

GUIDE

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Application of measurement uncertainty to conformity assessment activities in the electrotechnical sector

Application de l'incertitude de mesure aux activités d'évaluation de la conformité dans le secteur électrotechnique



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**APPLICATION OF MEASUREMENT UNCERTAINTY TO CONFORMITY
ASSESSMENT ACTIVITIES IN THE ELECTROTECHNICAL SECTOR**

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This third edition of IEC Guide 115 has been prepared, in accordance with ISO/IEC Directives, Part 1, Annex A, by IEC/TC/SC 115.

This third edition cancels and replaces the second edition published in 2021.

The main changes with respect to the previous edition are as follows:

- a) document was rewritten to align with ISO/IEC 17025:2017;
- b) content has been added to replace "accuracy method" with "simple acceptance" and added "decision rule";
- c) modified document title to state "measurement uncertainty";
- d) removed statement of document applicability to only IEC/TC/SC 115 CB Scheme;
- e) removed list of IEC technical committees to indicate document can be used by other committees and industries;
- f) added content for reporting statements of conformity.

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

| | |
|-------------|------------------|
| Draft | Report on voting |
| SMBNC/30/DV | SMBNC/34/RV |

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

The language used for the development of this Guide is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

INTRODUCTION

This document has been prepared by the IECEE Committee of Testing Laboratories (CTL) to provide guidance on the practical application of the measurement uncertainty requirements of ISO/IEC 17025:2017 to the electrical safety testing conducted within the electrotechnical sector.

The aim of the CTL is, among other tasks, to define a common understanding of the test methodology with regard to the IEC standards as well as to ensure and continually improve the repeatability and reproducibility of test results among the member laboratories.

The practical approach to measurement uncertainty outlined in this document has been adopted for use in the IECEE Schemes, and is also extensively used around the world by testing laboratories engaged in testing electrical products to national safety standards.

ISO/IEC 17025 was written as a general use document, for all industries. Measurement uncertainty principles are applied to laboratory measurements and presentation of results to provide a degree of assurance that decisions made about conformance of the products tested, in accordance with the relevant requirements, are valid. Procedures and techniques for measurement uncertainty calculations are well established. This document is written to provide more specific guidance on the application of measurement uncertainty principles and applying the decision rule to conformance statements when reporting test results.

This document is of particular interest to IEC technical committees, which can decide to make use of it if necessary.