



## **High-voltage test techniques**

### **Part 2: Measuring systems**

AS IEC 60060.2:2018

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## Preface

This Standard was prepared by the Standards Australia Committee EL-007, Power Switchgear.

The objective of this Standard is applicable to complete measuring systems, and to their components, used for the measurement of high voltages during laboratory and factory tests with direct voltage, alternating voltage and lightning and switching impulse voltages as specified in AS IEC 60060.1. For measurements during on-site tests see AS IEC 60060.3. The limits on uncertainties of measurements stated in this Standard apply to test levels stated in IEC 60071-1:2006. The principles of this Standard apply also to higher test levels but the uncertainty may be greater. This Standard also: defines terms used; describes methods that estimate uncertainties of high-voltage measurements; states requirements to be met by the measuring systems; describes methods for approving a measuring system and checking its components; and describes procedures used to show that a measuring system meets the requirements of this Standard, including the limits set for the uncertainty of measurement.

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# INTERNATIONAL ELECTROTECHNICAL COMMISSION

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## HIGH-VOLTAGE TEST TECHNIQUES –

### Part 2: Measuring systems

#### FOREWORD

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This third edition of IEC 60060-2 cancels and replaces the second edition, published in 1994, and constitutes a technical revision.

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

- a) The general layout and text was updated and improved to make the standard easier to use.
- b) The standard was revised to align it with IEC 60060-1.
- c) The treatment of measurement uncertainty estimation has been expanded.

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

FDIS	Report on voting
42/281/FDIS	42/287/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.

A list of all parts of IEC 60060 series, under the general title *High-voltage test techniques*, can be found on the IEC website.

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 the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to this specific publication. At this date, the publication will be:

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## HIGH-VOLTAGE TEST TECHNIQUES –

### Part 2: Measuring systems

#### 1 Scope

This part of IEC 60060 is applicable to complete measuring systems, and to their components, used for the measurement of high voltages during laboratory and factory tests with direct voltage, alternating voltage and lightning and switching impulse voltages as specified in IEC 60060-1. For measurements during on-site tests see IEC 60060-3.

The limits on uncertainties of measurements stated in this standard apply to test levels stated in IEC 60071-1:2006. The principles of this standard apply also to higher levels but the uncertainty may be greater.

This standard:

- defines the terms used;
- describes methods to estimate the uncertainties of high-voltage measurements;
- states the requirements which the measuring systems shall meet;
- describes the methods for approving a measuring system and checking its components;
- describes the procedures by which the user shall show that a measuring system meets the requirements of this standard, including the limits set for the uncertainty of measurement.

#### 2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60052, *Voltage measurement by means of standard air gaps*

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

IEC 61083-1, *Instruments and software used for measurement in high-voltage impulse tests – Part 1: Requirements for instruments*

IEC 61083-2, *Digital recorders for measurement in high-voltage impulse tests – Part 2: Evaluation of software used for the determination of the parameters of impulse waveforms*

ISO/IEC Guide 98-3:2008, *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurements (GUM)*

NOTE Further related standards, guides, etc. on subjects included in this International Standard are given in the bibliography.

#### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.