

Ohutusnõuded elektrilistele mõõte-, juhtimis- ja laboratooriumiseadmetele. Osa 2-030: Erinõuded katsetus- ja mõõte-vooluahelatele

Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-030: Particular requirements for testing and measuring circuits

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 61010-2-030:2010 sisaldab Euroopa standardi EN 61010-2-030:2010 ingliskeelset teksti.

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

**Part 2-030: Particular requirements for testing and measuring circuits
(IEC 61010-2-030:2010)**

Règles de sécurité pour appareils
électriques de mesurage, de régulation et
de laboratoire -
Partie 2-030: Exigences particulières pour
les circuits de test et de mesure
(CEI 61010-2-030:2010)

Sicherheitsbestimmungen für elektrische
Mess-, Steuer-, Regel- und Laborgeräte -
Teil 2-030: Besondere Bestimmungen für
Prüf- und Messkreise
(IEC 61010-2-030:2010)

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CENELEC

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

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Foreword

The text of document 66/417/FDIS, future edition 1 of IEC 61010-2-030, prepared by IEC TC 66, Safety of measuring, control and laboratory equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61010-2-030 on 2010-10-01.

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

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2011-07-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2013-10-01

This Part 2-030 is to be used in conjunction with the latest edition of EN 61010-1, Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements. It was established on the basis of the 2010 edition of EN 61010-1. Amendments and revisions of Part 1 have also to be taken into account and the dates when such changes become applicable will be stated in the relevant amendment or revision of Part 1.

This Part 2-030 supplements or modifies the corresponding clauses in EN 61010-1 so as to convert it into the European Standard: *Particular requirements for testing and measuring circuits*.

Where a particular subclause of Part 1 is not mentioned in this part 2, 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 the second edition of EN 61010-1, the requirements for testing and measuring circuits were included in Part 1 itself. In the third edition of EN 61010-1, these requirements have been removed from Part 1 and have become the basis for the requirements in this Part 2.

In addition to the requirements removed from Part 1, the following major requirements have been added to this standard. Numerous other changes have also been made.

- The terminology for MEASUREMENT CATEGORY I has changed. In this Part 2, it is termed “not rated for measurements within MEASUREMENT CATEGORIES II, III, or IV”.
- CLEARANCES and CREEPAGE DISTANCES have been added for unmated measuring circuit TERMINALS.
- Requirements have been added for specialized measuring circuit TERMINALS.
- Requirements for TRANSIENT OVERVOLTAGE limiting devices have been revised.
- Requirements have been revised and added pertaining to REASONABLY FORESEEABLE MISUSE of measuring circuits, including disconnection of the protective earth and usage of the equipment in a manner that might cause arc flash.
- Insulation requirements for measuring circuits have been primarily located in Annex K.
- Annex AA has been added to describe the characteristics of MEASUREMENT CATEGORIES.
- Annex BB has been added to describe hazards that may be encountered when using measuring circuits.

NOTE 1 The following print types are used:

- requirements: in roman type;

- *conformity and test: in italic type;*
- NOTES: in small roman type;
- terms used throughout this standard which have been defined in Clause 3: SMALL ROMAN CAPITALS;

NOTE 2 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.

Annex ZA of Part 1 is applicable.

Endorsement notice

The text of the International Standard IEC 61010-2-030:2010 was approved by CENELEC as a European Standard without any modification.

Bibliography

Add the following reference to the Bibliography of Part 1:

EN 41003:1999

IEC 61010-2-032

NOTE Harmonized as EN 61010-2-032

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

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

1 Scope and object

This clause of Part 1 is applicable except as follows:

1.1.1 Equipment included in scope

Replace the text with the following:

This part of IEC 61010 specifies safety requirements for testing and measuring circuits which are connected for test or measurement purposes to devices or circuits outside the measurement equipment itself.

These include measurement circuits which are part of electrical test and measurement equipment, laboratory equipment, or process control equipment. The existence of these circuits in equipment requires additional protective means between the circuit and an OPERATOR.

NOTE 1 These testing and measuring circuits may, for example:

- measure voltages in circuits of other equipment,
- measure temperature of a separate device via a thermocouple,
- measure force on a separate device via a strain gauge,
- inject a voltage onto a circuit to analyze a new design.

NOTE 2 Testing and measuring circuits that are not within the scope of this Part 2 are considered to be covered by the requirements of Part 1.

NOTE 3 Equipment containing these testing and measuring circuits may be intended for performing tests and measurements on hazardous conductors, including MAINS conductors and telecommunication network conductors. See Annex BB for considerations of HAZARDS involved in various tests and measurements.

2 Normative references

This clause of Part 1 is applicable.

3 Terms and definitions

This clause of Part 1 is applicable except as follows:

3.5 Safety terms

Add a new definition:

3.5.101

MEASUREMENT CATEGORY

classification of testing and measuring circuits according to the type of MAINS CIRCUITS to which they are intended to be connected