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

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Überspannungsableiter -- Teil 4: Metalloxidableiter ohne Funkenstrecken für Wechselspannungsnetze

SIST EN 60099-4:2005

Parafoudres -- Partie 4: Parafoudres à oxyde métallique sans éclateurs pour réseaux à courant alternatif

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ICS:

29.240.10 Transformatorske postaje. Substations. Surge arresters
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en

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EUROPEAN STANDARD

EN 60099-4

NORME EUROPÉENNE

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August 2004

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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)

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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.

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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

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.

COMMON MODIFICATIONS

Contents **Delete** Clause 13 and **replace** by "void".

Add:

Annex ZA (normative) Normative references to international publications with their corresponding European publications

Annex ZB (informative) Liquid-immersed arresters

Clause 13 **Delete** and **replace** by "void".

Annexes **Add** annexes ZA and ZB.

Bibliography **Add** the following notes for the standards indicated:

IEC 60068-2-17 NOTE Harmonized as EN 60068-2-17:1994 (not modified).

IEC 60099-1 NOTE Harmonized as EN 60099-1:1994 (not modified).

IEC 60694 NOTE Harmonized as EN 60694:1996 (not modified).

IEC 60721-3-2 NOTE Harmonized as EN 60721-3-2:1997 (not modified).

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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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 interference characteristics of overhead power lines and high-voltage equipment Part 2: Methods of measurement and procedure for determining limits	-	-

Annex ZB (informative)

Liquid-immersed arresters

Add the text of Clause 13.

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INTERNATIONAL STANDARD

IEC 60099-4

Second edition
2004-05

Surge arresters –

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

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International Electrotechnical Commission
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

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International Standard 60099-4 has been prepared by IEC technical committee 37: Surge arresters.

This second edition cancels and replaces the first edition, published in 1991, amendment 1 (1998) and amendment 2 (2001).

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