

# SLOVENSKI STANDARD

## SIST EN IEC 61010-2-010:2020

01-julij-2020

Nadomešča:

SIST EN 61010-2-010:2015

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**Varnostne zahteve za električno opremo za meritve, nadzor in laboratorijsko uporabo - 2-010. del: Posebne zahteve za laboratorijsko opremo za gretje materialov**

Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-010: Particular requirements for laboratory equipment for the heating of materials

**iTeh STANDARD PREVIEW**

Sicherheitsbestimmungen für elektrische Mess-, Steuer-, Regel- und Laborgeräte - Teil 2-010: Besondere Anforderungen an Laborgeräte für das Erhitzen von Stoffen

[SIST EN IEC 61010-2-010:2020](https://standards.iteh.ai/catalog/standards/sist/802ceaf3-f8cb-45a3-b7ae-52a053742384/iec-61010-2-010:2020)

Règles de sécurité pour appareils électriques de mesurage de régulation et de laboratoire - Partie 2-010: Exigences particulières pour appareils de laboratoire utilisés pour l'échauffement des matières

**Ta slovenski standard je istoveten z: EN IEC 61010-2-010:2020**

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**ICS:**

19.080	Električno in elektronsko preskušanje	Electrical and electronic testing
71.040.10	Kemijski laboratoriji. Laboratorijska oprema	Chemical laboratories. Laboratory equipment

**SIST EN IEC 61010-2-010:2020**

**en,fr,de**

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EUROPEAN STANDARD

**EN IEC 61010-2-010**

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2020

ICS 19.080; 71.040.20

Supersedes EN 61010-2-010:2014 and all of its  
amendments and corrigenda (if any)

English Version

**Safety requirements for electrical equipment for measurement,  
control and laboratory use - Part 2-010: Particular requirements  
for laboratory equipment for the heating of materials  
(IEC 61010-2-010:2019)**

Exigences de sécurité pour appareils électriques de  
mesurage, de régulation et de laboratoire - Partie 2-010:  
Exigences particulières pour appareils de laboratoire  
utilisés pour l'échauffement des matières  
(IEC 61010-2-010:2019)

Sicherheitsbestimmungen für elektrische Mess-, Steuer-,  
Regel- und Laborgeräte - Teil 2-010: Besondere  
Anforderungen für Laborgeräte für das Erhitzen von Stoffen  
(IEC 61010-2-010:2019)

This European Standard was approved by CENELEC on 2019-03-19. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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**

**EN IEC 61010-2-010:2020 (E)****European foreword**

This document (EN IEC 61010-2-010:2020) consists of the text of IEC 61010-2-010:2019 prepared by IEC/TC 66 "Safety of measuring, control and laboratory equipment".

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) 2020-11-22
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-05-22

This document supersedes EN 61010-2-010:2014 and all of its amendments and corrigenda (if any).

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see Informative Annex ZZ, which is an integral part of this document.

EN IEC 61010-2-010:2020 includes the following significant changes with respect to EN 61010-2-010:2014:

- (standards.iteh.ai)**  
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<https://standards.iteh.ai/catalog/standards/sist/802ceaf3-f8cb-45a3-b7ae-51a063891712/sist-en-iec-61010-2-010-2020>
- adaptation of changes introduced by Amendment 1 of 61010-1;
  - alignment with 61010-2-011 and 61010-2-012:
    - New matching Introduction clarifying which standard(s) to use;
    - new clause 5.4.102 instructions for flammable liquid heat transfer medium;
    - clause 9.5 on flammable liquids replaced with text from 2-012;
  - Equipment with high accessible current deleted;
  - requirements in 10.101 b) and c) clarified;
  - editorial corrections.

**Endorsement notice**

The text of the International Standard IEC 61010-2-010:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60335-2-6:2014 NOTE Harmonized as EN 60335-2-6:2015

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

**Annex ZA of EN 61010-1:2010/A1:2019 is applicable with the following additions:**

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 7010	2011	Graphical symbols — Safety colours and safety signs — Registered safety signs	EN ISO 7010	2012
+Amd1				
+Amd2				
+Amd3				
+Amd4				
+Amd5				
+Amd6				
+Amd7				
+Amd8				

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## Annex ZZ (informative)

### Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European Standard has been prepared under a Commission's standardization request relating to harmonized standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

**Table ZZ.1 – Correspondence between this European standard and Annex I of Directive  
2014/35/EU [2014 OJ L96]**

Safety objectives of Directive 2014/35/EU (Annex I)	Clause(s) / sub- clause(s) of this EN	Remarks / Notes
<b>1. General conditions</b>		
1 (a) the essential characteristics, the recognition and observance of which will ensure that electrical equipment will be used safely and in applications for which it was made, shall be marked on the electrical equipment, or, if this is not possible, on an accompanying document	5.1 5.2 5.4	
1 (b) the electrical equipment, together with its component parts, shall be made in such a way as to ensure that it can be safely and properly assembled and connected	6.6 6.10 6.11 Annex F	
1 (c) the electrical equipment shall be so designed and manufactured as to ensure that protection against the hazards set out in points 2 and 3 is assured, providing that the equipment is used in applications for which it was made and is adequately maintained	5.4 17 (for hazards not covered by clauses 6-16) See also the details in points 2 and 3	

Safety objectives of Directive 2014/35/EU (Annex I)	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
<b>2. Protection against hazards arising from the electrical equipment</b>		
Measures of a technical nature shall be laid down in accordance with point 1, in order to ensure that:		
2 (a) persons and domestic animals are adequately protected against the danger of physical injury or other harm which might be caused by direct or indirect contact	4, 6.1 – 6.11, 9.6, 11.6, Annex F, Annex K	
2 (b) temperatures, arcs or radiation which would cause a danger, are not produced	4.4.4.2, 9.5, 9.6, 10.1 – 10.5, 10.101, 12	
2 (c) persons, domestic animals and property are adequately protected against non-electrical dangers caused by the electrical equipment which are revealed by experience	4.4, 7.2- 7.7, 9, 12.3, 12.5, 12.6, 13.1, 13.2, 16.2	
2 (d) the insulation is suitable for foreseeable conditions	6.7, Annex K	
<b>3. Protection against hazards which may be caused by external influences on the electrical equipment</b>		
Technical measures shall be laid down in accordance with point 1, in order to ensure that the electrical equipment:		
3 (a) meets the expected mechanical requirements in such a way that persons, domestic animals and property are not endangered	7, 8	
3 (b) is resistant to non-mechanical influences in expected environmental conditions, in such a way that persons, domestic animals and property are not endangered	1.4, 6.7.2.2.1, 10.5, 10.101, 11.6, 14.3, 14.8, 15	
3 (c) does not endanger persons, domestic animals and property in foreseeable conditions of overload	4, 9, 14, 16.1	

**WARNING 1** — Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

**WARNING 2** — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

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IEC 61010-2-010

Edition 4.0 2019-02

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



GROUP SAFETY PUBLICATION  
PUBLICATION GROUPEE DE SÉCURITÉ

**Safety requirements for electrical equipment for measurement, control and laboratory use –  
Part 2-010: Particular requirements for laboratory equipment for the heating of materials**

<https://standards.iteh.ai/catalog/standards/sist/802ceaf3-f8cb-45a3-b7ae-30f625577e4e/iec-61010-2-010:2020>

**Exigences de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire –  
Partie 2-010: Exigences particulières pour appareils de laboratoire utilisés pour l'échauffement des matières**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT  
FOR MEASUREMENT, CONTROL AND LABORATORY USE –****Part 2-010: Particular requirements for laboratory  
equipment for the heating of materials**

## 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 61010-2-010 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.

This fourth edition cancels and replaces the third edition published in 2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) alignment with changes introduced by Amendment 1 of IEC 61010-1:2010;
- b) alignment with IEC 61010-2-011 and IEC 61010-2-012:

- new matching Introduction clarifying which standard(s) to use;
  - new 5.4.101 instructions for flammable liquid HEAT TRANSFER MEDIUM;
  - subclause 9.5 on flammable liquids replaced with text from IEC 61010-2-012;
- c) subclause 5.2.101 deleted;
- d) requirements in 10.101 b) and c) clarified.

The text of this International Standard is based on the following documents:

CDV	Report on voting
66/657/CDV	66/678/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

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

This Part 2-010 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) and its Amendment 1 (2016), hereinafter referred to as Part 1.

This Part 2-010 supplements or modifies the corresponding clauses in IEC 61010-1 so as to convert that publication into the IEC standard: *Particular requirements for laboratory equipment for the heating of materials*.

Where a particular subclause of Part 1 is not mentioned in this Part 2-010, that subclause applies as far as is reasonable. Where this Part 2-010 states "addition", "modification", "replacement", or "deletion" the relevant requirement, test specification or note in Part 1 should be adapted accordingly.

In this standard:

- 1) 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;
- 2) 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.