

**OHUTUSNÕUDED ELEKTRILISTELE MÕÕTMIS-,  
JUHTIMIS- JA LABORATOORIUMISEADMETELE. OSA 2-  
034: ERINÕUDED ISOLATSIOONITAKISTUSE  
MÕÕTESEADMETELE JA ELEKTRITUGEVUSE  
KATSETUSSEADMETELE**

**Safety requirements for electrical equipment for  
measurement, control, and laboratory use - Part 2-034:  
Particular requirements for measurement equipment  
for insulation resistance and test equipment for electric  
strength (IEC 61010-2-034:2017)**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61010-2-034:2021+A11:2021 sisaldab Euroopa standardi EN IEC 61010-2-034:2021 ja selle muudatuse A11:2021 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61010-2-034:2021+A11:2021 consists of the English text of the European standard EN IEC 61010-2-034:2021 and its amendment A11:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.  Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.04.2021, muudatus A11 09.04.2021.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.  Date of Availability of the European standard is 09.04.2021, for A11 09.04.2021.
Muudatusega A11 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega <b>A11</b> <b>A11</b> .  Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The start and finish of text introduced or altered by amendment A11 is indicated in the text by tags <b>A11</b> <b>A11</b> .  The standard is available from the Estonian Centre for Standardisation and Accreditation.

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ICS 19.080; 71.040.10

English Version

Safety requirements for electrical equipment for measurement,  
control, and laboratory use - Part 2-034: Particular requirements  
for measurement equipment for insulation resistance and test  
equipment for electric strength  
(IEC 61010-2-034:2017)

Exigences de sécurité pour appareils électriques de  
mesurage, de régulation et de laboratoire - Partie 2-034:  
Exigences particulières applicables aux appareils de  
mesure de la résistance d'isolement et aux appareils  
d'essai de rigidité diélectrique  
(IEC 61010-2-034:2017)

Sicherheitsbestimmungen für elektrische Mess-, Steuer-,  
Regel- und Laborgeräte - Teil 2-034: Besondere  
Anforderungen für Prüf- und Messgeräte zur  
Isolationswiderstandsmessung und Prüfausrüstung für die  
Spannungsfestigkeit  
(IEC 61010-2-034:2017)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

## European foreword

The text of document 66/614/FDIS, future edition 1 of IEC 61010-2-034, 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 IEC 61010-2-034:2021.

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) 2022-03-15
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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61010-2-033	NOTE	Harmonized as EN 61010-2-033
IEC 61557-8	NOTE	Harmonized as EN 61557-8
IEC 61557-9	NOTE	Harmonized as EN 61557-9

**A11 Amendment A11 European foreword**

This document (EN IEC 61010-2-034:2021/A11:2021) has been prepared by CLC/TC 66X "Safety of measuring, control, and laboratory equipment".

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# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



GROUP SAFETY PUBLICATION  
PUBLICATION GROUPEE DE SÉCURITÉ

**Safety requirements for electrical equipment for measurement, control, and laboratory use –  
Part 2-034: Particular requirements for measurement equipment for insulation resistance and test equipment for electric strength**

**Exigences de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire –  
Partie 2-034: Exigences particulières applicables aux appareils de mesure de la résistance d'isolement et aux appareils d'essai de rigidité diélectrique**



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# INTERNATIONAL STANDARD

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GROUP SAFETY PUBLICATION  
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Part 2-034: Particular requirements for measurement equipment for insulation resistance and test equipment for electric strength**

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Partie 2-034: Exigences particulières applicables aux appareils de mesure de la résistance d'isolement et aux appareils d'essai de rigidité diélectrique**

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COMMISSION

COMMISSION  
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INTERNATIONALE

ICS 19.080, 71.040.10

ISBN 978-2-8322-3789-2

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

### Part 2-034: Particular requirements for measurement equipment for insulation resistance and test equipment for electric strength

## FOREWORD

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It has the status of a group safety publication in accordance with IEC Guide 104.

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

FDIS	Report on voting
66/614/FDIS	66/622/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 Part 2-034 is to be used in conjunction with the latest edition of IEC 61010-1. It was established on the basis of the third edition (2010) of IEC 61010-1, including its amendment 1 (2016).

This Part 2-034 supplements or modifies the corresponding clauses in IEC 61010-1 so as to convert that publication into the IEC standard: *Particular requirements for measurement equipment for insulation resistance and test equipment for electric strength*.

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 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 lettered starting from AA and additional list items are lettered from aa).

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

A list of all parts of the IEC 61010 series, under the general title *Safety requirements for electrical equipment for measurement, control, and laboratory use*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

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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 and its amendment will be supplemented or modified by the special requirements of one, or more than one, particular Part 2 of the standard which are read in conjunction with the Part 1 requirements.

This Part 2-034 specifies the safety requirements for measurement equipment for insulation resistance and test equipment for electric strength which are connected to units, lines or circuits for test or measurement purposes.

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

Part 2-032 specifies the safety requirements for HAND-HELD and hand-manipulated current sensors (see Clause 1 of Part 2-032).

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

All requirements of Part 2-030 have been included into Part 2-034. Equipment within the scopes of both Part 2-030 and Part 2-034 are considered to be covered by the requirements of Part 2-034.

However, for equipment within the scope of Part 2-032, Part 2-033 and Part 034, the standards are read in conjunction.

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

### **Part 2-034: Particular requirements for measurement equipment for insulation resistance and test equipment for electric strength**

#### **1 Scope and object**

This clause of Part 1 is applicable except as follows:

##### **1.1.1 Equipment included in scope**

*Replacement:*

*Replace the text with the following:*

This group safety publication is primarily intended to be used as a product safety standard for the products mentioned in the scope, but shall also be used by technical committees in the preparation of their publications for products similar to those mentioned in the scope of this standard, in accordance with the principles laid down in IEC Guide 104 and ISO/IEC Guide 51.

This part of IEC 61010 specifies safety requirements for measurement equipment for insulation resistance and test equipment for electric strength with an output voltage exceeding 50 V a.c. or 120 V d.c.

This document also applies to combined measuring equipment which has an insulation resistance measurement function or an electric strength test measurement function.

##### **1.1.2 Equipment excluded from scope**

*Addition:*

*Add the following new items to the list:*

- aa) IEC 61557-8 (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 – Part 8: Insulation monitoring devices for IT systems);
- bb) IEC 61557-9 (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 – Part 9: Equipment for insulation fault location in IT systems).

#### **2 Normative references**

This clause of Part 1 is applicable except as follows:

*Replacement:*

*Replace*

IEC 60364-4-44, *Low-voltage electrical installations – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances*

*with the following new reference:*

IEC 60364-4-44:2007, *Low-voltage electrical installations – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances*  
IEC 60364-4-44:2007/AMD1:2015

*Addition:*

*Add the following new normative reference:*

IEC 61010-2-032, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-032: Particular requirements for hand-held and hand-manipulated current sensors for electrical test and measurement.*

### **3 Terms and definitions**

This clause of Part 1 is applicable except as follows:

#### **3.5 Safety terms**

*Replacement:*

*Replace the definition of 3.5.4 with the following new definition:*

##### **3.5.4**

##### **MAINS**

low-voltage electricity supply system

*Addition:*

*Add the following new definition:*

##### **3.5.101**

##### **MEASUREMENT CATEGORY**

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

Note 1 to entry: MEASUREMENT CATEGORIES take into account OVERVOLTAGE CATEGORIES, short-circuit current levels, the location in the building installation where the test or measurement is to be made, and some forms of energy limitation or transient protection included in the building installation. See Annex AA for more information.

### **4 Tests**

This clause of Part 1 is applicable.

### **5 Marking and documentation**

This clause of Part 1 is applicable except as follows:

*Replace the title with the following new title:*