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# INTERNATIONAL STANDARD



High-voltage switchgear and controlgear –  
Part 37-013: Alternating-current generator circuit-breakers



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**High-voltage switchgear and controlgear –  
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# INTERNATIONAL ELECTROTECHNICAL COMMISSION

## HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

### Part 37-013: Alternating-current generator circuit-breakers

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International Standard IEC/IEEE 62271-37-013 has been prepared by a joint working group comprised of members both from IEC 17A/WG 52 representing subcommittee 17A: High-voltage switchgear and controlgear, of IEC technical committee 17: Switchgear and controlgear, in cooperation with IEEE WG P62271-37-013<sup>1</sup> representing the Switchgear Committee of the Power and Energy Society of the IEEE, under the IEC/IEEE Dual Logo Agreement.

This publication is published as an IEC/IEEE Dual Logo standard.

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

FDIS	Report on voting
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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.

International standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62271 series, published under the general title *High-voltage switchgear and controlgear*, can be found on the IEC website.

This standard shall be read in conjunction with IEC 62271-1: 2007, to which it refers and which is applicable unless otherwise specified in this standard. In order to simplify and clarify the structure of this document, the numbering of clauses and subclauses used here is the same as in IEC 62271-1. Amendments to these clauses and subclauses are given under the same numbering, while additional subclauses are numbered from 101.

The IEC Technical Committee and IEEE Technical Committee have decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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## HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

### Part 37-013: Alternating-current generator circuit-breakers

#### 1 General

##### 1.1 Scope

This part of IEC 62271 is applicable to three-phase a.c. high-voltage generator circuit-breakers, hereafter called generator circuit-breaker, designed for indoor or outdoor installation and for operation at frequencies of 50 Hz and 60 Hz on systems having voltages above 1 kV and up to 38 kV.

It is applicable to generator circuit-breakers that are installed between the generator and the transformer terminals. Requirements relative to generator circuit-breakers intended for use with generators and transformers rated 10 MVA or more are covered specifically. Generator circuits rated less than 10 MVA and pumped storage installations are considered special applications, and their requirements are not completely covered by this standard.

This standard is also applicable to the operating mechanisms of generator circuit-breakers and to their auxiliary equipment.

##### 1.2 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 60050-441:1984, *International Electrotechnical Vocabulary – Chapter 441: Switchgear, controlgear and fuses*

IEC 60060-1:2010, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60296:2012, *Fluids for electrotechnical applications – Unused mineral insulating oils for transformers and switchgear*

IEC 60480:2004, *Guidelines for the checking and treatment of sulphur hexafluoride (SF<sub>6</sub>) taken from electrical equipment and specification for its re-use*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60529:1989/AMD1:1999

IEC 60529:1989/AMD2:2013

IEC 61180-1, *High-voltage test techniques for low voltage equipment – Part 1: Definitions, test and procedure requirements*

IEC 62262:2002, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

IEC 62271-1:2007, *High-voltage switchgear and controlgear – Part 1: Common specifications*  
IEC 62271-1:2007/AMD1:2011



IEC IEEE 62271-37-082:2012, *High-voltage switchgear and controlgear – Part 37-082: Standard practice for the measurement of sound pressure levels on alternating current circuit-breakers*

IEC 62271-100:2008, *High-voltage switchgear and controlgear – Part 100: Alternating current circuit-breakers*

IEC 62271-100:2008/AMD1:2012

IEC 62271-101:2012, *High-voltage switchgear and controlgear – Part 101: Synthetic testing*

IEC TR 62271-306:2012, *High-voltage switchgear and controlgear – Part 306: Guide to IEC 62271-100, IEC 62271-1 and other IEC standards related to alternating current circuit-breakers*

IEEE Std C37.011<sup>TM</sup>-2011, *IEEE Guide for the Application of Transient Recovery Voltage for AC High-Voltage Circuit Breakers (ANSI)*<sup>2</sup>

IEEE Std C37.23<sup>TM</sup>-2003 (Reaff 2008), *IEEE Standard for Metal-Enclosed Bus (ANSI)*

IEEE Std C37.59<sup>TM</sup>-2007, *IEEE Standard Requirements for Conversion of Power Switchgear Equipment*

## 2 Normal and special service conditions

NOTE Normal and special service conditions are sometimes called usual and unusual service conditions respectively.

### 2.1 Normal service conditions

Subclause 2.1 of IEC 62271-1:2007 is applicable.

### 2.2 Special service conditions

Subclause 2.2 of IEC 62271-1:2007 is applicable.

## 3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in IEC 60050-441 and IEC 62271-1, as well as the following, apply.

NOTE Additional definitions are classified so as to be aligned with the classification used in IEC 60050-441.

The IEEE Standards Dictionary Online<sup>3</sup> should be referenced for terms and definitions not defined in this clause.

For clarity, ease of reference and convenience of the user, definitions of selected terms as used in this standard are given below.

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<sup>3</sup> IEEE Standards Dictionary Online subscription is available at:  
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