



TECHNICAL REPORT

Residual current devices (RCDs) associated with additional function(s)

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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 Classification according to the association of a RCD with additional function(s).....	9
4.1 General.....	9
4.2 According to the type of construction	9
4.3 According to the interface between a RCD and additional function(s).....	9
5 Characteristics	10
6 Marking and other product information.....	10
6.1 Instructions and operation for RCDs with integrated additional function(s) according to 4.2 a).....	10
6.2 Instructions and operation for a non integrated additional function according to 4.2 b).....	10
7 Standard conditions for operation in service and for installation.....	10
8 Requirements for construction and operation.....	11
8.1 General.....	11
8.2 Mechanical requirements	12
8.3 Electrical compatibility	12
8.4 Protection against electric shock.....	12
8.5 Dielectric properties, isolating capability and insulation coordination.....	12
8.6 Clearances and creepage distances.....	13
8.7 Screws, current-carrying parts and connections	13
8.8 Terminals for external conductors	13
8.9 Temperature rise	13
8.10 Mechanical and electrical endurance	13
8.11 Performance at short-circuit currents	13
8.12 Resistance to mechanical shock and impact	14
8.13 Resistance to heat, to abnormal temperature and to fire	14
8.14 Test device	14
8.15 Behaviour of RCDs in the case of overcurrents in the main circuit.....	14
8.16 Behaviour of RCDs in the case of current surges caused by impulse voltages	14
8.17 Behaviour of RCDs in the case of sinusoidal residual currents and in case of residual currents comprising a d.c. component.....	14
8.18 Reliability.....	15
8.19 Electromagnetic compatibility (EMC).....	15
8.20 Operating characteristics	15
8.20.1 Operating characteristics of the RCD.....	15
8.20.2 Influence of the additional function(s) on the performance of the RCD with different conditions of supply voltage.....	15
9 Tests	16
9.1 General.....	16
9.2 The additional function is integrated within the RCD according to 4.2 a)	16
9.3 The additional function is not integrated within a declared RCD according to 4.2b) whose compliance to the relevant RCD standard is not yet tested.....	17

9.4	The additional function is not integrated within a declared RCD according to 4.3 whose compliance to the relevant RCD standard is already tested	17
9.5	Testing procedure	17
9.5.1	General	17
9.5.2	Impairment identification	20
9.5.3	Impairment assessment	21
9.5.4	Verification of the influence of the additional function(s) on the performance of the RCD at different states of supply voltage	23
9.6	Documentation	24
Annex A (informative) Additional requirements and tests for RCDs consisting of a RCD and a non integrated additional function unit designed for assembly on site		25
A.1	General	25
A.2	Scope	25
A.3	Terms and definitions	25
A.4	Marking and other product information	25
A.4.1	Manufacturer's name or trademark	25
A.4.2	Marking	25
A.4.3	Instructions for assembly and operation	26
A.5	Constructional requirements	26
A.5.1	General	26
A.5.2	Degree of protection	26
A.5.3	Mechanical requirements	26
A.5.4	Electrical compatibility	27
A.6	Type tests and verifications	27
A.6.1	Tests on RCDs	27
A.6.2	Tests on non integrated additional function unit to be assembled on site	27
A.6.3	Tests on assembled RCDs and non integrated additional function unit	27
A.6.4	Verification of marking and constructional requirements	27
Bibliography		28
Table 1 – List of basic tests to be considered, according to the interface between RCDs and additional function(s), during the assessment		18

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RESIDUAL CURRENT DEVICES (RCDs) ASSOCIATED
WITH ADDITIONAL FUNCTION(S)**

FOREWORD

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IEC TR 62710, 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 standard is based on the following documents:

Enquiry draft	Report on voting
23E/875/DTR	23E/900/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 publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

In this Technical Report, the following print types are used:

– compliance statements: *in italic type*

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

This Technical Report (TR) introduces information allowing manufacturers to introduce additional function(s) associated with Residual current devices (RCD). This TR is also relevant for technical committees in charge of drafting an International Standard for additional function(s); for this purpose, requirements and tests have been introduced. It would also be of benefit to laboratories having difficulties in testing RCDs associated with an additional function. This TR does not cover the additional function(s) itself (this is the purpose of an International Standard covering the additional function(s)), nor the RCD function and characteristics (this is the purpose of an RCD International Standard). It is limited to checking that the additional function(s) do not impair any function of the RCD in case there is no International Standard for the additional function(s) for household and similar uses. Where there is a relevant International Standard for household and similar uses for the additional function(s), then it is used. This means that the assembly of the RCD plus the additional function(s) behave correctly according to the referred standards.

This Technical Report is drafted according to the following basic principles:

- In order not to restrict innovation, it is drafted independently of the additional function(s) and is thus applicable whatever the additional function(s) are.

NOTE It is not possible to list all possible existing and future additional function(s); some examples are given within the definitions.

- The verification is only limited to the assembly and association of an RCD with one or several additional function(s), being integrated or not.
- The verification aims to show that the assembly of one or several additional function(s) declared suitable to a specific protective device is safe and does not impair the basic characteristics of the RCD.
- Responsibility for the assembly means that the additional function(s) and the RCD are intended to be from the same manufacturer or to be affixed with the same trademark. As a consequence, it is intended that the manufacturer or trademark owner declare with which protective devices the additional function(s) can be associated.

RESIDUAL CURRENT DEVICES (RCDs) ASSOCIATED WITH ADDITIONAL FUNCTION(S)

1 Scope

This Technical Report (TR) provides information concerning the possible use of:

- dedicated additional function(s) declared by a manufacturer as suitable for an assembly with declared RCDs complying with IEC standards for household and similar uses;
- specific RCDs complying with IEC standards for household and similar uses having integrated additional function(s).

NOTE 1 The term RCD is a generic term applied to a family of products which open automatically in response to a residual current at or exceeding the RCD's rated residual operating current $I_{\Delta n}$. This generic term is often applied to the following:

- RCCB: Residual current operated circuit-breaker without integral overcurrent protection;
- RCBO: Residual current operated circuit-breaker with integral overcurrent protection;
- SRCD: Residual current device with or without overcurrent protection for socket-outlets;
- PRCD: Portable residual current device without integral overcurrent protection.

This TR identifies the applicable testing procedure to determine the effect on the normal functioning of specific RCD(s) declared suitable with one or more additional function(s) integrated into or added to or assembled with this specific RCD.

This TR may also be used to draft additional requirements to standards for additional function(s) intended to be combined with RCDs for household and similar applications.

This TR provides a procedure based on an assessment in order to identify the necessary testing to demonstrate compliance with the appropriate requirements. If the assessment of the additional function integrated in the RCDs concludes that the additional function does not impair the RCD, no additional test is required by this TR.

Where more than one additional function(s) can be simultaneously associated with one or several RCD(s), the possible combinations is checked by considering the most severe ones.

This TR does not apply:

- to additional functions covered by a standard which explicitly addresses the combination with RCDs for household and similar applications;

NOTE 2 Example of an additional device with independent product standard is auxiliary contacts according to IEC 62019.

- to additional function(s) associated with RCDs for connection purposes;

NOTE 3 Examples of additional function(s) for connection purposes are connection devices between RCBOs and a circuit breakers.

- to locking devices.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC TR 60755, *General requirements for residual current operated protective devices*

IEC 60898 (all parts), *Electrical accessories – Circuit-breakers for overcurrent protection for household and similar installations*

IEC 61008 (all parts), *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs)*

IEC 61009 (all parts), *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs)*

IEC 62423, *Type F and type B residual current operated circuit-breakers with and without integral overcurrent protection for household and similar uses*