



NSAI
Standards

Irish Standard
I.S. EN IEC 61010-2-202:2021

Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-202: Particular requirements for electrically operated valve actuators

I.S. EN IEC 61010-2-202:2021

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN IEC 61010-2-202:2021 is the adopted Irish version of the European Document EN IEC 61010-2-202:2021, Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-202: Particular requirements for electrically operated valve actuators

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 61010-2-202

January 2021

ICS 13.110; 17.020; 19.020

Supersedes EN 61010-2-202:2017 and all of its
amendments and corrigenda (if any)

English Version

**Safety requirements for electrical equipment for measurement,
control and laboratory use - Part 2-202: Particular requirements
for electrically operated valve actuators
(IEC 61010-2-202:2020)**

Règles de sécurité pour appareils électriques de mesurage,
de régulation et de laboratoire - Partie 2-202: Exigences
particulières pour les actionneurs à vanne à commande
électrique
(IEC 61010-2-202:2020)

Sicherheitsbestimmungen für elektrische Mess-, Steuer-,
Regel- und Laborgeräte - Teil 2-202: Besondere
Anforderungen für elektrisch betriebene Ventile und
Stellantriebe
(IEC 61010-2-202:2020)

This European Standard was approved by CENELEC on 2020-12-10. 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.

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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 61010-2-202:2021 (E)**European foreword**

The text of document 65/835/FDIS, future edition 2 of IEC 61010-2-202, 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 61010-2-202:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2021–09–10 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2023–12–10 document have to be withdrawn

This document supersedes EN 61010-2-202:2017 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.

Endorsement notice

The text of the International Standard IEC 61010-2-202:2020 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 60730 (series)	NOTE	Harmonized as EN IEC 60730 (series)
IEC 60730-2-8:2018	NOTE	Harmonized as EN IEC 60730-2-8:2020 (not modified)
IEC 60730-2-14:2017	NOTE	Harmonized as EN IEC 60730-2-14:2019 (not modified)

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.

The Annex ZA of EN 61010-1:2010/A1:2019 applies.

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
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 5.3 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	5.4 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 ensured, providing that the equipment is used in applications for which it was made and is adequately maintained	5.4 Annex F 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 – 6.11, 9.6, 11.6, 14.4 Annex D, Annex F, Annex K	
2 (b) temperatures, arcs or radiation which would cause a danger, are not produced	4, 6.3.1.b) 2), 6.3.2 b) 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, 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	4, 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	4, 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, 4, 6.7.2.2.1, 10.5, 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 61010-2-202

Edition 2.0 2020-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Safety requirements for electrical equipment for measurement, control
and laboratory use –**

Part 2-202: Particular requirements for electrically operated valve actuators

**Exigences de sécurité pour appareils électriques de mesurage, de regulation
et de laboratoire –**

**Partie 2-202: Exigences particulières pour les actionneurs à vanne à commande
électrique**



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IEC 61010-2-202

Edition 2.0 2020-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Safety requirements for electrical equipment for measurement, control
and laboratory use –
Part 2-202: Particular requirements for electrically operated valve actuators**

**Exigences de sécurité pour appareils électriques de mesurage, de regulation
et de laboratoire –
Partie 2-202: Exigences particulières pour les actionneurs à vanne à commande
électrique**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 2-202: Particular requirements for electrically operated valve actuators

FOREWORD

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International Standard IEC 61020-2-202 has been prepared by committee TC 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 2016. This edition constitutes a technical revision.

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

- a) the scope has been clarified in relationship with other IEC standards,
- b) additional requirement for identification has been included,
- c) additional requirement for user documentations has been included,
- d) accuracy of high voltage di-electric tester has been specified,

e) conformity statement for mechanical tests has been clarified.

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

FDIS	Report on voting
65/835/FDIS	65/844/RVD

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.

This Part 2-202 is to be used in conjunction with third edition of IEC 61010-1:2010, including its Amendment 1:2016.

This Part 2-202 supplements or modifies the corresponding clauses in IEC 61010-1 so as to convert that publication into the IEC standard: *Particular requirements for electrically operated valve actuators*.

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.

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.

In this standard:

1) the following print types are used:

- requirements: in roman type;
- NOTES: in smaller 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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

This IEC 61010-2-202 document constitutes Part 2-202 of a planned series of standards on industrial-process measurement, control and automation equipment.

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

This part incorporates the safety related requirements of electrically operated valve ACTUATORS and SOLENOIDS.

This document does not cover functional safety aspects of electrically operated ACTUATORS and SOLENOIDS.

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

Part 2-202: Particular requirements for electrically operated valve actuators

1 Scope and object

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

1.1 Scope

1.1.1 Equipment included in scope

Replacement of the text by the following paragraphs:

This part of IEC 61010 specifies the safety requirements for electric ACTUATORS and SOLENOIDS, as applied to valves, intended to be installed in an industrial process or discrete control environment.

This part of IEC 61010 specifies:

- particular safety requirements for general purpose electrically operated valve ACTUATORS and SOLENOIDS,
- related verification tests.

1.1.2 Equipment excluded from scope

Addition at the end of the list:

This standard excludes:

- aa) electric ACTUATORS and SOLENOIDS for use in domestic or commercial applications;

NOTE 1 These are covered by other IEC or ISO standards, such as IEC 60730, etc.

- bb) electric ACTUATORS and SOLENOIDS performing a safety function;

NOTE 2 These are covered by other IEC or ISO standards, such as IEC 61508, etc.

- cc) positioners.

NOTE 3 A positioner is defined as a "physical unit delivering an additional, often mechanical, feedback to a mechanical final controlling element that improves its velocity and precision" in IEC 60050-351:2013, 351-56-17.

1.2 Object

1.2.2 Aspects excluded from scope

Addition at the end of the list:

- aa) mechanical parts/aspects of valves.

1.2.101 Aspects included in other applicable standards

Where electric ACTUATORS and SOLENOIDS are required to comply with requirements of other IEC or ISO standards, aspects fully covered in these standards can replace requirements as given in IEC 61010-1.

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