

Ohutusnõuded elektrilistele mõõtmis-, juhtimis- ja laboratooriumiseadmetele. Osa 2-033: Erinõuded käeshoitavatele mitmepiirkonnalistele mõõteriistadele. mis sobivad võrgupinge mõõtmiseks kodu- ja professionaalkasutusel

Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-033: Particular requirements for hand-held multimeters and other hand-held meters, for domestic and professional use, capable of measuring mains voltage

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 15.06.2012.	Date of Availability of the European standard is 15.06.2012.
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ICS 19.080, 71.040.10

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**Safety requirements for electrical equipment for measurement, control,
and laboratory use -**

**Part 2-033: Particular requirements for hand-held multimeters and other
meters, for domestic and professional use, capable of measuring mains
voltage**

(IEC 61010-2-033:2012)

Règles de sécurité pour appareils
électriques de mesurage, de régulation et
de laboratoire -

Partie 2-033: Exigences particulières pour
les multimètres portatifs et autres
mesureurs, pour usage domestique et
professionnel, capables de mesurer la
tension réseau
(CEI 61010-2-033:2012)

Sicherheitsbestimmungen für elektrische
Mess-, Steuer-, Regel- und Laborgeräte -
Teil 2-033: Besondere Anforderungen an
handgehaltene Multimeter und andere
handgehaltene Messgeräte für den
Haushalt und professionellen Gebrauch,
geeignet zur Messung von
Netzspannungen
(IEC 61010-2-033:2012)

This European Standard was approved by CENELEC on 2012-05-09. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 66/461/FDIS, future edition 1 of IEC 61010-2-033, prepared by IEC/TC 66, "Safety of measuring, control and laboratory equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61010-2-033:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-02-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-05-09

EN 61010-2-033:2012 is to be used in conjunction with EN 61010-1:2010, on the basis of which it was established. Consideration may be given to future editions of, or amendments to, EN 61010-1.

This Part 2-033 supplements or modifies the corresponding clauses in EN 61010-1 so as to convert that publication into the European Standard: *Particular requirements for HAND-HELD MULTIMETERS and other METERS, for domestic and professional use, capable of measuring MAINS voltage.*

Where a particular subclause of Part 1 is not mentioned in this Part 2-033, that subclause applies as far as is reasonable. Where this part states "addition", "modification", "replacement", or "deletion" the relevant requirement, test specification or note in Part 1 should be adapted accordingly.

In this standard:

a) the following print types are used:

– requirements: in roman type;

– NOTES: in small roman type;

– *conformity and test: in italic type;*

– terms used throughout this standard which have been defined in Clause 3: SMALL ROMAN CAPITALS;

b) subclauses, figures, tables and notes which are additional to those in Part 1 are numbered starting from 101. Additional annexes are numbered AA and BB.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC)

Endorsement notice

The text of the International Standard IEC 61010-2-033:2012 was approved by CENELEC as a European Standard without any modification.

Add the following entries to the bibliography of EN 61010-1:

IEC 61010-2-030	NOTE	Harmonized as EN 61010-2-030.
IEC 61010-2-032	NOTE	Harmonized as EN 61010-2-032.
IEC 61557 series	NOTE	Harmonized in EN 61557 series.

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INTRODUCTION

IEC 61010-1 specifies the safety requirements that are generally applicable to all equipment within its scope. For certain types of equipment, the requirements of IEC 61010-1 will be supplemented or modified by the special requirements of one, or more than one, particular part 2's of the standard which must be read in conjunction with the Part 1 requirements.

This Part 2-033 specifies the safety requirements for HAND HELD METERS that have a primary purpose of measuring voltage on a live MAINS CIRCUIT.

Part 2-032 specifies the safety requirements that are generally applicable to HAND-HELD and hand-manipulated current sensors.

Part 2-030 specifies the safety requirements for testing and measuring circuits which are connected for test or measurement purposes to devices or circuits outside the measurement equipment itself.

VOLTMETER and similar equipment that are not within the scope of Part 2-033 are considered to be covered by the requirements of Part 2-030 or Part 2-032. But for equipment within the scopes of both Part 2-032 and Part 2-033, the two standards must be read in conjunction.

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

Part 2-033: Particular requirements for HAND-HELD MULTIMETERS and other METERS, for domestic and professional use, capable of measuring MAINS voltage

1 Scope and object

This clause of Part 1 is applicable except as follows:

1.1.1 Equipment included in scope

Replacement:

Replace the existing text with the following:

This part of IEC 61010 specifies safety requirements for METERS.

The METERS that have a primary purpose of measuring voltage on a live MAINS CIRCUIT are within the scope of this standard. They have various names, but all of them have capability for measurements of voltages on a live MAINS CIRCUIT. Some of the names given to this equipment are as follows:

- MULTIMETER;
- digital MULTIMETER;
- VOLTMETER;
- clamp METER (see also Part 2-032).

For the purpose of this standard, the term METER is used for these HAND-HELD measuring instruments.

NOTE Parts of the equipment that are not within the scope of this Part 2-033 are considered to be covered by the requirements of Part 1 or other part 2's of IEC 61010 and then will also need to meet the requirements of these other parts.

1.1.2 Equipment excluded from scope

Addition:

Add the following new item to the list:

- aa) IEC 61557 (Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. – Equipment for testing, measuring or monitoring of protective measures – Parts 1 through 12).

Addition:

Add the two following paragraphs at the end of the subclause:

Equipment that is not capable of measuring MAINS voltages is not within the scope of this Part 2-033. See IEC 61010-2-030 for requirements pertaining to such equipment.

Such equipment, including other HAND-HELD equipment such as oscilloscopes, wattmeters, process control MULTIMETERS, and communications test sets is not within the scope of this Part 2-033.

1.2.1 Aspects included in scope

Addition:

Add the following paragraph at the end of the subclause:

Requirements for protection against HAZARDS resulting from NORMAL USE and REASONABLY FORESEEABLE MISUSE of measuring circuits are given in Clause 101.

2 Normative references

This clause of Part 1 is applicable.

3 Terms and definitions

This clause of Part 1 is applicable except as follows:

3.1 Equipment and states of equipment

Addition:

Add the following new definitions:

3.1.101

MULTIMETER

multirange multifunction measuring instrument intended to measure voltage and sometimes other electrical quantities such as current and resistance

[SOURCE: IEC 60050-300:2001, 312-02-24, modified]

3.1.102

VOLTMETER

instrument intended to measure the value of a voltage

[SOURCE: IEC 60050-300:2001, 313-01-03]

3.1.103

METER

voltage measuring instrument which is either a HAND-HELD VOLTMETER or a HAND-HELD MULTIMETER

3.1.104

HAND-HELD (equipment)

intended to be supported by one hand during NORMAL USE

3.5 Safety terms

Replacement:

Replace definitions 3.5.4 and 3.5.5 with the following new definitions: