Surge arresters –

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

This English-language version is derived from the original bilingual publication by leaving out all French-language pages. Missing page numbers correspond to the French-language pages.
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Part 4:
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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 edition includes the following significant technical 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 text of this standard is based on the following documents:

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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.

The committee has decided that the contents of this publication will remain unchanged until 2005. At this date, the publication will be

• reconfirmed;
• withdrawn;
• replaced by a revised edition, or
• amended.
INTRODUCTION

This part of IEC 60099 presents the minimum criteria for the requirements and testing of gapless metal-oxide surge arresters that are applied to a.c. power systems.

Arresters covered by this standard are commonly applied to live/front overhead installations in place of the non-linear resistor-type gapped arresters covered in IEC 60099-1.
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 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 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*


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*