IEC 62271-111

Edition 3.0 2019-02

INTERNATIONAL STANDARD

IEEE Std C37.60™

NORME INTERNATIONALE

colour inside

High-voltage switchgear and controlgear – Part 111: Automatic circuit reclosers for alternating current systems up to and including 38 kV

Appareillage à haute tension – Partie 111: Disjoncteurs à réenclenchement de circuit automatique pour systèmes en courant alternatif jusqu'à 38 kV compris

IEC 62271-111:2019-02(en-fr) IEEE Std C37.60-2018

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 29.130.10

ISBN 978-2-8322-4991-8

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 111: Automatic circuit reclosers for alternating current systems up to and including 38 kV

FOREWORD

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International Standard IEC 62271-111/IEEE Std C37.60 has been jointly revised by the Switchgear Committee of the IEEE Power and Energy Society, in cooperation with subcommittee 17A: Switching devices, of IEC technical committee 17: High-voltage switchgear and controlgear, under the IEC/IEEE Dual Logo Agreement.

This third edition cancels and replaces the second edition, published in 2012, and constitutes a technical revision. The main changes with respect to the previous edition are as follows:

a) Deletion of the fault interrupter from the title, scope and body of the standard including the original Annex G. IEEE will develop a separate standard for this type of equipment used primarily in North America to be designated as IEEE C37.62;
b) Adoption of IEC 62271-1:2017 as a normative reference replacing both IEEE C37.100.1-2007 and IEC 62271-1:2007;
c) Adoption of the “standard test method” for the conduction of wet tests for both IEEE and IEC voltage ratings, reference 7.2.7.2 and Tables 2 and 3;
d) Line and cable charging tests in 7.101.6: added test voltage level requirements;
e) Added test specifications in 7.103.3 and 7.103.5 for effectively earthed neutral systems (first-pole-to-clear factor k_{pp} = 1,3) making this an optional rating. The k_{pp} parameters are used in lieu of the system terms;
f) Added low current tests in 7.104 as a replacement of the critical current tests;
g) Adopted the revised allowable temperature rise table of IEC 62271-1:2017 with an increase in the allowable temperature rise for certain points in non-oxidizing gases (NOG);
h) Time-current test requirements in 7.108: several changes including increased number of test current levels and tests at each level. Specified minimum number of curves to be tested;
i) Mechanical duty tests in 7.109: added requirements for testing at high and low temperature;
j) Replaced normative references IEC 60255-22-1 and IEC 60255-22-4 with IEC 60255-26 in 7.111.1;
k) Added pass/fail criteria for fault interruption tests with restrikes in 7.112.1;
l) Added Clauses 9, 10, 11, 12 and 13 similar to those in IEC 62271-1 but tailored to the recloser;
m) Deleted Annex A: Information and technical requirements to be given with enquiries, tenders and orders.

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

FDIS	Report on voting
17A/1202/FDIS	17A/1207/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.

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

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

This standard is to be read in conjunction with IEC 62271-1:2017, to which it refers and which is applicable unless otherwise specified in this standard. In order to simplify the indication of corresponding requirements, the same numbering of clauses and subclauses is used as in IEC 62271-1. Amendments to these clauses and subclauses are given under the same references whilst 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

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

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HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 111: Automatic circuit reclosers for alternating current systems up to and including 38 kV

1 Scope

This part of IEC 62271 applies to all overhead, pad-mounted, dry vault and submersible single or multi-pole alternating current automatic circuit reclosers for rated maximum voltages above 1 000 V and up to and including 38 kV.

Devices that require a dependent manual operation are not covered by this document.

In order to simplify this document where possible, the term recloser (or reclosers) has been substituted for automatic circuit recloser(s) or cutout mounted recloser(s) or both.

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.

NOTE In this dual logo standard, normative references are made to both IEEE and IEC standards. In each case, the specifications in two referenced standards have been judged by the Maintenance Team to be technically equal even though the exact wording may be different. Differences in the wording are considered to be editorial only. Where the two standards are not technically equal, the differences are resolved in the text.[1]

IEC 60050-151, *International Electrotechnical Vocabulary – Part 151:Electrical and magnetic devices* (available at: http://www.electropedia.org)

IEC 60050-441, *International Electrotechnical Vocabulary – Chapter 441: Switchgear, controlgear and fuses* (available at: http://www.electropedia.org)

IEC 60071-2:2018, *Insulation co-ordination – Part 2: Application guidelines*

IEC 60255-26:2013, *Measuring relays and protection equipment – Part 26: Electromagnetic compatibility requirements*

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

IEC 60480, *Guidelines for the checking and treatment of sulfur hexafluoride (SF_6) taken from electrical equipment and specification for its re-use*

IEC 61000-4-18, *Electromagnetic compatibility (EMC) – Part 4-18: Testing and measurement techniques – Damped oscillatory wave immunity test*

IEC 62271-1:2017, *High-voltage switchgear and controlgear – Part 1: Common specifications for alternating current switchgear and controlgear*

[1] Notes in text, tables, and figures of a standard are given for information only and do not contain requirements needed to implement the standard.