SVENSK STANDARD SS-EN 60099-4

Fastställd	Utgåva	Sida	Ingår i
2004-10-25	2	1 (1+152)	SEK Område 37

Svenska Elektriska Kommissionen, SEK

Avledare –
Del 4: Metalloxidavledare utan gnistgap för växelströmsnät

Surge arresters –
Part 4: Metal-oxide surge arresters without gaps for a.c. systems

Som svensk standard gäller europastandarden EN 60099-4:2004. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60099-4:2004.

Nationellt förord

Europastandarden EN 60099-4:2004

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60099-4, Second edition, 2004 - Surge arresters - Part 4: Metal-oxide surge arresters without gaps for a.c. systems**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60099-4, utgåva 1, 1994, SS-EN 60099-4/A1, utgåva 1, 1998 och SS-EN 60099-4/A2, utgåva 1, 2003, gäller ej fr o m 2007-05-01.

ICS 29.120.50; 29.240.10

Denna standard är fastställd av Svenska Elektriska Kommissionen, SEK,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
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Stora delar av arbetet sker internationellt

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

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

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EUROPEAN STANDARD **EN 60099-4**

NORME EUROPÉENNE

EUROPÄISCHE NORM August 2004

ICS 29.120.50;29.240.10 Supersedes EN 60099-4:1993 + A1:1998 + A2:2002

English version

Surge arresters
Part 4: Metal-oxide surge arresters without gaps for a.c. systems
(IEC 60099-4:2004, modified)

Parafoudres
Partie 4: Parafoudres à oxyde métallique sans éclateurs pour réseaux à courant alternatif
(CEI 60099-4:2004, modifiée)

Überspannungsableiter
Teil 4: Metalloxidableiter ohne Funkenstrecken für Wechselspannungsnetze
(IEC 60099-4:2004, modifiziert)

This European Standard was approved by CENELEC on 2004-05-01. 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, 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 60099-4:2004 E

Foreword

The text of document 37/298/FDIS, future edition 2 of IEC 60099-4, prepared by IEC TC 37, Surge arresters, was submitted to the IEC-CENELEC parallel vote. Together with the common modifications prepared by the CENELEC Reporting Secretariat SR 37 for amendment A2:2002 to EN 60099-4:1993, it was approved by CENELEC as EN 60099-4 on 2004-05-01.

This European Standard supersedes EN 60099-4:1993 + A1:1998 + A2:2002.

This European Standard includes the following significant editorial changes with respect to the previous edition.

– Clauses 1, 2 and 3 contain common subclauses that cover all arrester types. Clauses 4 to 9 contain subclauses that apply to porcelain-housed arresters. To a great extent, the content of Clauses 4 to 9 also applies to arrester types other than porcelain-housed. Any exceptions that apply to polymer-housed, GIS, separable and dead-front, and liquid-immersed arresters are included in Clauses 10 to 13 as entire subclauses, not as parts of subclauses. That is, if any subclause of Clauses 4 to 9 does not apply in its entirety to a particular type of arrester, then a replacement subclause is given in its entirety in the appropriate Clauses 10, 11, 12, or 13. This avoids the necessity for the user of the document to judge which part of a clause has been amended.

– Table 1 has been modified. The previous Table 1 included references to subclauses for type testing. Such references are really not appropriate in Clause 4 and have been transferred to a new table in Clause 8.

– Clauses 6, 8, 11, 12 and 13: modifications have been made to short-circuit requirements.

– Requirements of Clause 13 (mechanical considerations) have been incorporated into Clauses 5, 6, 8, 10, 11, 12 and 13, and Annex A of this new edition.

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)	2005-03-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2007-05-01

Annexes ZA and ZB have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60099-4:2004 was approved by CENELEC as a European Standard with agreed common modifications as given below.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

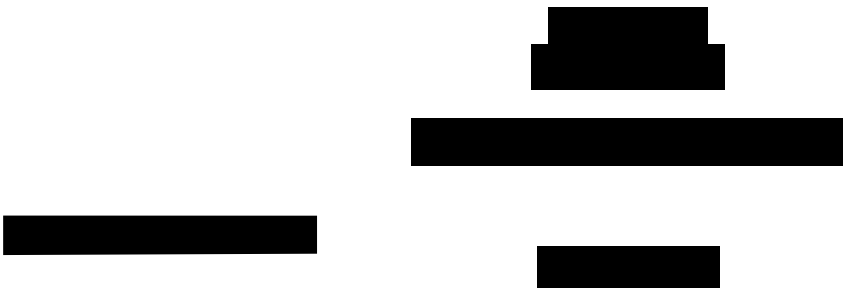
The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60060-1 + corr. March	1989 1990	High-voltage test techniques Part 1: General definitions and test requirements	HD 588.1 S1	1991
IEC 60060-2	1994	High-voltage test techniques Part 2: Measuring systems	EN 60060-2 + A11	1994 1998
IEC 60068-2-11	1981	Environmental testing Part 2: Tests - Test Ka: Salt mist	EN 60068-2-11	1999
IEC 60068-2-14	1984	Environmental testing Part 2: Tests - Test N: Change of temperature	EN 60068-2-14 [1)]	1999
IEC 60068-2-42	2003	Environmental testing Part 2-42: Tests - Test Kc: Sulphur dioxide test for contacts and connections	EN 60068-2-42	2003
IEC 60071-1	1993	Insulation co-ordination Part 1: Definitions, principles and rules	EN 60071-1	1995
IEC 60071-2	1996	Insulation co-ordination Part 2: Application guide	EN 60071-2	1997
IEC 60270	2000	High-voltage test techniques - Partial discharge measurements	EN 60270	2001
IEC 60507	1991	Artificial pollution tests on high-voltage insulators to be used on a.c. systems	EN 60507	1993
IEC 60815	1986	Guide for the selection of insulators in respect of polluted conditions	-	-
IEC 61109	1992	Composite insulators for a.c. overhead lines with a nominal voltage greater than 1 kV - Definitions, test methods and acceptance criteria	-	-

[1)] EN 60068-2-14 includes A1:1986 to IEC 60068-2-14.

Publication	Year	Title	EN/HD	Year
IEC 61166	1993	High-voltage alternating current circuit-breakers - Guide for seismic qualification of high-voltage alternating current circuit-breakers	EN 61166	1993
IEC 61330	1995	High-voltage/low-voltage prefabricated substations	EN 61330	1996
IEC 62271-200	2003	High-voltage switchgear and controlgear Part 200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV	EN 62271-200	2004
IEC 62271-203	2003	High-voltage switchgear and controlgear Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV	EN 62271-203	2004
CISPR 16-1	1999	Specification for radio disturbance and immunity measuring apparatus and methods Part 1: Radio disturbance and immunity measuring apparatus	-	-
CISPR 18-2	1986	Radio intererence characteristics of overhead power lines and high-voltage equipment Part 2: Methods of measurement and procedure for determining limits	-	-



CONTENTS

SURGE ARRESTERS –

Part 4: Metal-oxide surge arresters without gaps for a.c. systems

1 Scope

This part of IEC 60099 applies to non-linear metal-oxide resistor type surge arresters without spark gaps designed to limit voltage surges on a.c. power circuits.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

IEC 60060-2:1994, *High-voltage test techniques – Part 2: Measuring systems*

IEC 60068-2-11:1981, *Environmental testing – Part 2: Tests – Test Ka: Salt mist*

IEC 60068-2-14:1984, *Environmental testing – Part 2: Tests – Test N: Change of temperature*

IEC 60068-2-42:2003, *Environmental testing – Part 2-42: Tests – Test Kc: Sulphur dioxide test for contacts and connections*

IEC 60071-1:1993, *Insulation co-ordination – Part 1: Definitions, principles and rules*

IEC 60071-2:1996, *Insulation co-ordination – Part 2: Application guide*

IEC 60270:2000, *High-voltage test techniques – Partial discharge measurements*

IEC 60507:1991, *Artificial pollution tests on high-voltage insulators to be used on a.c. systems*

IEC 60815:1986, *Guide for the selection of insulators in respect of polluted conditions*

IEC 61109:1992, *Composite insulators for a.c. overhead lines with a nominal voltage greater than 1 000 V – Definitions, test methods and acceptance criteria*

IEC 61166:1993, *High-voltage alternating current circuit-breakers – Guide for seismic qualification of high-voltage alternating current circuit-breakers*

IEC 61330:1995, *High-voltage/low-voltage prefabricated substations*

IEC 62271-200:2003, *High-voltage switchgear and controlgear – Part 200: A.C. metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV*

IEC 62271-203:2003, *High-voltage switchgear and controlgear – Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV*

CISPR 16-1:1999, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1: Radio disturbance and immunity measuring apparatus*

CISPR 18-2:1986, *Radio interference characteristics of overhead power lines and high-voltage equipment – Part 2: Methods of measurement and procedure for determining limits*