# IEC/TR 60755

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# TECHNICAL REPORT

# RAPPORT TECHNIQUE



## General requirements for residual current operated protective devices

**Exigences générales pour les dispositifs de protection à courant différentiel résiduel**

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch





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Email: csc@iec.ch
Tél.: +41 22 919 02 11
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# GENERAL REQUIREMENTS FOR RESIDUAL CURRENT OPERATED PROTECTIVE DEVICES

## FOREWORD

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IEC 60755, which is a technical report, has been prepared by subcommittee 23E: Circuit-breakers and similar equipment for household use, of IEC technical committee 23: Electrical accessories.

The text of this technical report is based on the following documents:

| DTR | Report on voting |
|---|---|
| 23E/635/DTR | 23E/640/RVC |

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

This second edition of IEC 60755 cancels and replaces the first edition published in 1983, its first amendment published in 1988 and its second amendment published in 1992.

It constitutes a technical revision.

IEC 60755 has been revised in order to align the previous version with the latest editions of IEC 61008, IEC 61009, IEC 62423 and IEC 60947-2.

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

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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- withdrawn,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.

# INTRODUCTION

Residual current devices are primarily intended to give protection against the risk of dangerous, and possibly lethal, electric shocks and to provide protection against fire hazards due to a persistent earth fault current.

This technical report specifies the operational characteristics for these devices; details of how they should be installed to provide the desired level of protection are specified in the various parts of IEC 60364.

This technical report is intended for use by technical committees in the preparation of standards for residual current devices. It is not intended to be used as a stand-alone standard, for example, for certification.

It has been prepared by subcommittee 23E in accordance with its pilot function for residual current devices.

There are two basic conditions of protection against the risk of electric shock: fault protection (indirect contact) and basic protection (direct contact).

Fault protection implies that the device is used to prevent dangerous voltages persisting on accessible installation metalwork, which are earthed but become live under earth fault conditions.

Under such conditions, the risk arises not from the user making direct contact with a live conductive part but from making contact with earthed metalwork, which itself is in contact with a live conductive part.

The primary or basic function of residual current devices is to give fault protection, but, with devices of adequate sensitivity (i.e., units having operating residual currents not exceeding 30 mA), there is the additional benefit that, should other methods of protection fail, the device will give a high degree of protection to a user making direct contact with a live conductive part.

The operating characteristics given in this technical report are therefore based on requirements, which themselves are based on the information contained in IEC 60479.

These devices also provide protection against the risk of fire resulting from earth fault currents which can persist for lengthy periods without operating the overcurrent protective device.