ICS 17.020, 19.020, 25.040.40 SLOVENSKÁ TECHNICKÁ NORMA Február 2019

STN	**Bezpečnostné požiadavky na elektrické zariadenia na meranie, riadenie a laboratórne použitie Časť 2-201: Osobitné požiadavky na riadiace zariadenia**	**STN EN IEC 61010-2-201** 18 7050

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

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/19

Obsahuje: EN IEC 61010-2-201:2018, IEC 61010-2-201:2017

Oznámením tejto normy sa od 22.06.2023 ruší
STN EN 61010-2-201 (18 7050) z decembra 2013

127766

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2019
Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61010-2-201

June 2018

ICS 17.020; 19.020; 25.040.40

Supersedes EN 61010-2-201:2013

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)

This European Standard was approved by CENELEC on 2017-02-20. 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, 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

© 2018 CENELEC All rights of exploitation in any form and by any means reserved worldwide for CENELEC Members.

Ref. No. EN IEC 61010-2-201:2018 E

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

Publication	Year	Title	EN/HD	Year
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	2016[2]	Refrigerating systems and heat pumps – Safety and environmental requirements. Design, construction, testing, marking and documentation

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.

IEC 61010-2-201

Edition 2.0 2017-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

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

Exigences de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire –
Partie 2-201: Exigences particulières pour les équipements de commande

IEC 61010-2-201:2017-03(en-fr)

THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2017 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC
The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications
The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue
The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,…). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org
The world's leading online dictionary of electronic and electrical terms containing 20 000 terms and definitions in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary
65 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc
If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue
Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub
La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,…). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished
Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org
Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient 20 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary
65 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc
Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: csc@iec.ch.

IEC 61010-2-201

Edition 2.0 2017-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

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

Exigences de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire – Partie 2-201: Exigences particulières pour les équipements de commande

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 17.020; 19.020; 25.040.40 ISBN 978-2-8322-4009-0

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

® Registered trademark of the International Electrotechnical Commission
Marque déposée de la Commission Electrotechnique Internationale

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

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

Part 2-201: Particular requirements for control equipment

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.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61010-2-201 has been prepared by IEC technical committee 65: Industrial-process measurement, control and automation.

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

FDIS	Report on voting
65/652/FDIS	65/657/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 second edition cancels and replaces the first edition published in 2013. This edition constitutes a technical revision.

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

a) clarify, change, delete definitions which were causing confusion,
b) change and clarify the temperature testing methodology,
c) change documentation methodologies allowed,
d) change some TERMINAL markings,
e) add clarity to some of the informative annexes,
f) add Annex E with changes,
g) add Annexes AA – FF.

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

This Part 2-201 is intended to be used in conjunction with IEC 61010-1. It was established on the basis of the third edition (2010) of that standard. Consideration may be given to future editions of, or amendments to, IEC 61010-1.

This Part 2-201 supplements or modifies the corresponding clauses in IEC 61010-1 so as to convert that publication into the IEC standard: *Particular requirements for control equipment*.

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, the following print types are used:

– requirements and definitions: in roman type;
– NOTES: in smaller roman type;
– *conformity and tests: in italic type*;
– terms used throughout this standard which have been defined in Clause 3: SMALL ROMAN CAPITALS.

A list of all parts in 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.

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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

IEC 61010-2-2xx documents are a series of standards on safety of industrial-process measurement, control and automation equipment.

This part specifies the complete safety related requirements and related tests for control equipment (e.g. programmable controller (PLC), the components of distributed control systems (DCS), I/O devices, human machine interface (HMI)).

Safety terms of general use are defined in IEC 61010-1. More specific terms are defined in each part of IEC 61010.

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

Part 2-201: Particular requirements for control equipment

1 Scope and object

This clause of Part 1 is applicable, except as follows.

1.1.1 Equipment included in scope

Replacement:

- This part of IEC 61010 specifies safety requirements and related verification tests for any product performing the function of control equipment and/or their associated peripherals. In addition, these products have as their intended use the command and control of machines, automated manufacturing and industrial processes, e.g. discrete and continuous control. Some equipment examples are: programmable logic controller (PLC);
- programmable automation controller (PAC);
- distributed control systems (DCS);
- remote I/O;
- industrial PC (computers) and panel PC;
- programming and debugging tools (PADTs);
- displays and human-machine interfaces (HMI);
- positioners.

Components of the above named equipment and in the scope of this standard are:

- (auxiliary) stand-alone power supplies;
- peripherals such as digital and analogue I/O, remote-I/O;
- industrial network equipment.

Control equipment and their associated peripherals are intended to be used in an industrial environment and may be provided as OPEN or ENCLOSED EQUIPMENT.

NOTE 1 Control equipment intended also for use in other environments or for other purposes (example: for use in building installations to control light or other electrical installations, or for use on cars, trains or ships) can have additional conformity requirements defined by the safety standard(s) for these applications. These requirements can involve as example: insulation, spacings and power restrictions.

NOTE 2 Computing devices and similar equipment within the scope of IEC 60950 (planned to be replaced by IEC 62368) and conforming to its requirements are considered to be suitable for use with control equipment within the scope of this standard. However, some of the requirements of IEC 60950 for resistance to moisture and liquids are less stringent than those in IEC 61010-1:2010, 5.4.4 second paragraph.

Control equipment covered in this standard is intended for use in OVERVOLTAGE CATEGORY II, III and IV (IEC 60664-1) in low-voltage installations, where the RATED equipment supply voltage does not exceed AC. 1 000 V r.m.s. (50/60 Hz), or DC 1 000 V.

The requirements of ISO/IEC Guide 51 and IEC Guide 104, as they relate to this part of IEC 61010, are incorporated herein.

1.1.2 Equipment excluded from scope

Replacement:

This standard does not deal with aspects of the overall automated system, e.g. a complete assembly line. Control equipment (e.g. DCS and PLC), their application program and their associated peripherals are considered as components (components in this context are items which perform no useful function by themselves) of an overall automated system.

Since control equipment (e.g. DCS and PLC) are component devices, safety considerations for the overall automated system including installation and application are beyond the scope of this standard. Refer to IEC 60364 series of standards or applicable national/local regulations for electrical installation and guidelines.

1.2.1 Aspects included in scope

Replacement:

The purpose of the requirements of this standard is to ensure that all HAZARDs to the OPERATOR, SERVICE PERSONNEL and the surrounding area are reduced to a tolerable level.

NOTE 1 By using the terms "OPERATOR" and "SERVICE PERSONNEL" this standard considers the perception of HAZARDS depending on training and skills. Annex AA gives a general approach in this regard.

Requirements for protection against particular types of HAZARD are given in Clauses 6 to 17, as follows:

a) electric shock or burn (see Clause 6);

b) mechanical HAZARDS (see Clauses 7 and 8);

c) spread of fire from the control equipment (see Clause 9);

d) excessive temperature (see Clause 10);

e) effects of fluids and fluid pressure (see Clause 11);

f) effects of radiation, including lasers sources, and sonic and ultrasonic pressure (see Clause 12);

g) liberated gases, explosion and implosion (see Clause 13);

h) arising from REASONABLY FORESEEABLE MISUSE and ergonomic factors are specified in (see Clause 16);

i) RISK assessment for HAZARDS or environments not fully covered above (see Clause 17).

NOTE 2 Attention is drawn to the existence of additional requirements regarding the health and safety of labour forces.

1.2.2 Aspects excluded from scope

Replacement:

This standard does not cover:

a) reliability, functionality, performance, or other properties of the control equipment not related to safety;

b) mechanical or climatic requirements for operation, transport or storage;

c) EMC requirements (see e.g. IEC 61326 or IEC 61131-2);

d) protective measures for explosive atmospheres (see e.g. IEC 60079 series);

e) functional safety (see e.g. IEC 61508, IEC 61131-6).

2 Normative references

This clause of Part 1 is applicable, except as follows.

Addition:

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*

IEC 60664-1, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

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)*

IEC 60695-11-3, *Fire hazard testing – Part 11-3: Test flames – 500 W flames – Apparatus and confirmational test methods*

IEC 60947-5-1, *Low-voltage switchgear and controlgear – Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices*

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

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*

IEC 61051-2, *Varistors for use in electronic equipment – Part 2: Sectional specification for surge suppression varistors*

IEC 61643-21, *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 for gas discharge tubes (GDT)*

IEC 61643-321, *Components for low-voltage surge protective devices – Part 321: Specifications for avalanche breakdown diode (ABD)*

IEC 61643-331, *Components for low-voltage surge protective devices – Part 331: Specification for metal oxide varistors (MOV)*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN