

SLOVENSKI STANDARD

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SIST EN 61010-1:2002

Varnostne zahteve za električno opremo za meritve, nadzor in laboratorijsko uporabo - 1. del: Splošne zahteve (IEC 61010-1:2010)

Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements (IEC 61010-1:2010)

Règles de sécurité pour appareils électriques de mesure, de régulation et de laboratoire - Partie 1: Exigences générales (IEC 61010-1:2010)

Règles de sécurité pour appareils électriques de mesure, de régulation et de laboratoire - Partie 1: Exigences générales (CEI 61010-1:2010)

Ta slovenski standard je istoveten z: EN 61010-1:2010

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

SIST EN 61010-1:2010

en,fr

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Full standard:
<https://standards.iteh.ai/catalog/standards/sist/6fc4d141-f64a-4507-92a8-1b61bd3569fb/sist-en-61010-1-2010>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61010-1

October 2010

ICS 19.080; 71.040.10

Supersedes EN 61010-1:2001 + corr. Jun.2002

English version

**Safety requirements for electrical equipment for measurement, control,
and laboratory use -
Part 1: General requirements
(IEC 61010-1:2010)**

Règles de sécurité pour appareils
électriques de mesure, de régulation et
de laboratoire -
Partie 1: Exigences générales
(CEI 61010-1:2010)

Sicherheitsbestimmungen für elektrische
Mess-, Steuer-, Regel- und Laborgeräte -
Teil 1: Allgemeine Anforderungen
(IEC 61010-1:2010)

This European Standard was approved by CENELEC on 2010-10-01. 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 Central Secretariat 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 Central Secretariat 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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 66/414/FDIS, future edition 3 of IEC 61010-1, 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 61010-1 on 2010-10-01.

This European Standard supersedes EN 61010-1:2001.

This edition includes the following significant changes from EN 61010-1:2001, as well as numerous other changes.

- The scope of the standard has been expanded to include all locations where these products may be used, so that both professional and non-professional versions of these products are within the scope.
- The requirements for testing and measuring circuits (in various subclauses and the entirety of Clause 16) have been removed and included in a particular standard EN 61010-2-030.
- Insulation requirements (6.7) have been completely rewritten.
- Specific requirements have been added for solid insulation and thin-film insulation.
- Subclause 6.7 now contains only the insulation requirements for MAINS CIRCUITS of OVERVOLTAGE CATEGORY II up to 300 V, and for secondary circuits.
- The insulation requirements for all other circuits have been moved to a new Annex K.
- Additional requirements for protection against mechanical HAZARDS (Clause 7) have been included.
- Surface temperature limits (Clause 10) have been modified to conform to the limits of EN 563.
- Radiation requirements (Clause 12) have been modified, and take into account a distinction between intended emission and unintended emission.
- Requirements for reasonably foreseeable misuse and ergonomic aspects have been added (Clause 16).
- A new clause (Clause 17) has been added to deal with HAZARDS and environments not covered by the standard, along with a new informative annex (Annex J) dealing with RISK assessment.
- A new informative annex (Annex E) addresses methods of reducing the POLLUTION DEGREE of a micro-environment.
- Requirements for the qualification of coatings for protection against POLLUTION have been added (Annex H).
- A new informative annex (Annex I) has been added to further explain how to determine the WORKING VOLTAGE of a MAINS CIRCUIT.

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

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61010-1:2010 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 60079 series | NOTE | Harmonized in EN 60079 series (partially modified). |
| IEC 60085 | NOTE | Harmonized as EN 60085. |
| IEC 60112:1979 | NOTE | Harmonized as HD 214 S2:1980 (not modified). |
| IEC 60127 series | NOTE | Harmonized in EN 60127 series (not modified). |
| IEC 60204 series | NOTE | Harmonized in EN 60204 series (partially modified). |
| IEC 60332-1 series | NOTE | Harmonized in EN 60332-1 series (not modified). |
| IEC 60332-2 series | NOTE | Harmonized in EN 60332-2 series (not modified). |
| IEC 60335 series | NOTE | Harmonized in EN 60335 series (partially modified). |
| IEC 60364 series | NOTE | Harmonized in EN 60364 series (partially modified). |
| IEC 60439 series | NOTE | Harmonized in EN 60439 series (partially modified). |
| IEC 60439-1:1999 | NOTE | Harmonized as EN 60439-1:1999 (not modified). |
| IEC 60445:1999 | NOTE | Harmonized as EN 60445:2000 (not modified). |
| IEC 60447:1993 | NOTE | Harmonized as EN 60447:1993 (not modified). |
| IEC 60601 series | NOTE | Harmonized in EN 60601 series (partially modified). |
| IEC 60664-1 | NOTE | Harmonized as EN 60664-1. |
| IEC 60695-10-2 | NOTE | Harmonized as EN 60695-10-2. |
| IEC 60950 series | NOTE | Harmonized in EN 60950 series (partially modified). |
| IEC 60950-1 | NOTE | Harmonized as EN 60950-1. |
| IEC 60990 | NOTE | Harmonized as EN 60990 |
| IEC 61010-2-030 | NOTE | Harmonized as EN 61010-2-030. |
| IEC 61032 | NOTE | Harmonized as EN 61032 |
| IEC 61243-3 | NOTE | Harmonized as EN 61243-3 |
| IEC 61326 series | NOTE | Harmonized in EN 61326 series (not modified). |
| IEC 61508 series | NOTE | Harmonized in EN 61508 series (not modified). |
| IEC 61558 series | NOTE | Harmonized in EN 61558 series (partially modified). |
| ISO 9241 series | NOTE | Harmonized in EN ISO 9241 series. |
| ISO 14121-1 | NOTE | Harmonized as EN ISO 14121-1. |
| ISO 14738 | NOTE | Harmonized as EN ISO 14738. |
| ISO 14971 | NOTE | Harmonized as EN ISO 14971. |

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|---|---------------|-------------|
| IEC 60027 | Series | Letter symbols to be used in electrical technology | - | - |
| IEC 60065 | Series | Audio, video and similar electronic apparatus - Safety requirements | -EN 60065 | Series |
| IEC 60068-2-14 | - | Environmental testing - Part 2-14: Tests - Test N: Change of temperature | EN 60068-2-14 | - |
| IEC 60068-2-75 | - | Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests | EN 60068-2-75 | - |
| IEC 60073 | - | Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators | EN 60073 | - |
| IEC 60227 | Series | Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V | - | - |
| IEC 60245 | Series | Rubber insulated cables - Rated voltages up to and including 450/750 V | - | - |
| IEC 60309 | Series | Plugs, socket-outlets and couplers for industrial purposes | EN 60309 | Series |
| IEC 60320 | Series | Appliance couplers for household and similar general purposes | EN 60320 | Series |
| IEC 60332-1-2 | - | Tests on electric and optical fibre cables under fire conditions - Part 1-2: Test for vertical flame propagation for a single insulated wire or cable - Procedure for 1 kW pre-mixed flame | EN 60332-1-2 | - |
| IEC 60332-2-2 | - | Tests on electric and optical fibre cables under fire conditions - Part 2-2: Test for vertical flame propagation for a single small insulated wire or cable - Procedure for diffusion flame | EN 60332-2-2 | - |
| IEC 60335-2-24 | - | Household and similar electrical appliances - Safety - Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and ice makers | EN 60335-2-24 | - |

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--|----------------|-------------|
| IEC 60335-2-89 | - | Household and similar electrical appliances - Safety - Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor | EN 60335-2-89 | - |
| IEC 60364-4-44 | - | Low voltage electrical installations - Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances | HD 60364-4-444 | - |
| IEC 60405 | - | Nuclear instrumentation - Constructional requirements and classification of radiometric gauges | EN 60405 | - |
| IEC 60417 | - | Graphical symbols for use on equipment | EN 60417 | - |
| IEC 60529 | - | Degrees of protection provided by enclosures - (IP Code) | - | - |
| IEC 60664-3 | - | Insulation coordination for equipment within low-voltage systems - Part 3: Use of coating, potting or moulding for protection against pollution | EN 60664-3 | - |
| IEC 60695-11-10 | - | Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods | EN 60695-11-10 | - |
| IEC 60799 | - | Electrical accessories - Cord sets and interconnection cord sets | EN 60799 | - |
| IEC 60825-1 | - | Safety of laser products - Part 1: Equipment classification and requirements | EN 60825-1 | - |
| IEC 60947-1 | - | Low-voltage switchgear and controlgear - Part 1: General rules | EN 60947-1 | - |
| IEC 60947-3 | - | Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units | EN 60947-3 | - |
| IEC 61010-031 | - | Safety requirements for electrical equipment for measurement, control and laboratory use - Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test | EN 61010-031 | - |
| IEC 61180 | Series | High-voltage test techniques for low-voltage equipment | EN 61180 | Series |
| IEC 61180-1 | - | High-voltage test techniques for low-voltage equipment - Part 1: Definitions, test and procedure requirements | EN 61180-1 | - |
| IEC 61180-2 | - | High-voltage test techniques for low-voltage equipment - Part 2: Test equipment | EN 61180-2 | - |
| IEC 61672-1 | - | Electroacoustics - Sound level meters - Part 1: Specifications | EN 61672-1 | - |
| IEC 61672-2 | - | Electroacoustics - Sound level meters - Part 2: Pattern evaluation tests | EN 61672-2 | - |

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|---|---------------|--------------------|
| IEC 62262 | - | Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code) | EN 62262 | - |
| IEC Guide 104 | - | The preparation of safety publications and the use of basic safety publications and group safety publications | - | - |
| ISO/IEC Guide 51 | - | Safety aspects - Guidelines for their inclusion in standards | - | - |
| ISO 306 | 1994 | Plastics - Thermoplastic materials - Determination of Vicat softening temperature (VST) | EN ISO 306 | 1996 ¹⁾ |
| ISO 361 | - | Basic ionizing radiation symbol | - | - |
| ISO 3746 | - | Acoustics - Determination of sound power levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane | EN ISO 3746 | - |
| ISO 7000 | - | Graphical symbols for use on equipment | - | - |
| ISO 9614-1 | - | Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 1: Measurement at discrete points | EN ISO 9614-1 | - |

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 Full standard:
<https://standards.iteh.ai/catalog/standards/sist/6fc4d141-1b61-4507-92a8-1b61bd3569fb/sist-en-61010-1-2010>

¹⁾ Superseded by EN ISO 306:2004.



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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 1: General requirements**

**Règles de sécurité pour appareils électriques de mesure, de régulation et de laboratoire –
Partie 1: Exigences générales**

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