BS EN IEC 60934:2019



BSI Standards Publication

Circuit breakers for equipment (CBE)

National foreword

This British Standard is the UK implementation of EN IEC 60934:2019. It is identical to IEC 60934:2019. It supersedes BS EN 60934:2001+A2:2013, which will be withdrawn on 20 September 2022.

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 secretary.

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(IEC 60934:2019)

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(IEC 60934:2019)

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European foreword

The text of document 23E/1084/FDIS, future edition 4 of IEC 60934, 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 60934:2019.

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) 2020-03-20
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-09-20

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This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 60934:2019 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 60038:2009	NOTE	Harmonized as EN 60038:2011
IEC 60112:2003	NOTE	Harmonized as EN 60112:2003 (not modified)
IEC 60112:2003/A1:2009	NOTE	Harmonized as EN 60112:2003/A1:2009 (not modified)
IEC 60269 (series)	NOTE	Harmonized as EN 60269 (series)
IEC 60664 (series)	NOTE	Harmonized as EN 60664 (series)
IEC 60947-1:2007	NOTE	Harmonized as EN 60947-1:2007 (not modified)
IEC 61543:1995	NOTE	Harmonized as EN 61543:1995 (not modified)
IEC 61543:1995/A2:2005	NOTE	Harmonized as EN 61543:1995/A2:2006 (not modified)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CIRCUIT-BREAKERS FOR EQUIPMENT (CBE)

FOREWORD

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International Standard IEC 60934 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 International Standard is based on the following documents:

FDIS	Report on voting
23E/1084/FDIS	23E/1104/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.

This fourth edition cancels and replaces the third edition published in 2000, Amendment 1:2007 and Amendment 2:2013. This edition constitutes a technical revision.

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

a) clarifications for type testing purposes.

In this standard, the following print types are used:

– Requirements proper: in roman type.
– *Test specifications: in italic type.*
– Explanatory matter: in smaller roman type.

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.

CIRCUIT-BREAKERS FOR EQUIPMENT (CBE)

1 Scope

This document is applicable to mechanical switching devices designed as "circuit-breakers for equipment" (CBE) for household and similar applications. CBEs according to this document are intended to provide protection to circuits within electrical equipment including its components (e.g. motors, transformers, internal wiring). This document covers also CBEs applicable for protection of electrical equipment in case of undervoltage and/or overvoltage. This document also covers CBEs which are suitable for isolation.

NOTE The term "equipment" includes appliances.

CBEs are not applicable for overcurrent protection of wiring installations of buildings.

CBEs according to this document have:

– a rated voltage not exceeding 440 V AC (between phases) and/or DC not exceeding 250 V;

– a rated current not exceeding 125 A;

– a short-circuit capacity (I_{cn}) of at least 6 × I_n (AC types) and 4 × I_n (DC types) but not exceeding 3 000 A.

CBEs may have a conditional short-circuit current (I_{nc}) rating in association with a specified short-circuit protective device (SCPD). A guide for coordination of a CBE associated in the same circuit with a SCPD is given in Annex F.

For CBEs having a degree of protection higher than IP20 according to IEC 60529, for use in locations where hazardous environmental conditions prevail (e.g. excessive humidity, heat or cold or deposition of dust) and in hazardous locations (e.g. where explosions are liable to occur), special constructions may be required.

This document contains all the requirements necessary to ensure compliance with the operational characteristics required for these devices by type tests. It also contains the details relative to test requirements and methods of testing necessary to ensure reproducibility of test results.

This document states:

a) the characteristics of CBEs;

b) the conditions with which CBEs shall comply, with reference to:

   1) their operation and behaviour in normal service;

   2) their operation and behaviour in case of overload;

   3) their operation and behaviour in case of short-circuits up to their rated short-circuit capacity;

   4) their dielectric properties;

c) the tests intended for confirming that these conditions have been met and the methods to be adopted for the tests;

d) the data to be marked on the devices;

e) the test sequences to be carried out and the number of samples to be submitted for certification purposes (see Annex C);