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**Varnostne zahteve za električno opremo za meritve, nadzorovanje in  
laboratorijsko uporabo – 1. del: Splošne zahteve**

Safety requirements for electrical equipment for measurement, control and  
laboratory use – Part 1: General requirements

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# 66/342A/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

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Title:

IEC 61010-1, Ed.3. Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements

(Titre) :

CEI 61010-1, Ed.3. Règles de sécurité pour appareils électriques de mesure, de régulation et de laboratoire - Partie 1: Prescriptions générales

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<b>Ce document remplace le 66/342/CDV. Cette version A corrige la Fig.5 qui était corrompue dans le premier document</b>	<b>This document supersedes 66/342/CDV. This A version corrects Fig.5 which was corrupted in the first issue of the document</b>
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<b>ATTENTION</b>  CDV soumis en parallèle au vote (CEI) et à l'enquête (CENELEC)	<b>ATTENTION</b>  Parallel IEC CDV/CENELEC Enquiry
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### Introduction

This document is the CDV of the Third Edition of IEC 61010-1, with the unique requirements for test and measurement circuits removed from this Part 1 document to form a new part 2-030 Special requirements for testing and measuring circuits.

In order to manage the integrity of part 1 and part 2-030 while both of them are being prepared simultaneously it is necessary to circulate all of IEC 61010-1 voting documents to national committees with the matching companion of IEC 61010-2-030 and vice versa. National committees are asked to note that all votes will need to take both drafts into account and that one cannot proceed without the other. All comments will be considered by both WG1 and WG2 to determine which document (or both documents) may be affected by the comment.

This CDV has a new informative annex L “Safety testing after repair or modification”. National committees are asked to pay particular attention to this annex when voting and in particular comment on whether it should be included or not.

### Introduction au CDV de la CEI 61010-1 édition 3

Ce document est le projet de CDV de la troisième édition de la CEI 61010-1, dont les exigences uniques pour les circuits de test et de mesure ont été retirées de cette partie 1 pour constituer une nouvelle partie 2-030 Prescriptions particulières pour les circuits de test et de mesure.

De manière à gérer l'intégrité des documents Partie 1 et Partie 2-030 qui ont été préparés ensemble, les documents de vote du projet de troisième édition de la CEI 61010-1 et du projet associé correspondant de la CEI 61010-2-030 doivent être diffusés obligatoirement ensemble. Tous les votes devront tenir compte des deux projets.

Les comités nationaux doivent comprendre que les résultats de vote devront être les mêmes pour les deux documents parce que ces documents sont indissociables.

Tous les commentaires devront être examinés à la fois par les WG1 et WG2 pour déterminer quels documents peuvent être affectés par le commentaire.

Le CDV comporte une nouvelle annexe L informative « Essais de sécurité après réparation ou modification ». Il est demandé aux comités nationaux de prêter une attention particulière sur cette annexe au moment du vote et de préciser s'il elle doit être incluse ou non.

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

### Part 1: General requirements

#### FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61010-1 has been prepared by IEC technical committee 66: Safety of measuring, control and laboratory equipment.

It has the status of a group safety publication, as specified in IEC Guide 104.

This third edition cancels and replaces the second edition published in 2001. It constitutes a technical revision.

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

FDIS	Report on voting
/FDIS	/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.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

Annexes A to L form an integral 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 committee has decided that the contents of this publication will remain unchanged until 200X. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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## INTRODUCTION

This part 1 specifies the safety requirements that are generally applicable to all equipment within its scope. For certain types of equipment, these requirements will be supplemented or modified by the special requirements of one, or more than one, particular part 2 of the standard which must be read in conjunction with the part 1 requirements. See the IEC catalogue for the list of published particular part 2s.

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

## Part 1: General requirements

### 1 Scope and object

#### 1.1 Scope

##### 1.1.1 Equipment included in scope

This part of IEC 61010 specifies general safety requirements for electrical equipment intended for professional, industrial process, and educational use, any of which may incorporate computing devices, as defined in a) to d) below, when used under the environmental conditions of 1.4.

##### a) Electrical test and measurement equipment

This is equipment which by electrical means tests, measures, indicates or records one or more electrical or non-electrical quantities, also non-measuring equipment such as signal generators, measurement standards, power supplies, transducers, transmitters, etc.

This Part 1 also applies to test equipment integrated into manufacturing processes and intended for testing manufactured devices.

NOTE 1 Such test equipment is likely to be installed adjacent to and interconnected with industrial machinery in this application.

NOTE 2 All indicating and recording electrical measuring instruments (except those excluded in 1.1.2) fall within the scope of IEC 61010 unless they are panel meters designed only for building-in to other equipment. Built-in panel meters are considered to be components and only need to meet the relevant requirements of IEC 61010, or other standards, as part of the equipment into which they are built.

##### b) Electrical control equipment

This is equipment which controls one or more output quantities to specific values, with each value determined by manual setting, by local or remote programming, or by one or more input variables.

##### c) Electrical laboratory equipment

This is equipment which measures, indicates, monitors or analyses substances, or is used to prepare materials, and includes in vitro diagnostic (IVD) equipment

This equipment may also be used in areas other than laboratories, for example self-test IVD equipment may be used in the home.

##### d) Accessories intended for use with the above (for example, sample handling equipment).

NOTE 3 Particular requirements for test and measurement circuits for any of these types of equipment are given in IEC 61010-2-030. Circuits within the scope of IEC 61010-2-030 are circuits which have a RATING for connection to voltages exceeding 33 V r.m.s., 46.7 V peak, or 70 V d.c., or which have a RATING for connection to circuits which are not limited energy circuits (see 9.4).

##### 1.1.2 Equipment excluded from scope

This standard does not apply to equipment within the scope of

- a) IEC 60065 (Safety requirements for audio, video and similar electronic apparatus);
- b) IEC 60204 (Controls for electrical machines);
- c) IEC 60335 (Safety of household and similar electrical appliances);
- d) IEC 60364 (Electrical installations of buildings);
- e) IEC 60439-1 (Low-voltage switchgear and controlgear assemblies);
- f) IEC 60601 (Medical electrical equipment);