Surge arresters - Part 5: Selection and application recommendations

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60099-5:2018 sisaldab Euroopa standardi EN IEC 60099-5:2018 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60099-5:2018 consists of the English text of the European standard EN IEC 60099-5:2018.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 23.03.2018.	Date of Availability of the European standard is 23.03.2018.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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, 29.240.10

EUROPEAN STANDARD

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EN IEC 60099-5

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English Version

Surge arresters - Part 5: Selection and application recommendations (IEC 60099-5:2018)

Parafoudres - Partie 5: Recommandations pour le choix et l'utilisation (IEC 60099-5:2018)

Überspannungsableiter - Teil 5: Anleitung für die Auswahl und die Anwendung (IEC 60099-5:2018)

This European Standard was approved by CENELEC on 2018-02-23. 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 CEN-CENELEC Management Centre or to any CENELEC member.

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

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European foreword

The text of document 37/437/FDIS, future edition 3 of IEC 60099-5, prepared by IEC/TC 37 "Surge arresters" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60099-5:2018.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2018-11-23
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2021-02-23

This document supersedes EN 60099-5:2013.

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.

Endorsement notice

The text of the International Standard IEC 60099-5:2018 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60071-1	2006	Insulation co-ordination -- Part 1: Definitions, principles and rules	EN 60071-1	2006
+ A1	2010		+ A1	2010
IEC 60071-2	1996	Insulation co-ordination -- Part 2: Application guide	EN 60071-2	1997
IEC 60099-4	2004	Surge arresters -- Part 4: Metal-oxide surge arresters without gaps for a.c. systems	EN 60099-4	2004
+ A1	2006		+ A1	2006
+ A2	2009		+ A2	2009
IEC 60099-4	2014	Surge arresters - Part 4: Metal-oxide surge arresters without gaps for a.c. systems	EN 60099-4	2014
IEC 60099-6	2002	Surge arresters -- Part 6: Surge arresters containing both series and parallel gapped structures - Rated 52 kV and less	-	-
IEC 60099-8	2011	Surge arresters -- Part 8: Metal-oxide surge arresters with external series gap (EGLA) for overhead transmission and distribution lines of a.c. systems above 1 kV	EN 60099-8	2011
IEC 60507	-	Artificial pollution tests on high-voltage ceramic and glass insulators to be used on a.c. systems	EN 60507	-
IEC 62271-200	-	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	-
IEC 62271-203	-	High-voltage switchgear and controlgear -- Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV	EN 62271-203	-
IEC/TR 60071-4	-	Insulation co-ordination -- Part 4: Computational guide to insulation co-ordination and modelling of electrical networks	-	-
IEC/TS 60815-1	2008	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions - Part 1: Definitions, information and general principles	-	-

CONTENTS

SURGE ARRESTERS –

Part 5: Selection and application recommendations

1 Scope

This part of IEC 60099 provides information, guidance, and recommendations for the selection and application of surge arresters to be used in three-phase systems with nominal voltages above 1 kV. It applies to gapless metal-oxide surge arresters as defined in IEC 60099-4, to surge arresters containing both series and parallel gapped structure – rated 52 kV and less as defined in IEC 60099-6 and metal-oxide surge arresters with external series gap for overhead transmission and distribution lines (EGLA) as defined in IEC 60099-8. In Annex J, some aspects regarding the old type of SiC gapped arresters are discussed.

Surge arrester residual voltage is a major parameter to which most users have paid a lot of attention to when selecting the type and rating. Typical maximum residual voltages are given in Annex F. It is likely, however, that for some systems, or in some countries, the requirements on system reliability and design are sufficiently uniform, so that the recommendations of the present standard may lead to the definition of narrow ranges of arresters. The user of surge arresters will, in that case, not be required to apply the whole process introduced here to any new installation and the selection of characteristics resulting from prior practice may be continued.

Annexes H and I present comparisons and calculations between old line discharge classification and new charge classification.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60071-1:2006, *Insulation co-ordination – Part 1: Definitions, principles and rules*
IEC 60071-1:2006/AMD1:2010

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

IEC TR 60071-4, *Insulation co-ordination – Part 4: Computational guide to insulation co-ordination and modelling of electrical networks*

IEC 60099-4:2009, *Surge arresters – Part 4: Metal-oxide surge arresters without gaps for a.c. systems*

IEC 60099-4:2014, *Surge arresters – Part 4: Metal-oxide surge arresters without gaps for a.c. systems*

IEC 60099-6:2002, *Surge arresters – Part 6: Surge arresters containing both series and parallel gapped structures – Rated 52 kV and less*

IEC 60099-8:2011, *Surge arresters – Part 8: Metal-oxide surge arresters with external series gap (EGLA) for overhead transmission and distribution lines of a.c. systems above 1 kV*