BS EN IEC 62020-1:2021

BSI Standards Publication

Electrical accessories - Residual current monitors (RCMs)

Part 1: RCMs for household and similar uses

bsi.

National foreword

This British Standard is the UK implementation of EN IEC 62020-1:2021. It is identical to IEC 62020-1:2020. It supersedes BS EN 62020:1999, which will be withdrawn on 16 April 2024.

The UK participation in its preparation was entrusted to Technical Committee PEL/23/1, Circuit breakers and similar equipment for household use.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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EUROPEAN STANDARD

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Supersedes EN 62020:1998 and all of its amendments and corrigenda (if any)

English Version

Electrical accessories - Residual current monitors (RCMs) – Part 1: RCMs for household and similar uses (IEC 62020-1:2020 + COR1:2020)

Petit appareillage électrique - Contrôleurs d'isolement à courant différentiel résiduel (RCM) - Partie 1: RCM pour usages domestiques et analogues (IEC 62020-1:2020 + COR1:2020)

Elektrisches Installationsmaterial - Differenzstrom-Überwachungsgeräte (RCMs) - Teil 1: RCMs für Hausinstallationen und ähnliche Verwendungen (IEC 62020-1:2020 + COR1:2020)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 23E/1180/FDIS, future edition 1 of IEC 62020-1, prepared by SC 23E "Circuit-breakers and similar equipment for household use" of IEC/TC 23 "Electrical accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62020-1:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2021-10-16
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-04-16

This document supersedes EN 62020:1998 and all of its amendments and corrigenda (if any).

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For the relationship with EU Directive(s) see informative Annexes ZZA and ZZB, which are an integral part of this document.

Endorsement notice

The text of the International Standard IEC 62020-1:2020 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60051 (series)	NOTE	Harmonized as EN 60051 (series)
IEC 60364 (series)	NOTE	Harmonized as HD 60364 (series)
IEC 61000 (series)	NOTE	Harmonized as EN IEC 61000 (series)
IEC 61008-1:2010	NOTE	Harmonized as EN 61008-1:2012 (modified)
IEC 61543	NOTE	Harmonized as EN 61543
IEC 61557-8	NOTE	Harmonized as EN 61557-8
ISO/IEC Guide 2:2004	NOTE	Harmonized as EN 45020:2006 (not modified)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRICAL ACCESSORIES – RESIDUAL CURRENT MONITORS (RCMs) –

Part 1: RCMs for household and similar uses

FOREWORD

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International Standard IEC 62020-1 has been prepared by subcommittee 23E: Circuit-breakers and similar equipment for household use, of IEC technical committee 23: Electrical accessories.

This first edition cancels and replaces IEC 62020:1998 and IEC 62020:1998/AMD1:2003. This edition constitutes a technical revision.

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

– definition of Type F and Type B RCM;
– marking of Type F and Type B RCM;
– introduction of a new subclause, 8.20;
– modification of 9.7;

– update of 9.9;
– modification of 9.14;
– modification of 9.19, for introduction of the relevant test for Type F and Type B RCM.

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

FDIS	Report on voting
23E/1180/FDIS	23E/1183/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 has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62020 series, published under the general title *Electrical accessories – Residual current monitors (RCMs)*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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;
- replaced by a revised edition, or
- amended.

The contents of the corrigendum of July 2020 have been included in this copy.

INTRODUCTION

The purpose of a residual current monitor (hereinafter referred to as RCM) is to monitor an electrical installation or circuit for the presence of an unbalanced earth fault current and to indicate, by means of an alarm, the presence of such a residual current when it exceeds a predetermined level.

Installation and application rules are given in IEC 60364 (all parts).

ELECTRICAL ACCESSORIES – RESIDUAL CURRENT MONITORS (RCMs) –

Part 1: RCMs for household and similar uses

1 Scope

This document applies to residual current monitors for household and similar purposes, having rated operational voltages and a rated voltage of the monitored circuit not exceeding 440 V AC and rated currents not exceeding 125 A.

NOTE 1 The standard for residual current monitors having rated operational voltages and a rated voltage of the monitored circuit exceeding 440 V AC is in preparation, as IEC 62020-2.

RCMs are intended to monitor the residual current of the installation and to give a warning if the residual current between a live part and an exposed conductive part or earth exceeds a predetermined level.

RCMs covered by this document are not intended to be used as protective devices.

RCMs detect residual currents circulating in an AC circuit (e.g. residual alternating current, residual pulsating direct current, residual smooth direct current), whether suddenly applied or slowly rising.

NOTE 2 RCMs for DC systems are under consideration.

This document applies to monitors performing simultaneously the functions of detection of the residual current, of comparison of the value of this current with the residual operating current of the device and providing the specified warning signal(s) when the residual current exceeds this value.

RCMs supplied by internal batteries are not covered by this document.

The requirements of this document apply for standard conditions (see 7.1). Additional requirements can be necessary for RCMs used in locations having severe environmental conditions.

RCMs are intended for use in an environment with pollution degree 2 and overvoltage category III. For an environment with a higher pollution degree, enclosures giving the appropriate degree of protection are used.

RCMs in compliance with this document are suitable for use in TN, TT, and IT systems.

This document does not cover Insulation Monitoring Devices (IMDs), which are covered by the scope of IEC 61557-8.

NOTE 3 An RCM is distinguished from an IMD in that it is passive in its monitoring function and only responds to an unbalanced fault current in the installation being monitored. An IMD is active in its monitoring and measuring functions in that it can measure the balanced and unbalanced insulation resistance or impedance in the installation (see IEC 61557-8).