SVENSK STANDARD SS-EN 60898-1

Fastställd	Utgåva	Sida	Ingår i
2003-05-26	1	1 (1+128)	SEK Område 23E

Svenska Elektriska Kommissionen, SEK

Installationsdvärgbrytare – Dvärgbrytare för överströmsskydd för bostadsinstallationer och liknande – Del 1: Dvärgbrytare för växelström

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

Som svensk standard gäller europastandarden EN 60898-1:2003. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60898-1:2003.

Nationellt förord

Europastandarden EN 60898-1:2003

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60898-1, First edition, 2002 - Electrical accessories - Circuit breakers for overcurrent protection for household and similar installations - Part 1: Circuit-breakers for a.c. operation**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare utgiven svensk standard SS-EN 60898, utgåva 1, 1992, SS-EN 60898/A11, utgåva 1, 1995, SS-EN 60898/A12, utgåva 1, 1995, SS-EN 60898/A13, utgåva 1, 1995, SS-EN 60898/A14, utgåva 1, 1995, SS-EN 60898/A15, utgåva 1, 1996, SS-EN 60898/A16, utgåva 1, 1996, SS-EN 60898/A17, utgåva 1, 1998, SS-EN 60898/A18, utgåva 1, 1998 och SS-EN 60898/A19, utgåva 1, 2000, gäller ej fr o m 2008-10-01.

ICS 29.120.50

Denna standard är fastställd av Svenska Elektriska Kommissionen, SEK,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
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Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

Svenska Elektriska Kommissionen, SEK, svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD **EN 60898-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM March 2003

ICS 29.120.50

Supersedes EN 60898:1991 + A1:1991 + A11:1994 + A12:1995 + A13:1995 + A14:1995 + A15:1995 + A16:1996 + A17:1998 + A18:1998 + A19:2000

English version

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

(IEC 60898-1:2002, modified)

Petit appareillage électrique – Disjoncteurs pour la protection contre les surintensités pour installations domestiques et analogues Partie 1: Disjoncteurs pour le fonctionnement en courant alternatif (CEI 60898-1:2002, modifiée)

Elektrisches Installationsmaterial – Leitungsschalter für Hausinstallationen und ähnliche Zwecke Teil 1: Leitungsschutzschalter für Wechselstrom (AC) (IEC 60898-1:2002, modifiziert)

This European Standard was approved by CENELEC on 2002-09-24. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 60898-1:2003 E

Foreword

The text of document 23E/470/FDIS, future edition 1 of IEC 60898-1, prepared by SC 23E, Circuit-breakers and similar equipment for household use, of IEC TC 23, Electrical accessories, together with common modifications prepared by the Technical Committee CENELEC TC 23E, Circuit breakers and similar devices for household and similar applications, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 60898-1 on 2002-09-24.

This European Standard supersedes EN 60898:1991 + corrigendum October 1991 + A1:1991 + A11:1994 + A12:1995 + A13:1995 + A14:1995 + A15:1995 + A16:1996 + A17:1998 + A18:1998 + A19:2000.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2003-10-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2008-10-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes B, C, E, H, I, ZA and ZB are normative and annexes A, D and F are informative.
Annexes ZA and ZB have been added by CENELEC.

In this standard, the following print types are used:
- requirements: roman type;
- *test specifications: italic type;*
- notes: smaller roman type.

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Annex ZB
(normative)

International publications quoted in this standard with the reference of the relevant European publications

When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC publication	Date	Title	EN/HD	Date
IEC 60038	1983	*IEC standard voltages*[1)]	HD 472 S1	1989
IEC 60050(441)	1984	*International Electromechanical Vocabulary (IEV) - Chapter 441 Switchgear controlgear and fuses*	-	
IEC 60051	Series	*Direct acting indicating analogue electrical measuring instruments and their accessories*	EN 60051	Series
IEC 60060-1 + Corr. March	1989 1990	*High-voltage test techniques – Part 1: General definitions and test requirements*	HD 588.1 S1	1991
IEC 60112	–[2)]	*Method for the determination of the proof and the comparative tracking indices of solid insulating materials*	EN 60112	2003[3)]
IEC 60227 [4)]	Series	*Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V*	–	–
IEC 60269	Series	*Low-voltage fuses*	EN 60269	Series
IEC 60364	Series	*Electrical installations of buildings*	HD 384	Series
IEC 60364-4-41	1992	*Electrical installations of buildings – Part 4: Protection for safety – Chapter 41: Protection against electric shock*	HD 384.4.41	1996
IEC 60364-4-473 (mod)	1977	*Electrical installations of buildings – Part 4: Protection for safety – Chapter 47: Application of protective measures for safety – Section 473: Measures of protection against overcurrent*	HD 384.4.473	1980
A1	1998		–	–
IEC 60417	Series	*Graphical symbols for use on equipment*	EN 60417	Series
IEC 60529	–[2)]	*Degrees of protection provided by enclosures (IP Code)*	EN 60529	1991[3)]
IEC 60664-1 (mod)	–[2)]	*Insulation co-ordination for equipment within low-voltage systems – Part 1 Principles requirements and tests.*	HD 625.1 S1	1996[3)]
IEC 60695-2-10	–[2)]	*Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods – Glow-wire apparatus and common test procedure*	EN 60695-2-10	2001[3)]
IEC 60947-1 (mod)	1999	*Low-voltage switchgear and controlgear – Part 1 General rules*	EN 60947-1	1999
IEC 60947-2	1995	*Low-voltage switchgear and controlgear – Part 2 Circuit-breakers*	EN 60947-2	1996
IEC 62019	1999	*Electrical accessories – Circuit-breakers and similar equipment for household use – Auxiliary contact units*		
ISO/IEC Guide 2	1991	*General terms and their definitions concerning standardization and related activities*		

[1)] The title of HD 472 S1 is: Nominal voltages for low voltage public electricity supply systems.

[2)] Undated reference.

[3)] Valid edition at date of issue.

[4)] The HD 21 series, which is related to, but not directly equivalent with the IEC 60227 series, applies instead.

CONTENTS

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

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

1 Scope and object

This part of IEC 60898 applies to a.c. air-break circuit-breakers for operation at 50 Hz or 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.

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 for not being maintained.

They are intended for use in an environment with pollution degree 2.

They are suitable for isolation.

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 provided that the requirements of IEC 60364-4-473:1977 + A1:1998 are complied with.

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.

Requirements for circuit-breakers for a.c. and d.c. operation are given in IEC 60898-2.

Requirements for circuit-breakers which incorporate residual current tripping devices are to be found in IEC 61009-1, IEC 61009-2-1, and IEC 61009-2-2.

A guide for co-ordination under short-circuit conditions between a circuit-breaker and another short-circuit protective device (SCPDs) is given in annex D.

NOTE 1 For more severe overvoltage conditions, circuit-breakers complying with other standards (e.g. IEC 60947-2) should be used.

NOTE 2 For an environment with a higher pollution degree, enclosures giving the appropriate degree of protection should be used.

NOTE 3 Circuit-breakers within the scope of this standard may 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.

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 to be submitted for certification purposes (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

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60898. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60898 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60038, *IEC standard voltages*

IEC 60050(441), *International Electrotechnical Vocabulary (IEV) – Chapter 441: Switchgear, controlgear and fuses*

IEC 60060-1:1989, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60112, *Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions*