

OHUTUSNÕUDED ELEKTRILISTELE MÕÕTMIS-,
JUHTIMIS- JA LABORATOORIUMISEADMETELE. OSA
2-201: ERINÕUDED JUHTIMISSEADMETELE

Safety requirements for electrical equipment for
measurement, control, and laboratory use - Part 2-201:
Particular requirements for control equipment

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61010-2-201:2018 sisaldab Euroopa standardi EN IEC 61010-2-201:2018 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61010-2-201:2018 consists of the English text of the European standard EN IEC 61010-2-201:2018.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

Safety requirements for electrical equipment for measurement,
control, and laboratory use - Part 2-201: Particular requirements
for control equipment
(IEC 61010-2-201:2017)

Exigences de sécurité pour appareils électriques de
mesurage, de régulation et de laboratoire - Partie 2-201:
Exigences particulières pour les équipements de
commande
(IEC 61010-2-201:2017)

Sicherheitsbestimmungen für elektrische Mess-, Steuer-,
Regel- und Laborgeräte - Teil 2-201: Besondere
Anforderungen für Steuer- und Regelgeräte
(IEC 61010-2-201:2017)

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

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European foreword

The text of document 65/652/FDIS, future edition 2 of IEC 61010-2-201, prepared by IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61010-2-201:2018.

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) 2018-12-22
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-06-22

This document supersedes EN 61010-2-201:2013 and EN 61010-2-201:2013/AC:2013.

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 Directives.

For the relationship with EU Directives see informative Annex ZZ, which is integral part of this document.

Endorsement notice

The text of the International Standard IEC 61010-2-201:2017 was approved by CENELEC as a European Standard without any modification.

The Bibliography of EN 61010-1:2010 applies, except as follows:

Addition:

IEC 60079 (series)	NOTE	Harmonized as EN 60079 (series).
IEC 60364 (series)	NOTE	Harmonized as HD 60364 (series).
IEC 60364-4-41	NOTE	Harmonized as HD 60364-4-41.
IEC 60664-5 ¹	NOTE	Harmonized as EN 60664-5 ¹ .
IEC 60715	NOTE	Harmonized as EN 60715.
IEC 60721-2-3	NOTE	Harmonized as EN 60721-2-3.
IEC 61131-2:2007	NOTE	Harmonized as EN 61131-2:2007 (not modified).
IEC 61131-6	NOTE	Harmonized as EN 61131-6.
IEC 61140	NOTE	Harmonized as EN 61140.
IEC 61326 (series)	NOTE	Harmonized as EN 61326 (series).
IEC 61508 (series)	NOTE	Harmonized as EN 61508 (series).
IEC 61643 (series)	NOTE	Harmonized as EN 61643 (series).
IEC 61800 (series)	NOTE	Harmonized as EN 61800 (series).
IEC 62133	NOTE	Harmonized as EN 62133.
IEC 62368 (series)	NOTE	Harmonized as EN 62368 (series).

¹ Withdrawn publication.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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

<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	EN 60027	series
IEC 60065 (mod)	-	Audio, video and similar electronic apparatus - Safety requirements	EN 60065	2014
-	-		+ A11	2017
IEC 60068-2-14	-	Environmental testing -- Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	2009
IEC 60068-2-75	-	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	2014
IEC 60073	-	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators	EN 60073	2002
IEC 60227	series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750	-	-
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	2004
-	-		+ A1	2015
-	-		+ A11	2016
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	2004

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	2010
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	2010
-	-		+ A1	2016
-	-		+ A2	2017
IEC 60364-4-44 (mod)	2007	Low-voltage electrical installations -- Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances	HD 60364-4-442 HD 60364-4-444	2012 2010
+ A1 (mod)	2015		HD 60364-4-443	2016
IEC 60384-14	-	Fixed capacitors for use in electronic equipment -- Part 14: Sectional specification - Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	EN 60384-14	2013
IEC 60417	1973 ²	Graphical symbols for use on equipment	-	-
IEC 60529	2013 ²	Degrees of protection provided by enclosures (IP Code)	-	-
IEC 60664-1	-	Insulation coordination for equipment within low-voltage systems -- Part 1: Principles, requirements and tests	EN 60664-1	2007
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	2017
IEC 60695-2-11	-	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products (GWEPT)	EN 60695-2-11	2014
IEC 60695-11-3	-	Fire hazard testing -- Part 11-3: Test flames - 500 W flames - Apparatus and confirmational test methods	EN 60695-11-3	2012
IEC 60695-11-10	-	Fire hazard testing -- Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10	2013
IEC 60799	2018 ²	Electrical accessories – Cord sets and interconnection cord sets	-	-
IEC 60825-1	-	Safety of laser products -- Part 1: Equipment classification and requirements	EN 60825-1	2014
-	-		EN 60825-1:2014/AC:2017-06	2017
IEC 60947-1	2007	Low-voltage switchgear and controlgear -- Part 1: General rules	EN 60947-1	2007

² Dated as no equivalent European Standard exists.

-	-		+ A1	2011
-	-		+ A2	2014
IEC 60947-2	-	Low voltage switchgear and controlgear - Part 2: Circuit-breakers	EN 60947-2	2017
IEC 60947-3	-	Low-voltage switchgear and controlgear -- Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units	EN 60947-3	2009
	-		+ A1	2012
	-		+ A2	2015
IEC 60947-5-1	-	Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices	EN 60947-5-1	2017
IEC 61010-1	2010	Safety requirements for electrical equipment for measurement, control and laboratory use -- Part 1: General requirements	EN 61010-1	2010
IEC 61010-2-030	-	Safety requirements for electrical equipment for measurement, control and laboratory use -- Part 2-030: Particular requirements for testing and measuring circuits	EN 61010-2-030	2010
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	2015
IEC 61051-2	1991 ²	Varistors for use in electronic equipment -- Part 2: Sectional specification for surge suppression varistors	-	-
IEC 61180	series	High-voltage test techniques for low-voltage equipment -- Part 1: Definitions, test and procedure requirements	EN 61180	series
IEC 61180-1	-	High-voltage test techniques for low-voltage equipment -- Part 1: Definitions, test and procedure requirements	EN 61180-1	1994
IEC 61180-2	-	High-voltage test techniques for low-voltage equipment -- Part 2: Test equipment	EN 61180-2	1994
IEC 61643-21	2000 ²	Low voltage surge protective devices -- Part 21: Surge protective devices connected to telecommunications and signalling networks - Performance requirements and testing methods	-	-
IEC 61643-311	-	Components for low-voltage surge protective devices -- Part 311: Performance requirements and test circuits and methods for gas discharge tubes (GDT)	EN 61643-311	2013

IEC 61643-321	-	Components for low-voltage surge protective devices -- Part 321: Specifications for Avalanche Breakdown Diode (ABD)	EN 61643-321	2002
IEC 61643-331	-	Components for low-voltage surge protective devices -- Part 331: Specification for metal oxide varistors (MOV)	EN 61643-331	2003
IEC 61672-1	-	Electroacoustics - Sound level meters -- Part 1: Specifications	EN 61672-1	2013
IEC 61672-2	-	Electroacoustics - Sound level meters -- Part 2: Pattern evaluation tests	EN 61672-2	2013
-	-		+ A1	2017
IEC 62262	-	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)	EN 62262	2002
IEC 62471 (mod)	-	Photobiological safety of lamps and lamp systems	EN 62471	2008
IEC/TR 62471-2	2009 ²	Photobiological safety of lamps and lamp systems - Part 2: Guidance on manufacturing requirements relating to non-laser optical radiation safety	-	-
IEC 62598	-	Nuclear instrumentation - Constructional requirements and classification of radiometric gauges	EN 62598	2013
IEC Guide 104	2010 ²	The preparation of safety publications and the use of basic safety publications and group safety publications	-	-
ISO/IEC Guide 51	2014	Safety aspects - Guidelines for their inclusion in standards	-	-
ISO 306	2013	Plastics - Thermoplastic materials - Determination of Vicat softening temperature (VST)	EN ISO 306	2013
ISO 361	1975 ²	Basic ionizing radiation symbol	-	-
ISO 3746	-	Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane	EN ISO 3746	2010
ISO 7000	2014 ²	Graphical symbols for use on equipment - Registered symbols	-	-
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	2009
ISO 13857	-	Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs	EN ISO 13857	2008

EN 378-2 2016² Refrigerating systems and heat pumps –
Safety and environmental requirements.
Design, construction, testing, marking and
documentation

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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 EN 61010-1:2018 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
1. General conditions		
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, 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
2. Protection against hazards arising from the electrical equipment 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 – 6.10, 9.6, 11.2, 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, 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 - 7.6, 9, 12.3 - 12.6, 13.2.2, 13.2.3, 16.2, Annex DD	
2 (d) the insulation is suitable for foreseeable conditions	6.7, Annex K	
3. Protection against hazards which may be caused by external influences on the electrical equipment 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, 11.6, 14.3, 14.8, 14.101, 14.102	
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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