

Edition 2.0 2020-11

ATERNATIC STANDARD ircui

eaken Residual current operated circuit-breakers for household and similar use -Part 3-2: Particular requirements for devices with flat quick-connect

terminations





THIS PUBLICATION IS COPYRIGHT PROTECTED Copyright © 2020 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either JEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Central Office 3, rue de Varembé CH-1211 Geneva 20 Switzerland

Tel.: +41 22 919 02 11 info@iec.ch www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of C pt. collected CISPR. IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and



Edition 2.0 2020-11

INTERNATIONAL STANDARD

Residual current operated circuit-breakers for household and similar use – Part 3-2: Particular requirements for devices with flat quick-connect terminations

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 29.120.50 ISBN 978-2-8322-9026-2

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD	3
INTRODUCTION	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Classification	7
5 Characteristics of products	7
6 Marking and other product information	7
7 Standard conditions for operation in service and for installation	7
8 Requirements for construction and operation	8
8.1 General	8
8.2 Terminals for external conductors	
9 Tests	12
9.1 General	
9.2 Mechanical overload force	
9.3 Additional requirements for temperature rise	
Bibliography	13
	_
Figure 1 – Dimensions of male tabs	
Figure 2 – Dimensions of round dimple detents (see Figure 1)	
Figure 3 – Dimensions of rectangular dimple detents (see Figure 1)	
Figure 4 – Dimensions of hole detents	11
Figure 5 – Dimensions of female connectors	11
Figure 6 – Example of position of the thermocouple for measurement of the temperature rise	10
temperature rise	12
Table 1 – Colour code of female connectors in relationship with the cross-section of	
the conductor	7
Table 2 – Dimensions of tabs	8
Table 3 – Dimensions of female connectors	11
Table 4 – Retention force	12
O.	
	'/
	-
	O_{λ}
	_

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RESIDUAL CURRENT OPERATED CIRCUIT-BREAKERS FOR HOUSEHOLD AND SIMILAR USE –

Part 3-2: Particular requirements for devices with flat quick-connect terminations

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62873-3-2 has been prepared by subcommittee 23E: Circuit breakers and similar equipment for household use, of IEC technical committee 23: Electrical accessories.

This second edition cancels and replaces the first edition published in 2016. This edition constitutes a technical revision.

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

- a) Modification of the scope to address other devices in addition to RCDs;
- b) Modification of 8.1 so that IEC 62873-3-2 can be referred to by other product standards in addition to those for RCDs;
- c) Modification of 9.1 so that IEC 62873-3-2 can be referred to by other product standards in addition to those for RCDs.

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

FDIS	Report on voting
23E/1195/FDIS	23E/1201/RVD

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

This document is intended to be referred to by a product standard of subcommittee IEC SC23E (e.g. from the IEC 61008 series, IEC 61009 series, IEC 62606, and IEC 63052).

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

A list of all parts of the IEC 62873 series, published under the general title *Residual current* operated circuit-breakers for household and similar use, 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 "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- Poteriew Senerated by this replaced by a revised edition, or
- amended.

INTRODUCTION

This document is a breview denotated by the

RESIDUAL CURRENT OPERATED CIRCUIT-BREAKERS FOR HOUSEHOLD AND SIMILAR USE –

Part 3-2: Particular requirements for devices with flat quick-connect terminations

1 Scope

This document applies to devices equipped with flat quick-connect terminations consisting of a male tab with nominal width 6,3 mm and thickness 0,8 mm, to be used with a mating female connector for connecting electrical copper conductors according to the manufacturer's instructions, for rated currents up to and including 16 A.

NOTE The use of flat quick-connect terminations for rated currents up to and including 20 A is accepted in BE, FR, IT, ES, PT and US.

This document cannot be used alone but is intended to be applied together with the applicable product standard in which it is referred to.

The connectable electrical copper conductors are flexible, having a cross-sectional area up to and including 4 mm², or rigid-stranded, having a cross-sectional area up to and including 2.5 mm² (AWG equal to or greater than 12).

This document applies exclusively to products having male tabs as an integral part of the device.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62873-2, Residual current operated circuit-breakers for household and similar use – Part 2: Residual current devices (RCDs) – Vocabulary

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62873-2 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at http://www.iso.org/obp
- IEC Electropedia: available at http://www.electropedia.org/

3 1

flat quick-connect termination

electrical connection consisting of a male tab (3.2) and a female connector (3.3) which can be pushed into and withdrawn with or without the use of a tool