EU Directive 2004/108/EC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive(s) concerned.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard. **Ⓒ**

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