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Australian
STANDARD

High-current test techniques—Definitions and requirements for test currents and measuring systems

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- Engineers Australia
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High-current test techniques—Definitions and requirements for test currents and measuring systems

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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 high-current testing and measurements on both high-voltage and low-voltage equipment. It deals with steady-state and short-time direct current (as e.g. encountered in high-power d.c. testing), steady-state and short-time alternating current (as e.g. encountered in high-power a.c. testing), and impulse-current. In general, currents above 100 A are considered in this International Standard, although currents less than this can occur in tests. This Standard also covers fault detection during, for example, lightning impulse testing.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HIGH-CURRENT TEST TECHNIQUES – DEFINITIONS AND REQUIREMENTS FOR TEST CURRENTS AND MEASURING SYSTEMS

FOREWORD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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HIGH-CURRENT TEST TECHNIQUES – DEFINITIONS AND REQUIREMENTS FOR TEST CURRENTS AND MEASURING SYSTEMS

1 Scope

This International Standard is applicable to high-current testing and measurements on both high-voltage and low-voltage equipment. It deals with steady-state and short-time direct current (as e.g. encountered in high-power d.c. testing), steady-state and short-time alternating current (as e.g. encountered in high-power a.c. testing), and impulse-current. In general, currents above 100 A are considered in this International Standard, although currents less than this can occur in tests.

NOTE This standard also covers fault detection during, for example, lightning impulse testing.

This standard:

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

2 Normative references

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

IEC 60051-2:1984, *Direct acting analogue electrical measuring instruments and their accessories – Part 2: Special requirements* for ammeters and voltmeters

IEC 60060-1:2010, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 61180-1, *High-voltage test techniques for low-voltage equipment – Part 1: Definitions, test and procedure requirements*

ISO/IEC Guide 98-3:2008, *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurement (GUM: 1995)*

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

3 Terms and definitions

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