



SLOVENSKI STANDARD
SIST EN 60898-1:2019/oprAA:2022
01-september-2022

Električni pribor - Odklopniki za nadtokovno zaščito za gospodinske in podobne inštalacije - 1. del: Odklopniki za izmenični tok

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

Elektrisches Installationsmaterial - Leitungsschutzschalter für Hausinstallationen und ähnliche Zwecke - Teil 1: Leitungsschutzschalter für Wechselstrom (AC)

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

Ta slovenski standard je istoveten z: EN 60898-1:2019/prAA

ICS:

29.120.50	Varovalke in druga nadtokovna zaščita	Fuses and other overcurrent protection devices
-----------	---------------------------------------	--

SIST EN 60898-1:2019/oprAA:2022 **en,fr,de**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60898-1:2019/oprAA:2022

<https://standards.iteh.ai/catalog/standards/sist/ce6835df-eafe-4d7d-9e0e-df82eabee956/sist-en-60898-1-2019-opraa-2022>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
EN 60898-1:2019

prAA

July 2022

ICS 29.120.50

English Version

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

Elektrisches Installationsmaterial - Leitungsschutzschalter für Hausinstallationen und ähnliche Zwecke - Teil 1: Leitungsschutzschalter für Wechselstrom (AC)

This draft amendment prAA, if approved, will modify the European Standard EN 60898-1:2019; it is submitted to CENELEC members for enquiry.

Deadline for CENELEC: 2022-09-30.

It has been drawn up by CLC/TC 23E.

If this draft becomes an amendment, CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

This draft amendment was established by CENELEC in three official versions (English, French, German).

A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

EN 60898-1:2019/prAA:2022 (E)**European foreword**

This document (EN 60898-1:2019/prAA:2022) has been prepared by CLC/TC 23E “Circuit breakers and similar devices for household and similar applications”.

This document is currently submitted to the Enquiry.

The following dates are proposed:

- latest date by which the existence of this document has to be announced at national level (doa) dor + 6 months
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) dor + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) dor + 36 months (to be confirmed or modified when voting)

This document is read in conjunction with EN 60898-1:2019 and EN 60898-1:2019/prA1:2022.

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

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

<https://standards.iteh.ai/catalog/standards/sist/ce6835df-eafe-4d7d-9e0e-df82eabee956/sist->

This amendment and EN 60898-1:2019/prA1:2022 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.
- Clause 8.1.3, Clearances, creepage distances and solid insulation and 9.7, Test of dielectric properties: text is rearranged to be in line with IEC 61008 and 61009 series
- Clause 9.9, 28-day test: the reference temperature is measured during the first cycle (previously during the temperature-rise test)
- Clause 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

1 Modifications to Clause 1, “Scope”

Delete the second and third modification:

“Add, at the end of the fourth paragraph, after “pollution degree 2”, the following text “and overvoltage category III”.

Add, after the second paragraph, the following note:

NOTE 1 Additional requirements are necessary for circuit-breakers used in locations having more severe overvoltage conditions.”

Replace in last but one modification “paragraph 13” by “paragraph 14”

Delete the last modification:

“Renumber the existing note in paragraph 14 to “NOTE 2”.

2 Modification to Clause 2, “Normative references”

Delete the modification to Clause 2.

3 Modifications to Clause 3, “Terms and definitions”

Delete insertions of subclauses 3.2.15 and 3.2.16.

4 Addition of a modification to 4.5.2, “According to the type of terminals”

Add a new modification as follows:

4.5.2 According to the type of terminals

Delete the fourth dash and Note 3.

5 Modification of 5.2.4, “Rated short-circuit capacity (I_{cn})”

Delete the modification to 5.2.4.

6 Modification of 5.3.1, “Preferred values of rated voltage”

Delete the modification to 5.3.1.

7 Modification of 5.3.6, “Standard values of rated impulse withstand voltage (U_{imp})”

Delete the modification to 5.3.6 (including Table 3).

8 Modification to Clause 6, “Marking and other product information”

Replace the modifications to Clause 6 by:

Add the following changes in 6.1 and 6.3:

6.1 Standard marking

Add items n) and o):

- n) Indication of grid distance “a” according to 9.12.9.2, if different from 35 mm
- o) Circuit-breaker installation information related to the grid distance “a” if different from 35 mm or if requiring additional barrier(s) to achieve the grid distance “a”

EN 60898-1:2019/prAA:2022 (E)

6.3 Guidance table for marking

Add items n) and o) in the Table for marking as follows:

Marking and other product information Each MCB shall be marked in a durable manner with all or, for small apparatus, part of the following data:		Markings may be on the MCB itself			Product information in catalogue
		If, for small devices the space available does not allow all the above data to be marked, at least this information shall be marked and visible when the device is installed.	This information may be marked on the side or on the back of the device and be visible only before the device is installed.	Alternatively the information may be on the inside of any cover which has to be removed in order to connect the supply wires.	Any remaining information not marked shall be given in the manufacturer's catalogues .
n)	Indication of grid distance "a" according to 9.12.9.2, if different from 35 mm				X
o)	Circuit-breaker installation information related to the grid distance "a" if different from 35 mm or if requiring additional barrier(s) to achieve the grid distance "a"				X

9 Modification to 8.1.3, Table 4, "Minimum clearances and creepage distances"

Delete in Table 4 the first 2 columns "2.5 kV" and "4 kV" under "Uimp".

Add a reference to footnote k at the end of "Between live parts of different polarity", Item 2, 1st column.

Delete the 3 columns containing to 120 / 240 (and 1.5) under "Rated voltage V" of "Minimum creepage distances", corresponding to Item 4.

Delete the paragraph beginning by "Care should be taken...".

Add a footnote k at the end of Table 4 as follows:

"k This applies also to clearance and creepage distances between live parts of different polarity of circuit breakers mounted close to one another."

10 Addition of a modification to 8.1.5.2, "Circuit breakers shall be provided with"

Add a new modification as follows:

8.1.5.2

Replace beginning of 8.1.5.2 up to "Annex L" by:

8.1.5.2 Circuit breakers shall be provided with terminals which shall allow the connection of copper conductors having nominal cross-sectional areas as shown in Table 5.

NOTE Examples of possible designs of screw-type terminals are given in Annex F.

11 Modification to 8.1.5.12, "Pillar terminals..."

Delete the second modification: "Add at the end of the subclause "Compliance is checked by inspection.""

12 Modification to 8.1.7.1, “General”

Delete the modification to 8.1.7.1.

13 Modification to 8.14, “Electromagnetic immunity”

Delete the modification to 8.14.

14 Modification to 8.15, “Electromagnetic emission”

Delete the modification to 8.15.

15 Modifications to 9.7, “Test of dielectric properties”

Add at the end of new 9.7.4:

NOTE 3 Auxiliary circuits do not include the control circuit of circuit breakers functionally dependent on line voltage.

NOTE 4 Control circuits other than those of secondary circuit of detection transformers and control circuits connected to the main circuit are submitted to the same tests as the auxiliary circuits.

16 Modification to 9.7.5.2, “Verification of clearances with the impulse withstand voltage”

Replace the fourth paragraph of new 9.7.5.2 by:

“The test impulse voltage value shall be as specified in 5.3.6. This value is corrected for barometric pressure and/or altitude at which the tests are carried out, according to Table 14.”

Delete the line beginning with “2,5” in Table 14 in new 9.7.5.2.

17 Modification to 9.7.5.4, “Verification of resistance of the insulation of open contacts against an impulse voltage (suitability for isolation)”

Replace the 2nd paragraph of new 9.7.5.4 by:

“The test impulse voltage value shall be as specified in 5.3.6. This value is corrected for barometric pressure and/or altitude at which the tests are carried out, according to Table 15.”

Delete in Table 15 in new 9.7.5.4:

line 2 for “Single-phase system with mid-point earthed 120/240”,

line 3 for “Single-phase system 120/240 240”,

line 5 containing the footnotes

Modify in line 4, 1st column, of Table 15 in new 9.7.5.4 “Three-phase systems 230/400” by “Single and Three-phase systems 230/400”

18 Modification to 9.9, “28-day test”

Delete the first modification to 9.9:

“Add, after the first paragraph, the following note:

NOTE A test voltage of a value less than 30 V can be used, subject to the manufacturer’s agreement.”

19 Modification to 9.10.1, “General”

Delete the modification to 9.10.1.

EN 60898-1:2019/prAA:2022 (E)**20 Modification to 9.12.9.1, “General”**

Delete the modification to 9.12.9.1 (Title and modification).

21 Modification to 9.12.9.2, “Test in free air”

Replace the modifications to 9.12.9.2 by

“Add after the 3rd paragraph the following note:

“NOTE Ionized gases are emitted from circuit breakers during short-circuit disconnection. These gases can cause flashovers at the terminals of the circuit breakers or other live parts mounted above or below, depending on the location of the gas vents.”

Modify the last but one paragraph as follows:

“For higher short-circuit currents up to I_{cn} , the distance “a” may be increased, in which case it shall be chosen from the series (40, 45, 50, 55, etc.) mm but not exceeding 250 mm and stated by the manufacturer according to Clause 6.”

Replace in the last paragraph “1 500 A” by “3 000 A”.

22 Modification to 9.13.1, “Mechanical shock”

Delete the modification to 9.13.1.

23 Modification to Figure 12

Delete the modifications to Figure 12.

24 Modification to Figure H.1

Delete the modification to item 5 in the key to Figure H.1:

“Replace item 5 in the key to Figure H.1 with the following item 5:

5 Grid (position is given as an example)”

25 Modification to Annex J

Add a secretary note after Note 1 in the Scope of new Annex J:

“Secretary note: national committees should confirm or not these special national conditions”

Delete Note 2 and renumber Note 3 as Note 2 in the Scope of new Annex J.

26 Modification to Annex L

Delete the modifications to Annex L.

27 Addition of a modification to Annex ZB

Add a modification to Annex ZB as follows:

Annex ZB (normative)

Normative references to international publications with their corresponding European publications

Add the following standard:

IEC 60664-3	2016	<i>Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution</i>	EN 60664-3	2017
-------------	------	--	------------	------

28 Addition of a modification to Annex ZD (informative), “List of clauses that require retesting”

Replace the contents of Annex ZD by the following:

1) Application of EN 60898-1:2019

Based on EN 60898-1:2003, A1:2004, A11:2005, A12:2008 and A13:2012, the following tests and/or requirements have been technically modified and may require retesting or inspection as applicable:

- 9.5.2 in 9.5 Tests of reliability of screw-type terminals for external copper conductors;
- 9.7.4 Insulation resistance and dielectric strength of auxiliary circuits;
- 9.10.3 Test of instantaneous tripping of correct opening of the contacts and of the trip-free function;
- 9.15 Test of resistance to abnormal heat.

2) Application of Amendment 1 of EN 60898-1:2019

Based on EN 60898-1:2019, tests and requirements have not been significantly modified from a technical point of view. Products already complying with EN 60898-1:2019 do not require retesting or inspection,

Modified Annex J allows screwless terminals up to 40A when EN 60898-1:2019 allowed them only up to 20A. Technical changes in Annex J apply to products with rated current above 20A.

29 Addition of the replacement of Annex ZZ (informative), “Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered”

Replace Annex ZZ by the following:

“

Annex ZZ (informative)

Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European standard has been prepared under a Commission's standardisation request relating to harmonised standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

**Table ZZ.1 — Correspondence between this European standard and Annex I of
Directive 2014/35/EU [2014 OJ L96]**

Safety objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
(1)(a)	4, 5, 6 - 9.3	
(1)(b)	8.1 - 9.4 and 9.5 Annex J, Annex K	
(1)(c)	7 - 9.1 and 9.2, Annex I	
(2)(a), (b), (c) and (d)	8.2 – 9.6, 8.5 – 9.9, 8.6 – 9.10, 8.7 - 9.11, 8.8 - 9.12, Annex H, Annex C, 8.4 – 9.8, 8.5 – 9.9, 8.6 – 9.10, 8.7 - 9.11, 8.8 – 9.12, Annex H, 8.13 – 9.8.5, Annex C 8.1.2 – 9.10.3, 8.1.3 – 9.7, Annex B, 8.3 – 9.7	
(3)(a), (b) and (c)	8.9 – 9.13, 8.12 – 9.16, 8.10 – 9.14, 8.11 – 9.15, 8.14, 8.15, 8.6 – 9.10, 8.8 – 9.12, Annex H	

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.”