
Zaščitne naprave na residualni tok za uporabo v gospodinjstvu in podobne namene - Elektromagnetna združljivost (IEC 61543:2022)

Residual current-operated protective devices (RCDs) for household and similar use - Electromagnetic compatibility (IEC 61543:2022)

Fehlerstromschutzeinrichtungen (RCDs) für Hausinstallationen und ähnliche Verwendung - Elektromagnetische Verträglichkeit (IEC 61543:2022)

Dispositifs différentiels résiduels (DDR) pour usages domestiques et analogues - Compatibilité électromagnétique (IEC 61543:2022)

Ta slovenski standard je istoveten z: EN IEC 61543:2023

ICS:

29.120.50	Varovalke in druga nadtokovna zaščita	Fuses and other overcurrent protection devices
33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general

SIST EN IEC 61543:2023**en,fr,de**

EUROPEAN STANDARD

EN IEC 61543

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2023

ICS 29.020; 29.120.50; 33.100.10

Supersedes EN 61543:1995; EN 61543:1995/corrigendum Dec. 1997; EN 61543:1995/A11:2003; EN 61543:1995/A11:2003/corrigendum May 2004; EN 61543:1995/A12:2005; EN 61543:1995/A2:2006

English Version

Residual current-operated protective devices (RCDs) for household and similar use - Electromagnetic compatibility (IEC 61543:2022)

Dispositifs différentiels résiduels (DDR) pour usages domestiques et analogues - Compatibilité électromagnétique (IEC 61543:2022)

Fehlerstromschutzeinrichtungen (RCDs) für Hausinstallationen und ähnliche Verwendung - Elektromagnetische Verträglichkeit (IEC 61543:2022)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 61543:2023 (E)**European foreword**

The text of document 23E/1268/FDIS, future edition 2 of IEC 61543, prepared by SC 23E "Circuit-breakers and similar equipment for household use" of IEC/TC 23 "Electrical accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61543:2023.

The following dates are fixed:

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- latest date by which the national standards conflicting with the (dow) 2026-04-19 document have to be withdrawn

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SIST EN IEC 61543:2023

The text of the International Standard IEC 61543:2022 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60364-4-44	NOTE Approved as HD 60364-4-444
IEC 61000-6-1:2016	NOTE Approved as EN IEC 61000-6-1:2019 (not modified)
IEC 61000-6-2:2016	NOTE Approved as EN IEC 61000-6-2:2019 (not modified)
IEC 61008 (series)	NOTE Approved as EN 61008 (series)
IEC 61009 (series)	NOTE Approved as EN 61009 (series)
IEC 61540	NOTE Approved as HD 639 S1
IEC 62423	NOTE Approved as EN 62423
IEC 62606	NOTE Approved as EN 62606
IEC 62640	NOTE Approved as HD 62640
IEC 62752	NOTE Approved as EN 62752
IEC 63024	NOTE Approved as EN 63024
IEC 63052	NOTE Approved as EN IEC 63052



IEC 61543

Edition 2.0 2022-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Residual current-operated protective devices (RCDs) for household and similar use – Electromagnetic compatibility

Dispositifs différentiels résiduels (DDR) pour usages domestique et analogues – Compatibilité électromagnétique

<https://standards.iteh.ai/catalog/standards/sist/da867967-add4-42b5-b914-c4c76591f108/sist-en-iec-61543-2023>

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INTERNATIONALE

ICS 29.020; 29.120.50; 33.100.10

ISBN 978-2-8322-5962-7

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RESIDUAL CURRENT-OPERATED PROTECTIVE DEVICES (RCDs) FOR
HOUSEHOLD AND SIMILAR USE – ELECTROMAGNETIC COMPATIBILITY**

FOREWORD

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IEC 61543 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 second edition cancels and replaces the first edition published in 1995, Amendment 1:2004 and Amendment 2:2005. This edition constitutes a technical revision.

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

- a) some editorial modifications were introduced to comply to the ISO/IEC Directives Part 2:2021, e.g. introduction of Clause 3 – Terms and Definitions and renumbering of the whole document. In particular, the numbering of performance criteria has been changed (5.1.1, 5.1.2 become A, B, etc.);
- b) some technical improvements:
 - Modification of scope and addition of Clause 6 and Clause 7 to enable the use of this document as a guideline for the preparation of EMC requirements and tests for other product standards under the scope of SC 23E;
 - Requirements for voltage dips and interruptions added;

- Repetition rate for burst-test, defined at 5 kHz;
- Surge test: Specifying impulse voltage application point and adding of voltages 2 kV, 1 kV and 0,5 kV to test T 5b;
- Radiated radio-frequency electromagnetic field: Adding of frequency range 1,4 GHz to 6 GHz and specifying frequencies for the test at $1,25 I_{\Delta n}$;
- Conducted, common mode disturbances in the frequency range 0 Hz to 150 kHz: Specifying frequencies for the test at $1,25 I_{\Delta n}$;
- Electrostatic discharges: Change of performance criteria from 5.1.3 to B.

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

Draft	Report on voting
23E/1268/FDIS	23E/1305/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 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/standardsdev/publications.

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,
- replaced by a revised edition, or
- amended.

INTRODUCTION

IEC 61543 is product family standard for RCDs Electromagnetic Compatibility and, more generally it is used as a guide for other devices of IEC Subcommittee 23E: Circuit-breakers and similar equipment for household use, of IEC technical committee 23: Electrical accessories.

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RESIDUAL CURRENT-OPERATED PROTECTIVE DEVICES (RCDs) FOR HOUSEHOLD AND SIMILAR USE – ELECTROMAGNETIC COMPATIBILITY

1 Scope

This international standard provides specific emission and immunity requirements, tests and performance criteria for residual current-operated protective devices (RCDs), for household and similar use, for rated voltages not exceeding 440 V.

Household and similar use corresponds to the description given in the generic standard IEC 61000-6-1 for residential, commercial, and light-industrial electromagnetic environments.

This document is intended to be referred to by RCD product standards and is not intended to be used as a standalone document.

Residual current-operated protective devices are:

- Residual current operated circuit-breakers without integral overcurrent protection for household and similar use (RCCBs) covered by the IEC 61008 series and IEC 62423;
- Residual current operated circuit-breakers with integral overcurrent protection for household and similar use (RCBOs) covered by the IEC 61009 series and IEC 62423;
- Residual current devices with or without overcurrent protection for socket-outlets (SRCDs) covered by IEC 62640;
- Portable residual current devices without integral overcurrent protection (PRCDs) covered by IEC 61540;
- Devices with an RCD functionality for household and similar use according product standards following the group safety publications for general safety requirements for RCDs, IEC 60755.

This edition applies if it is referred to as a dated reference in the relevant product standard.

This document is also intended to be used as a guideline in the preparation of EMC requirements and tests for other product standards under the scope of IEC Subcommittee 23E. It also specifies generic performance criteria intended to be transformed into specific performance criteria by the relevant product standard.

NOTE Examples of other product standards under the scope of SC 23E are:

- IEC 62020-1, Electrical accessories – Residual current monitors (RCMs) – Part 1: RCMs for household and similar uses
- IEC 62606, General requirements for arc fault detection devices
- IEC 63024, Requirements for automatic reclosing devices (ARDs) for circuit breakers, RCBOs-RCCBs for household and similar uses
- IEC 63052, Power frequency overvoltage protective devices (POPs) for household and similar applications
- IEC 62752, In-cable control and protection device for mode 2 charging of electric road vehicles (IC-CPD)
- IEC 62955, Residual direct current detecting device (RDC-DD) to be used for mode 3 charging of electric vehicles