MALAYSIAN STANDARD

MS IEC 61008-1:2012

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

ICS: 29.120.50

Descriptors: residual current, circuit-breakers, overcurrent, protection

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Committee representation

The Industry Standards Committee on Generation, Transmission and Distribution of Energy (ISC E) under whose authority this Malaysian Standard was adopted, comprises representatives from the following organisations:

Association of Consulting Engineers Malaysia
Department of Standards Malaysia
Federation of Malaysian Manufacturers
Jabatan Kerja Raya Malaysia
Malaysian Association of Standards Users
Malaysian Cable Manufacturers Association
Malaysian Electrical Appliances and Distributors Association
Malaysian Green Technology Corporation
Ministry of Domestic Trade, Co-operatives and Consumerism
Ministry of International Trade and Industry
Persatuan Kontraktor Elektrikal dan Mekanikal Melayu Malaysia
Persatuan Penjana Kuasa Bebas
SIRIM Berhad (Secretariat)
SIRIM QAS International Sdn Bhd
Suruhanjaya Komunikasi dan Multimedia Malaysia
Suruhanjaya Tenaga
Tenaga Nasional Berhad
The Electrical and Electronics Association of Malaysia
The Institution of Engineers, Malaysia
Universiti Teknologi Malaysia

The Technical Committee on Low Voltage Switchgear, Controlgear and Wiring Accessories which supervised the adoption of the IEC Standard as Malaysian Standard consists of representatives from the following organisations:

ABB Malaysia Sdn Bhd
Association of Consulting Engineers Malaysia
Association of Suppliers Against Fake Electrical Equipment
Clipsal International Pte Ltd
Federation of Malaysian Manufacturers
Jabatan Kerja Raya Malaysia
Megapower Manufacturing (M) Sdn Bhd
Schneider Electric Industries (M) Sdn Bhd
SIRIM Berhad (Secretariat)
SIRIM QAS International Sdn Bhd
Suruhanjaya Tenaga
Tenaga Nasional Berhad
Tenaga Nasional Berhad (Distribution Division)
The Electrical and Electronics Association of Malaysia
TNB Research Sdn Bhd
Universiti Malaya

The Working Group on Circuit Breaker and Similar Equipment for Household Use which recommended the adoption of the IEC Standard as Malaysian Standard consists of representatives from the following organisations:

ABB Malaysia Sdn Bhd
Association of Consulting Engineers Malaysia
Clipsal International Pte Ltd
Hager Engineering (M) Sdn Bhd
Jabatan Kerja Raya Malaysia
Schneider Electric Industries (M) Sdn Bhd
SIRIM Berhad (Secretariat)
SIRIM QAS International Sdn Bhd
Suruhanjaya Tenaga
Tenaga Nasional Berhad (Distribution Division)
Time Era Sdn Bhd

NATIONAL FOREWORD

The adoption of the IEC Standard as a Malaysian Standard was recommended by the Working Group on Circuit Breaker and Similar Equipment for Household Use under the authority of the Industry Standards Committee on Generation, Transmission and Distribution of Energy.

This Malaysian Standard is the second revision of MS IEC 61008-1, *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) - Part 1: General rules.*

This Malaysian Standard is identical with IEC 61008-1:2010*, Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) - Part 1: General rules*, published by the International Electrotechnical Commission (IEC). However, for the purposes of this Malaysian Standard, the following apply:

a) in the source text, "this International Standard" should read "this Malaysian Standard";

b) the comma which is used as a decimal sign (if any), to read as a point;

c) the basis IEC 61008-1 is printed in English and French languages. However, only the English version applied for this Malaysian Standard; and

d) reference to International Standards should be replaced by corresponding Malaysian Standards as follows:

Referenced International Standards	Corresponding Malaysian Standards
IEC 60038, *IEC standard voltages*	MS IEC 60038, *IEC standard voltages*
IEC 60068-2-30:2005, *Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)*	MS IEC 60068-2-30:2005, *Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)*
IEC 60068-3-4: 2001, *Environmental testing - Part 3-4: Supporting documentation and guidance - Damp heat tests*	MS IEC 60068-3-4: 2001, *Environmental testing - Part 3-4: Supporting documentation and guidance - Damp heat tests*
IEC 60364 (all parts), *Low-voltage electrical installations*	MS IEC 60364 (all parts), *Low-voltage electrical installations*
IEC 60364-4-44:2007, *Low-voltage electrical installations - Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances*	MS IEC 60364-4-44:2007, *Low-voltage electrical installations - Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances*
IEC 60364-5-53:2001, *Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment -Isolation, switching and control*	MS IEC 60364-5-53:2001, *Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment -Isolation, switching and control*

NATIONAL FOREWORD *(continued)*

Referenced International Standards	Corresponding Malaysian Standards
IEC 60529, *Degrees of protection provided by enclosures (IP Code)*	MS IEC 60529, *Degrees of protection provided by enclosures (IP Code)*
IEC 61009-1, *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) - Part 1: General rules*	MS IEC 61009-1, *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) - Part 1: General rules*
IEC 61543:1995, *Residual current-operated protective devices (RCDs) for household and similar use - Electromagnetic compatibility*	MS IEC 61543:1995, *Residual current-operated protective devices (RCDs) for household and similar use - Electromagnetic compatibility*
CISPR 14-1:2005*, Electromagnetic compatibility - Requirements for household appliances*	MS CISPR 14-1:2005*, Electromagnetic compatibility - Requirements for household appliances*

This Malaysian Standard cancels and replaces MS IEC 61008-1:2007.

Compliance with a Malaysian Standard does not of itself confer immunity from legal obligations.

NOTE. IDT on the front cover indicates an identical standard i.e. a standard where the technical content, structure, and wording (or is an identical translation) of a Malaysian Standard is exactly the same as in an International Standard or is identical in technical content and structure although it may contain the minimal editorial changes specified in clause 4.2 of ISO/IEC Guide 21-1.

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RESIDUAL CURRENT OPERATED CIRCUIT-BREAKERS WITHOUT INTEGRAL OVERCURRENT PROTECTION FOR HOUSEHOLD AND SIMILAR USES (RCCBs) –

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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International Standard IEC 61008-1 has been prepared by subcommittee 23E: Circuit-breakers and similar equipment for household use, of IEC technical committee 23: Electrical accessories.

This third editions cancels and replaces the second edition published in 1996, amendment 1 (2002) and amendment 2 (2006). This edition constitutes a technical revision.

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 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.

The text of this standard is based on the following documents:

FDIS	Report on voting
23E/681/FDIS	23E/685/RVD

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

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

A list of all parts of the IEC 61008 series, published under the general title, *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs)*, can be found on the IEC website.

The committee has decided that the contents of this publication 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.