ICS 29.120.50, 29.240.10 SLOVENSKÁ TECHNICKÁ NORMA Február 2015

STN	**Zvodiče prepätia. Časť 9: Beziskriskové zvodiče prepätia na báze oxidov kovov pre meniarne na prenos jednosmerného prúdu vysokého napätia (HVDC).**	**STN EN 60099-9** 35 4870

Surge arresters - Part 9: Metal-oxide surge arresters without gaps for HVDC converter stations

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/15

Obsahuje: EN 60099-9:2014, IEC 60099-9:2014

EUROPEAN STANDARD **EN 60099-9**

NORME EUROPÉENNE

EUROPÄISCHE NORM September 2014

ICS 29.240.10; 29.120.50

English Version

Surge arresters - Part 9: Metal-oxide surge arresters without gaps for HVDC converter stations (IEC 60099-9:2014)

Parafoudres - Partie 9: Parafoudres à oxyde métallique sans éclateur pour postes de conversion CCHT (CEI 60099-9:2014)

Überspannungsableiter - Teil 9: Metalloxidableiter ohne Funkenstrecken für HGÜ-Stromrichterstationen (IEC 60099-9:2014)

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 60099-9:2014 E

Foreword

The text of document 37/417/FDIS, future edition 1 of IEC 60099-9, prepared by IEC/TC 37 "Surge arresters" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60099-9:2014.

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)	2015-05-01
– latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2017-07-31

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Endorsement notice

The text of the International Standard IEC 60099-9:2014 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60071-1	NOTE	Harmonized as EN 60071-1.
IEC 60143-1	NOTE	Harmonized as EN 60143-1.
IEC 60633:1998	NOTE	Harmonized as EN 60633:1999 (not modified).
IEC 60507	NOTE	Harmonized as EN 60507.
IEC 62271-1:2007	NOTE	Harmonized as EN 62271-1:2008 (not modified).
ISO 4892-1	NOTE	Harmonized as EN ISO 4892-1.
ISO 4892-2	NOTE	Harmonized as EN ISO 4892-2.
ISO 4892-3	NOTE	Harmonized as EN ISO 4892-3.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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

NOTE 1 When 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 60060-1	-	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	-
IEC 60060-2	-	High-voltage test techniques - Part 2: Measuring systems	EN 60060-2	-
IEC 60068-2-11	1981	Environmental testing - Part 2: Tests - Test Ka: Salt mist	EN 60068-2-11	1999
IEC 60068-2-14	-	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	-
IEC 60068-2-17	-	Environmental testing - Part 2: Tests - Test Q: Sealing	EN 60068-2-17	-
IEC 60071-2	1996	Insulation co-ordination - Part 2: Application guide	EN 60071-2	1997
IEC 60099-4 (mod)	2004	Surge arresters - Part 4: Metal-oxide surge arresters without gaps for a.c. systems	EN 60099-4	2004
IEC 60143-2	-	Series capacitors for power systems - Part 2: Protective equipment for series capacitor banks	EN 60143-2	-
IEC 60270	-	High-voltage test techniques - Partial discharge measurements	EN 60270	-
IEC 60721-3-2	-	Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 2: Transportation	EN 60721-3-2	-
IEC 62217	-	Polymeric HV insulators for indoor and outdoor use - General definitions, test methods and acceptance criteria	EN 62217	-

Publication	Year	Title	EN/HD	Year
IEC 62271-200	2011	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	2012
IEC 62271-203	2011	High-voltage switchgear and controlgear - Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV	EN 62271-203	2012
IEC/TS 60071-5	2002	Insulation co-ordination - Part 5: Procedures for high-voltage direct current (HVDC) converter stations	-	-
IEC/TS 60815-2	-	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions - Part 2: Ceramic and glass insulators for a.c. systems	-	-
CISPR 16-1-1	-	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus	EN 55016-1-1	-
CISPR/TR 18-2	-	Radio interference characteristics of overhead power lines and high-voltage equipment - Part 2: Methods of measurement and procedure for determining limits	-	-

IEC 60099-9

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IEC 60099-9:2014-06(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Part 9: Metal-oxide surge arresters without gaps for HVDC converter stations

FOREWORD

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International Standard 60099-9 has been prepared by IEC technical committee 37: Surge arresters.

The text of this standard is based on the following documents:

FDIS	Report on voting
37/417/FDIS	37/422/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60099 series, published under the general title *Surge arresters*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

SURGE ARRESTERS –

Part 9: Metal-oxide surge arresters without gaps for HVDC converter stations

1 Scope

This part of IEC 60099 applies to non-linear metal-oxide resistor type surge arresters without spark gaps designed to limit overvoltages in HVDC converter stations of two terminal, multiterminal and back-to-back type up to and including an operating voltage of 1 100 kV. The standard applies in general to porcelain-housed and polymer-housed type arresters but also to gas-insulated metal enclosed arresters (GIS-arresters) solely used as d.c. bus and d.c. line/cable arresters. Arresters for voltage source converters are not covered. Arresters applied on the a.c. systems at the converter station and subjected to power-frequency voltage of 50 or 60 Hz principally without harmonics are tested as per IEC 60099-4. The arresters on a.c.-filters are tested according to this standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60060-2, *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, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

IEC 60068-2-17, *Basic environmental testing procedures – Part 2-17: Tests – Test Q: Sealing*

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

IEC TS 60071-5:2002*, Insulation co-ordination – Part 5: Procedures for high-voltage direct current (HVDC) converter stations*

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

IEC 60143-2, *Series capacitors for power systems – Part 2: Protective equipment for series capacitor banks*

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

IEC 60721-3-2, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 2: Transportation*

IEC TS 60815-2, *Selection and dimensioning of high-voltage insulators intended for use in polluted conditions – Part 2: Ceramic and glass insulators for a.c. systems*

IEC 62217, *Polymeric HV insulators for indoor and outdoor use – General definitions, test methods and acceptance criteria*

IEC 62271-200:2011, *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*

IEC 62271-203:2011, *High-voltage switchgear and controlgear – Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV*

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

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