

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Rotating electrical machines –
Part 15: Impulse voltage withstand levels of form-wound stator coils for rotating
a.c. machines**

**Machines électriques tournantes –
Partie 15: Niveaux de tenue au choc électrique des bobines de stator des
machines à courant alternatif**

IEC 60034-15:2025

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ROTATING ELECTRICAL MACHINES –

**Part 15: Impulse voltage withstand levels of stator coils
for rotating AC machines**

FOREWORD

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This fourth edition cancels and replaces the third edition published in 2009. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- harmonize the standard test levels with IEEE Std 522TM [2];
- introduce an enhanced surge impulse voltage withstand level;
- introduce the option to test up to the point of electrical breakdown;
- improve the evaluation of the recorded impulses in case of oscillations and overshoot;

- indicate that converter fed machines are excluded from the scope;
- provide guidance on the execution of impulse tests.

The text of this International Standard is based on the following documents:

Draft	Report on voting
2/2234/FDIS	2/2247/RVD

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

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INTRODUCTION

IEC 60071-1 [1]¹ specifies general requirements for the phase-to-earth insulation, phase-to-phase and the longitudinal insulation of equipment in three phase AC systems and states that each apparatus committee is responsible for specifying the insulation levels and test procedures for its equipment, taking into consideration the recommendations of IEC 60071-1 [1].

The object of this document is to specify these requirements for rotating electrical AC machines. Experience has shown that the values given in this document meet the insulation requirements for the essential stresses in service. An explanation of the principles adopted in preparing these requirements is given in Annex A. This document is not intended for electronic converter-fed machines.

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