Australian Standard®

Instruments and software used for measurement in high-voltage impulse tests

Part 1: Requirements for instruments

This Australian Standard® was prepared by Committee EL-007, Power Switchgear. It was approved on behalf of the Council of Standards Australia on 27 June 2006.
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The following are represented on Committee EL-007:

- Australian British Chamber of Commerce
- Australian Electrical and Electronic Manufacturers Association
- Energy Networks Association
- Engineers Australia
- Testing interests (Australia)

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PREFACE

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

The objective of this Standard is to set out the measuring characteristics and calibrations required for digital recorders and digital oscilloscopes used for measurements during tests with high impulse voltages and high impulse currents.

This Standard is identical with, and has been reproduced from IEC 61083-1, Ed. 2.0 (2001), *Instruments and software used for measurement in high-voltage impulse tests – Part 1: Requirements for instruments*.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text ‘IEC 60183-1’ should read ‘AS 60183.1’.

(c) A full point should be substituted for a comma when referring to a decimal marker.

(d) Any French text on figures should be ignored.

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

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1 General

1.1 Scope

This part of IEC 61083 is applicable to **digital recorders**, including digital oscilloscopes, **analogue oscilloscopes** and **peak voltmeters** used for measurements during tests with high impulse voltages and high impulse currents. It specifies the measuring characteristics and calibrations required to meet the measuring uncertainties and procedures specified in IEC 60060-2.

This part

- defines the terms specifically related to **digital recorders**, **analogue oscilloscopes** and **peak voltmeters**,
- specifies the necessary requirements for such instruments to ensure their compliance with the requirements for high-voltage and for high-current impulse tests, and
- establishes the tests and procedures necessary to demonstrate their compliance.

Only **digital recorders** that permit access to **raw data** from permanent or temporary storage are covered by this standard. The **raw data**, with relevant scaling information, may be

- printed graphically, or
- stored in digital format.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61083. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 61083 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

References to international standards that are struck through in this clause are replaced by references to Australian Standards that are listed immediately thereafter and identified by shading. Any Australian Standard that is identical to the International Standard it replaces is identified as such.

~~IEC 60060-1:1989, *High-voltage test techniques – Part 1: General definitions and test requirements*~~

AS 1931.2, *High-voltage test techniques,* Part 1: *General definitions and test requirements* (identical to IEC 60060-1)