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Standards

Irish Standard
I.S. EN IEC 61010-2-034:2021

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

I.S. EN IEC 61010-2-034:2021

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN IEC 61010-2-034:2021 is the adopted Irish version of the European Document EN IEC 61010-2-034:2021, 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

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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN IEC 61010-2-034

April 2021

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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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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

EN IEC 61010-2-034:2021 (E)**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 (dop) 2022-03-15 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-03-15 document have to be withdrawn

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For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of EN IEC 61010-2-034:2021/A11:2021.

Endorsement notice

The text of the International Standard IEC 61010-2-034:2017 was approved by CENELEC as a European Standard without any modification.

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 |



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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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GROUP SAFETY PUBLICATION
PUBLICATION GROUPEE DE SÉCURITÉ

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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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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

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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 61010-2-034 has been prepared by IEC technical committee 66: Safety of measuring, control and laboratory equipment.

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

- reconfirmed,
- 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*

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