IEC 61009-1

Edition 4.0 2024-11

INTERNATIONAL STANDARD

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

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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RESIDUAL CURRENT OPERATED CIRCUIT-BREAKERS WITH INTEGRAL OVERCURRENT PROTECTION FOR HOUSEHOLD AND SIMILAR USES (RCBOs) –

Part 1: General rules

FOREWORD

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IEC 61009-1 has been prepared by subcommittee 23E: Circuit-breakers and similar equipment for household use, of IEC technical committee 23: Electrical accessories. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2010, Amendment 1:2012 and Amendment 2:2013. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) harmonization of all clauses between the IEC 61008, IEC 61009 and IEC 60755 series using blocks and modules approach;

b) harmonization of all tables and figures between the IEC 61008, IEC 61009 and IEC 60755 series;

c) terms and definitions are now referred to IEC 62873-2;

d) modification of Subclause 4.1 for classification according to supply conditions;

e) new Subclauses 8.17 and 9.24 for requirements and tests for the resistance to temporary overvoltages (TOV);

f) improvement of Subclause 9.7 for test of dielectric properties;

g) tests for screwless, flat-quick terminals and aluminium conductors are now referred to in the IEC 62873-3 series.

The text of this International Standard is based on the following documents:

Draft	Report on voting
23E/1373/FDIS	23E/1388/RVD

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

The language used for the development of this International Standard is English

This International Standard is to be used in conjunction with the relevant product standard, either IEC 61009-2-1:2024 or IEC 61009-2-2:2024. The chosen standard, IEC 61009-2-1:2024 or IEC 61009-2-2:2024, shall be used consistently throughout the standard.

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In order to maintain the same structure throughout the IEC 61008 and IEC 61009 series, some elements that are not applicable to a particular device within the scope of this document are labelled void.

In this document, the following print types are used:

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– compliance statements: in *italic* type;

– other statements: in normal type.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 61009 series, published under the general title *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs)*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

The purpose of this document is to harmonize as far as practicable all rules and requirements of a general nature applicable to RCBOs in order to obtain uniformity of requirements and tests and to avoid the need for testing to different standards.

All those parts which can be considered as general have therefore been gathered in this document, e.g., temperature-rise, dielectric properties, etc.

For each type of RCBO, two main documents are used to determine all requirements and tests:

1) this document;
2) the relevant product standard covering RCBOs:
   - IEC 61009-2-1, *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) – Part 2-1: RCBOs according to classification 4.1.1*;
   - IEC 61009-2-2, *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) – Part 2-2: RCBOs according to classification 4.1.2, 4.1.3, 4.1.4, 4.1.5 and 4.1.6*.

For Type F and Type B RCBOs, IEC 62423 applies in addition to the IEC 61009 series.

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