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**SPECIFICATION FOR
RESIDUAL CURRENT OPERATED
CIRCUIT-BREAKERS WITH INTEGRAL
OVERCURRENT PROTECTION FOR
HOUSEHOLD AND SIMILAR USES (RCBOs)-
PART 1 GENERAL REQUIREMENTS
(*THIRD REVISION*)**

SRI LANKA STANDARDS INSTITUTION

Sri Lanka Standard
SPECIFICATION FOR RESIDUAL CURRENT OPERATED CIRCUIT-BREAKERS
WITH INTEGRAL OVERCURRENT PROTECTION FOR HOUSEHOLD
AND SIMILAR USES (RCBOs) –
PART 1 GENERAL REQUIREMENTS
(THIRD REVISION)

SLS 1022-1:2015
IEC 61009-1:2010+A1:2012+A2:2013

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Sri Lanka Standard
SPECIFICATION FOR RESIDUAL CURRENT OPERATED CIRCUIT-
BREAKERS WITHOUT INTEGRAL OVERCURRENT PROTECTION
FOR HOUSEHOLD AND SIMILAR USES (RCBOs)-
PART 1 GENERAL REQUIREMENTS
(Third Revision)

NATIONAL FOREWORD

This standard was approved by the Sectoral Committee on Electrical Appliances and Accessories and was authorized for adoption and publication as a Sri Lanka Standard by the Council of Sri Lanka Standards Institution on 2015- 10-08

Part 1 of SLS 1022 is identical with **IEC 61009-1:2010+A1:2012+A2:2013**, Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) Part 1 General rules, Edition 3.2 2013-09, published by the International Electrotechnical Commission (IEC).

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the results of a test or an analysis shall be rounded off in accordance with **SLS 102**. The number of significant places to be retained in the rounded off value shall be the same as that of the specified value in the standard.

Terminology and conventions

The text of the International Standard has been accepted as suitable for publication as a Sri Lanka Standard with additional information indicated in the National Appendix. However, certain terminology and conventions are not identical with those used in Sri Lanka Standards; attention is therefore drawn to the following:

- a) Wherever the words “International Standard” appear referring to this standard they should be interpreted as “Sri Lanka Standard”.
- b) Wherever the page numbers are quoted they are page numbers of IEC standard.
- c) The comma has been used as a decimal marker. In the Sri Lanka Standards it is the current practices to use full point on the base line as a decimal marker.
- d) Whenever standard value of rated frequency appears it shall be taken as 50 Hz.

This part of the standard shall apply in conjunction with Part 2-1 Applicability of the general requirements to RCBOs functionally independent of line voltage.

Standard for RCBOs, functionally dependent on line voltage is not published as this type is not suitable to use for household and similar uses. (See National Appendix)

CROSS REFERENCES

International Standards

Corresponding Sri Lanka Standards

IEC 60529 Degrees of protection provided by enclosures (IP Code)

SLS 963 Degrees of protection provided by enclosures (IP Code)

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

SLS 1099 : Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – Part 1: General requirements

NOTE : *Corresponding Sri Lanka Standards for other international standards listed under references in IEC 61009-1 are not available.*

NATIONAL APPENDIX

1. Clause 4.1.2.2

Delete the existing “NOTE” and include the following “NOTE” immediately after the **b)** of **4.1.2.2**.

NOTE: The selection of the RCBOs in b) is subject to the following conditions of 532.2.2.2 of IEC 60364-5-53

The use of residual current protective devices with an auxiliary source not operating automatically in the case of failure of auxiliary source is permitted only if one of the following conditions is fulfilled:

- i) Protection against indirect contact according to clause **413.1** of **IEC 60364-4-41** is ensured even in the case of failure of the auxiliary supply*
 - ii) The devices are installed in installations operated, tested and inspected by instructed persons or skilled persons*
-

FINAL VERSION

VERSION FINALE

**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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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 1: General rules

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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This Consolidated version of IEC 61009-1 bears the edition number 3.2. It consists of the third edition (2010) [documents 23E/682/FDIS and 23E/686/RVD], its amendment 1 (2012) [documents 23E/741/FDIS and 23E/745/RVD] and its amendment 2 (2013) [documents 23E/796/FDIS and 23E/820/RVD]. The technical content is identical to the base edition and its amendments.

This Final version does not show where the technical content is modified by amendments 1 and 2. A separate Redline version with all changes highlighted is available in this publication.

This publication has been prepared for user convenience.

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

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

- complete revision of EMC sequences, including the new test T.2.6, already approved in IEC 61543;
- clarification of RCDs current/time characteristics reported in Tables 2 and 3;
- revision of test procedure for $I_{\Delta n}$ between 5 A and 200 A;
- tests for the use of RCBOs in IT systems;
- testing procedure regarding the 6mA d.c. current superimposed to the fault current;
- improvement highlighting RCDs with multiple sensitivity;
- some alignments with IEC 60898-1.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts in the IEC 61009 series, 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 the base publication and its amendments 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.

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

INTRODUCTION

This part includes definitions, requirements and tests covering all types of RCBOs. For applicability to a specific type, this part applies in conjunction with the relevant part, as follows:

Part 2-1: Applicability of the general rules to RCBOs functionally independent of line voltage.

Part 2-2: Applicability of the general rules to RCBOs functionally dependent on line voltage.