

AMERICAN NATIONAL STANDARD

ANSI/ISA- / CSA / UL 61010-2-030

**SAFETY REQUIREMENTS FOR
ELECTRICAL EQUIPMENT FOR MEASUREMENT,
CONTROL, AND LABORATORY USE –**

**Part 2-030: Particular requirements for testing
and measuring circuits**

Approved 11 May 2012

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First Edition



Underwriters Laboratories Inc.
ANSI/UL 61010-2-030
First Edition

Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 2-030: Particular Requirements for Testing and Measuring Circuits

11 May 2012

This standard is based on IEC 61010-2-030, First Edition (2010).



Approved
by
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Preface

This is the harmonized CSA, ISA, and UL standard for Electrical equipment for measurement, control, and laboratory use – Part 2-030: Particular requirements for testing and measuring circuits. It is the first edition of CAN/CSA-C22.2 No. 61010-2-030, the first edition of ANSI/ISA-61010-2-030 (82.02.03), and the first edition of UL 61010-2-030. This standard is based on IEC 61010-2-030, first edition.

This CSA, ISA, and UL standard is to be used in conjunction with the Third Edition of CAN/CSA-C22.2 No. 61010-1, ANSI/ISA-61010-1 (82.02.01), and UL 61010-1. The requirements for testing and measuring circuits are contained in this Part 2 Standard and the Part 1.

Requirements of this Part 2 Standard, where stated, amend the requirements of CAN/CSA-C22.2 No. 61010-1-12, ANSI/ISA-61010-1 (82.02.01), and UL 61010-1.

This standard is considered suitable for use for conformity assessment within the stated scope of this standard.

Where a particular subclause of CAN/CSA-C22.2 No. 61010-1-12, ANSI/ISA-61010-1 (82.02.01), and UL 61010-1 is not mentioned in this Part 2 standard, the Part 1 standard subclause applies.

CAN/CSA-C22.2 No. 61010-2-030-12, ANSI/ISA-61010-2-030 (82.02.03), and UL 61010-2-030 contain identical requirements and identical publication dates. The presentation and format of the standards material may differ between the three published standards.

This harmonized standard was prepared by the Canadian Standards Association (CSA), the International Society of Automation (ISA), and Underwriters Laboratories Inc. (UL).

This standard was reviewed by the CSA Subcommittee on Safety Requirements for Electrical Equipment for Measurement Control and Laboratory Use, under the jurisdiction of the CSA Technical Committee on Consumer and Commercial Products and the CSA Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the CSA Technical Committee.

This standard has been approved as a National Standard of Canada by the Standards Council of Canada (SCC).

This standard has been approved by the American National Standards Institute (ANSI) as an American National Standard.

Where reference is made to a specific number of samples to be tested, the specified number is to be considered a minimum quantity.

Level of Harmonization

This standard adopts the IEC text with national differences.

The requirements are presented in different formats. The ISA version of the standard illustrates the national differences from the IEC text through the use of legislative text (strike-out and underline). The CSA and UL versions of the standard illustrate national differences immediately following the IEC text. National differences between the CSA and UL version and the ISA version shall be word for word except for editorial changes.

Interpretations

The interpretation by the standards development organization of an identical or equivalent standard is based on the literal text to determine compliance with the standard in accordance with the procedural rules of the standards development organization. If more than one literal interpretation has been identified, a revision is to be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

Reasons for differences from IEC

National Differences from the IEC are being added in order to address regulatory and safety situations present in Canada and the U.S.

CSA Effective Date

The effective date for CSA International will be announced through CSA Informs or a CSA Certification notice.

ISA Effective Date

The effective date for ISA is the date of publication.

UL Effective Date

The effective date for UL is 1 January 2018.

A UL effective date is one established by Underwriters Laboratories Inc. and is not part of the ANSI approved standard.

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For CSA, the text, figures, and tables of International Electrotechnical Commission Publication 61010-2-030, Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-030: Particular requirements for testing and measuring circuits, are used in this standard with the consent of the International Electrotechnical Commission. The IEC Foreword and Introduction are not part of the requirements of this standard but are included for information purposes only.

NOTE Although the intended primary application of this standard is stated in its scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.

Foreword (ISA)

All text of IEC 61010-2-030:2010 is included. National Deviations are shown by ~~strikeout~~ through text deleted and underline under text added. Tables, or portions of tables, that are to be deleted are shown as shaded; figures to be deleted are marked with the overlay "X." There are four annexes in this standard. Annexes K and AA are normative and are considered part of this standard. Annexes L and BB are informative and are not considered part of this standard.

In this standard the following print types are used:

- requirements and definitions: in roman type;
- NOTES: in smaller roman type;
- *conformity and tests: in italic type*;
- terms used throughout this standard which have been defined in clause 3: SMALL ROMAN CAPITALS.

The standards referenced within this document may contain provisions which, through reference in this text, constitute requirements of this document. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this document are encouraged to investigate the possibility of applying the most recent editions of the standards indicated within this document. Members of IEC and ISO maintain registers of currently valid International Standards. ANSI maintains registers of currently valid U.S. National Standards.

This document has been prepared as part of the service of ISA toward a goal of uniformity in the field of instrumentation. To be of real value, this document should not be static but should be subject to periodic review. Toward this end, the Society welcomes all comments and criticisms and asks that they be addressed to the Secretary, Standards and Practices Board; ISA; 67 Alexander Drive; P. O. Box 12277; Research Triangle Park, NC 27709; Telephone (919) 549-8411; Fax (919) 549-8288; E-mail: standards@isa.org.

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NATIONAL DIFFERENCES

In the CSA and UL publications of this standard, National Differences from the text of International Electrotechnical Commission (IEC) Publication 61010-2-030, Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 2-030: Particular Requirements for Testing and Measuring Circuits copyright 2010 are indicated by notations (differences) and are presented in bold text. The national difference type is included in the body.

In the ISA publication of this standard, National Differences are presented using legislative text (strike-out and underline). The national difference type is identified in an informative annex.

There are five types of National Differences as noted below. The difference type is noted on the first line of the National Difference in the standard. The standard may not include all types of these National Differences.

NOTE The CSA and UL printed standards include the national difference types within the body of the text. The ISA printed standard includes the national difference types in an annex at the back of the standard.

DR – These are National Differences based on the **national regulatory requirements**.

D1 – These are National Differences which are based on **basic safety principles and requirements**, elimination of which would compromise safety for consumers and users of products.

D2 – These are national differences from IEC requirements based on existing **safety practices**. These requirements reflect national safety practices, where empirical substantiation (for the IEC or national requirement) is not available or the text has not been included in the IEC standard.

DC – These are National Differences based on the **component standards** and will not be deleted until a particular component standard is harmonized with the IEC component standard.

DE – These are National Differences based on **editorial comments or corrections**.

Each national difference contains a description of what the national difference entails. Typically one of the following words is used to explain how the text of the national difference is to be applied to the base IEC text:

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Deletion / Delete - A deletion entails complete deletion of an entire numbered clause, subclause, table, figure, or annex without any replacement text.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT
FOR MEASUREMENT, CONTROL, AND LABORATORY USE –

Part 2-030: Particular requirements for testing and measuring circuits

FOREWORD

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International Standard IEC 61010-2-030 has been prepared by IEC technical committee 66: Safety of measuring, control and laboratory equipment.

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

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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.