

# **SLOVENSKI STANDARD**

## **oSIST prEN IEC 61010-2-202:2020**

**01-april-2020**

---

**Varnostne zahteve za električno opremo za meritve, nadzor in laboratorijsko uporabo - 2-202. del: Posebne zahteve za električni pogon ventilov**

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

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

Règles de sécurité pour appareils électriques de mesure, de régulation et de laboratoire - Partie 2-202: Exigences particulières pour les actionneurs à vanne à commande électrique

<https://standards.iteh.ai/catalog/standards/sist/0fb498f9-6bcc-4ba5-8497-90eaab25dc15/osist-pren-iec-61010-2-202-2020>

**Ta slovenski standard je istoveten z: prEN IEC 61010-2-202:2020**

---

**ICS:**

19.080	Električno in elektronsko preskušanje	Electrical and electronic testing
23.060.01	Ventili na splošno	Valves in general
71.040.10	Kemijski laboratoriji. Laboratorijska oprema	Chemical laboratories. Laboratory equipment

**oSIST prEN IEC 61010-2-202:2020**

**en,fr,de**

## **iTeh STANDARD PREVIEW** **(standards.iteh.ai)**

oSIST prEN IEC 61010-2-202:2020

<https://standards.iteh.ai/catalog/standards/sist/0fb498f9-6bcc-4ba5-8497-90eaab25dc15/osist-pren-iec-61010-2-202-2020>



65/784/CDV

## COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:

**IEC 61010-2-202 ED2**

DATE OF CIRCULATION:

**2020-01-31**

CLOSING DATE FOR VOTING:

**2020-04-24**

SUPERSEDES DOCUMENTS:

**65/760/CD,65/778A/CC**

IEC TC 65 : INDUSTRIAL-PROCESS MEASUREMENT, CONTROL AND AUTOMATION	
SECRETARIAT: France	SECRETARY: Mr Rudy BELLIARDI
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 66	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input checked="" type="checkbox"/> SAFETY	
<input checked="" type="checkbox"/> SUBMITTED FOR CENELEC PARALLEL VOTING <input type="checkbox"/> NOT SUBMITTED FOR CENELEC PARALLEL VOTING <b>Attention IEC-CENELEC parallel voting</b> The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting. The CENELEC members are invited to vote through the CENELEC online voting system.	

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

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

PROPOSED STABILITY DATE: 2026

NOTE FROM TC/SC OFFICERS:

## **iTeh STANDARD PREVIEW** **(standards.iteh.ai)**

[oSIST prEN IEC 61010-2-202:2020](https://standards.iteh.ai/catalog/standards/sist/0fb498f9-6bcc-4ba5-8497-90eaab25dc15/osist-pren-iec-61010-2-202-2020)

<https://standards.iteh.ai/catalog/standards/sist/0fb498f9-6bcc-4ba5-8497-90eaab25dc15/osist-pren-iec-61010-2-202-2020>

## CONTENTS

1	CONTENTS .....	2
2	FOREWORD .....	3
3	INTRODUCTION .....	5
4	1 Scope and object .....	6
5	2 Normative references .....	7
6	3 Terms and definitions .....	7
7	4 Tests .....	7
8	5 Marking and documentation .....	8
9	6 Protection against electric shock .....	9
10	7 Protection against mechanical HAZARDS .....	9
11	8 Resistance to mechanical stresses .....	10
12	9 Protection against the spread of fire .....	10
13	10 Equipment temperature limits and resistance to heat .....	10
14	11 Protection against HAZARDS from fluids and solid foreign objects .....	10
15	12 Protection against radiation, including laser sources, and against sonic and ultrasonic pressure .....	11
16	13 Protection against liberated gases and substances, explosion and implosion .....	11
17	14 Components and subassemblies .....	11
18	15 Protection by interlocks .....	11
19	16 HAZARDS resulting from application .....	11
20	17 RISK assessment .....	11
21	Annexes .....	12
22	Bibliography .....	13

25

26

## 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

- 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 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 standard is based on the following documents:

CD	Report on voting
IEC 61010-2-201 Ed2.0	65/xxx/RVC

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 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.

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

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 publication will remain unchanged until the stability date indicated on the IEC web site 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.

117

## INTRODUCTION

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

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

122 This part incorporates the safety related requirements of electrically operated valve actuators.

123 This standard does not cover functional safety aspects of electrically operated actuators and  
124 solenoids.

125

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[oSIST prEN IEC 61010-2-202:2020](https://standards.iteh.ai/catalog/standards/sist/0fb498f9-6bcc-4ba5-8497-90eaab25dc15/osist-pren-iec-61010-2-202-2020)

<https://standards.iteh.ai/catalog/standards/sist/0fb498f9-6bcc-4ba5-8497-90eaab25dc15/osist-pren-iec-61010-2-202-2020>



# 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:*

*Replace 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, <https://standards.iteh.ai/catalog/standards/sist/0fb498f9-6bcc-4ba5-8497-90eaab25dc15/osist-pren-iec-61010-2-202-2020>
- related verification tests.

##### 1.1.2 Equipment excluded from scope

*Addition at the end of the list:*

This standard excludes:

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

NOTE – these are covered by other IEC or ISO standards, such as IEC 60730, etc.

- electric ACTUATORS and SOLENOIDS performing a safety function;

NOTE – these are covered by other IEC or ISO standards, such as IEC 61508, etc.

- positioners.

NOTE 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

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

##### 1.2.2 Aspects excluded from scope

*Addition at the end of the list:*

- aa) mechanical parts/aspects of valves.