ELEKTRITARVIKUD. LIIGVOOLUKAITSELÜLITID MAJAPIDAMIS- JA MUUDELE TAOLISTELE PAIGALDISTELE. OSA 1: VAHELDUVVOOLU-KAITSELÜLITID

Electrical accessories - Circuit-breakers for overcurrent protection for household and similar installations - Part 1: Circuit-breakers for a.c. operation (IEC 60898-1:2015 , modified + IEC 60898-1:2015/AMD1:2019)

EVS EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 60898-1:2019+A1 +A11:2024 sisaldab Euroopa standardi EN 60898-1:2019 ja selle muudatuste A1:2024 ja A11:2024, ingliskeelset teksti.	This Estonian standard EVS-EN 60898-1:2019+A1+A11:2024 consists of the English text of the European standard EN 60898-1:2019 and its amendments A1:2024 and A11:2024.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 18.01.2019, muudatused A1 12.07.2024 ja A11 12.07.2024.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation. Date of Availability of the European standard is 18.01.2019, for A1 12.07.2024 and A11 12.07.2024.
Muudatusega A1 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega [A1⟩ ⟨A1]. Muudatusega A11 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega [A11⟩ ⟨A11]. Selles standardis on rahvusvahelise standardi ühismuudatused tähistatud püstkriipsuga teksti vasakul veerisel. Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The start and finish of text introduced or altered by amendment A1 is indicated in the text by tags [A1⟩ ⟨A1]. The start and finish of text introduced or altered by amendment A11 is indicated in the text by tags [A11⟩ ⟨A11]. In this document, the common modifications to the International Standard are indicated by a vertical line in the left margin of the text. The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 29.120.50

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60898-1 + A1 + A11

Janurary 2019, July 2024, July 2024

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Supersedes EN 60898-1:2003,
EN 60898- 1:2003/IS1:2007, EN 60898-1:2003/IS2:2007,
EN 60898-1:2003/IS3:2007, EN 60898-1:2003/IS4:2007

English Version

Electrical accessories - Circuit-breakers for overcurrent protection for household and similar installations - Part 1: Circuit-breakers for a.c. operation (IEC 60898-1:2015 , modified + IEC 60898-1:2015/AMD1:2019)

Petit appareillage électrique - Disjoncteurs pour la protection contre les surintensités pour installations domestiques et analogues - Partie 1: Disjoncteurs pour le fonctionnement en courant alternatif
(IEC 60898-1:2015 , modifiée + IEC 60898-1:2015/AMD1:2019)

Elektrisches Installationsmaterial - Leitungsschutzschalter für Hausinstallationen und ähnliche Zwecke - Teil 1: Leitungsschutzschalter für Wechselstrom (AC)
(IEC 60898-1:2015 , modifiziert + IEC 60898-1:2015/AMD1:2019)

This European Standard was approved by CENELEC on 2018-05-22. Amendment A1 was approved by CENELEC on 2024-04-22. Amendment A11 was approved by CENELEC on 2024-04-22. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard and its amendments the status of a national standard without any alteration.

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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

Ref. No. EN 60898-1:2018 E
+ EN 60898-1:2019/A1:2024 E
+ EN 60898-1:2019/A11:2024 E

European foreword

This document (EN 60898-1:2018) consists of the text of IEC 60898-1:2015 prepared by SC 23E “Circuit-breakers and similar equipment for household use” of IEC/TC 23 “Electrical accessories”, together with the common modifications prepared by CLC/TC 23E “Circuit breakers and similar devices for household and similar applications”.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-07-18
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2024-05-28

This document supersedes EN 60898-1:2003, EN 60898-1:2003/A1:2004, and EN 60898-1:2003/A12:2008.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60898-1:2015 are prefixed ”Z”.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

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).

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Endorsement notice

The text of the International Standard IEC 60898-1:2015 was approved by CENELEC as a European Standard with agreed common modifications.

A1 Amendment A1 European foreword

This document (EN 60898-1:2019/A1:2024) consists of the text of document IEC 60898-1:2015/AMD1:2019, prepared by IEC/SC 23E, “Circuitbreakers and similar equipment for household use”, of IEC/TC 23 " Electrical accessories".

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- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2025-04-22
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The text of the International Standard IEC 60898-1:2015/AMD1:2019 was approved by CENELEC as a European Standard without any modification. A1

A11 Amendment A11 European foreword

This document (EN 60898-1:2019/A11:2024) has been prepared by CLC/TC 23E “Circuit breakers and similar devices for household and similar applications”.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2025-04-22
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This document is read in conjunction with EN 60898-1:2019 and EN 60898-1:2019/A1:2024.

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For relationship with EU Legislation, see informative Annex ZZ, which is an integral part of this document.

This amendment and EN 60898-1:2019/A1:2024 include the following significant technical changes with respect to EN 60898-1:2019:

— Clause 6, Marking and other product information: addition of two items dealing with the grid distance “a”; one for the value of “a”, the other for the installation information, when “a” is greater than 35 mm.

— Subclause 8.1.3, Clearances, creepage distances and solid insulation and 9.7, Test of dielectric properties: text is rearranged to be in line with the IEC 61008 and IEC 61009 series.

— Subclause 9.9, 28-day test: the reference temperature is measured during the first cycle (previously during the temperature-rise test).

— Subclause 9.12.9.2 (Short-circuit) Test in free air, addition of a maximum grid distance of 250 mm.

— Annex J: Upper limit of current for use of screwless terminals is increased up to 40 A.

This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For relationship with EU Legislation, see informative Annex ZZ, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users’ national committee. A complete listing of these bodies can be found on the CENELEC website. A11

IEC 60898-1

Edition 2.1 2019-12

CONSOLIDATED VERSION

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colour inside

Electrical accessories – Circuit-breakers for overcurrent protection for household and similar installations – Part 1: Circuit-breakers for a.c. operation

Petit appareillage électrique – Disjoncteurs pour la protection contre les surintensités pour installations domestiques et analogues – Partie 1: Disjoncteurs pour le fonctionnement en courant alternatif

IEC 60898-1:2015-03+AMD1:2019-12 CSV(en-fr)

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Petit appareillage électrique – Disjoncteurs pour la protection contre les surintensités pour installations domestiques et analogues – Partie 1: Disjoncteurs pour le fonctionnement en courant alternatif

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRICAL ACCESSORIES – CIRCUIT-BREAKERS FOR OVERCURRENT PROTECTION FOR HOUSEHOLD AND SIMILAR INSTALLATIONS –

Part 1: Circuit-breakers for a.c. operation

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.
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International Standard IEC 60898-1 has been prepared by sub-committee 23E: Circuit-breakers and similar equipment for household use, of IEC technical committee 23: Electrical accessories.

This bilingual version (2016-11) corresponds to the English version, published in 2015-03.

This second edition cancels and replaces the first edition published in 2002, Amendment 1:2002 and Amendment 2:2003. This edition constitutes a technical revision.

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

a) Revision of 9.5 Terminals
b) Revision of the test of glow wire
c) Simplification of the figures for short circuit tests.

The text of this standard is based on the following documents:

FDIS	Report on voting
23E/881/FDIS	23E/894/RVD

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

The French version of this standard has not been voted upon.

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

〈A1〉 The following differing practices of a less permanent nature exist in the countries indicated below.

– Annex J, Clause J.1: Upper limit of current for use of screwless terminals is 16 A (CZ, DK, NL and CH; upper limit of current for use of screwless terminals is 30 A (Japan).
– J.3.3: Only universal screwless-type terminals are accepted (AT, BE, CN, DK, DE, ES, FR, IT, PT, SE and CH). 〈A1〉

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.

A list of all parts in the IEC 60898 series, published under the general title *Electrical accessories – Circuit-breakers for overcurrent protection for household and similar installations*, can be found on the IEC website.

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.

The contents of the corrigendum of November 2015 have been included in this copy.

〈A1〉 Amendment A1 FOREWORD

This amendment 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 amendment is based on the following documents:

FDIS	Report on voting
23E/1156/FDIS	23E/1157/RVD

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

The committee has decided that the contents of this amendment and the base 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.

The contents of the corrigendum of March 2020 only applies to the French version. 〈A1〉

ELECTRICAL ACCESSORIES – CIRCUIT-BREAKERS FOR OVERCURRENT PROTECTION FOR HOUSEHOLD AND SIMILAR INSTALLATIONS –

Part 1: Circuit-breakers for a.c. operation

1 Scope

This part of IEC 60898 applies to a.c. air-break circuit-breakers for operation at 50 Hz, 60 Hz or 50/60 Hz, having a rated voltage not exceeding 440 V (between phases), a rated current not exceeding 125 A and a rated short-circuit capacity not exceeding 25 000 A.

As far as possible, it is in line with the requirements contained in IEC 60947-2.

⟦A11⟩ NOTE 1 Additional requirements are necessary for circuit-breakers used in locations having more severe overvoltage conditions. ⟨A11⟧

These circuit-breakers are intended for the protection against overcurrents of wiring installations of buildings and similar applications; they are designed for use by uninstructed people and ⟦A1⟩ do not require maintenance ⟨A1⟧.

They are intended for use in an environment with pollution degree 2 ⟦A11⟩ *deleted text* ⟨A11⟧.

⟦A1⟩ For an environment with a higher pollution degree, enclosures giving the appropriate degree of protection are used. ⟨A1⟧

They are suitable for isolation.

⟦A11⟩ Circuit-breakers of this standard, with exception of those rated 120 V or 120/240 V (see Table 1), are suitable for use in IT systems. ⟨A11⟧

This standard also applies to circuit-breakers having more than one rated current, provided that the means for changing from one discrete rating to another is not accessible in normal service and that the rating cannot be changed without the use of a tool.

This standard does not apply to

– circuit-breakers intended to protect motors;
– circuit-breakers, the current setting of which is adjustable by means accessible to the user.

For circuit-breakers having a degree of protection higher than IP20 according to IEC 60529, for use in locations where arduous 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.

⟦A1⟩ This document does not apply to circuit-breakers for DC operation that are covered by IEC 60898-3. ⟨A1⟧

This standard does not apply to circuit-breakers for a.c. and d.c. operation,which is covered by IEC 60898-2.

This standard does not apply to circuit-breakers which incorporate residual current tripping devices, which is covered by IEC 61009-1, IEC 61009-2-1, and IEC 61009-2-2.

〖A11〉 *deleted text* 〈A11〗

A guide for coordination under short-circuit conditions between a circuit-breaker and another short-circuit protective device (SCPDs) is given in Annex D. For more severe overvoltage conditions, circuit-breakers complying with other standards (e.g. IEC 60947-2) should be used.

〖A1〉 *deleted text* 〈A1〗

NOTE 2 Circuit-breakers within the scope of this standard can also be used for protection against electric shock in case of fault, depending on their tripping characteristics and on the characteristics of the installation. The criterion of application for such purposes is dealt with by installation rules.

NOTE 3 Recommendations for the dimensional coordination between enclosures and circuit breakers for mounting on rails according to EN 60715 or equivalent means are given in the CENELEC report PD CLC/TR 50473.

This standard contains all 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 standard states

a) the characteristics of circuit-breakers;
b) the conditions with which circuit-breakers 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 (see Annex C);
f) the co-ordination under short-circuit conditions with another short-circuit protective device (SCPD) associated in the same circuit (see Annex D);
g) the routine tests to be carried out on each circuit-breaker to reveal unacceptable variations in material or manufacture, likely to affect safety (see Annex I).

2 Normative references

NOTE Normative references to international standards are given in Annex ZB.

〖A1〉 IEC 60664-3, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution* 〈A1〗

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-441, as well as the following apply.