



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 mesurage, de régulation et de laboratoire - Partie 2-202: Exigences particulières pour les actionneurs à vanne à commande électrique

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**



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IEC TC 65 : INDUSTRIAL-PROCESS MEASUREMENT, CONTROL AND AUTOMATION	
SECRETARIAT: France	SECRETARY: Mr Rudy BELLARDI
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
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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

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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

80 d) accuracy of high voltage di-electric tester has been specified.

81 e) conformity statement for mechanical tests has been clarified

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

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

83
84 Full information on the voting for the approval of this standard can be found in the report on
85 voting indicated in the above table.

86 This Part 2-202 is to be used in conjunction with third edition of IEC 61010-1 (2010), including
87 its amendment 1 (2016).

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

91 Where a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies
92 as far as is reasonable. Where this part states "addition", "modification", "replacement", or
93 "deletion", the relevant requirement, test specification or note in Part 1 should be adapted
94 accordingly.

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

96 A list of all parts in the IEC 61010 series, published under the general title *Safety*
97 *requirements for electrical equipment for measurement, control and laboratory use*, can be
98 found on the IEC website.

99 In this standard:

100 1) the following print types are used:

- 101 – requirements: in roman type;
- 102 – NOTES: in smaller roman type;
- 103 – conformity and test: in italic type;
- 104 – terms used throughout this standard which have been defined in clause 3: SMALL
105 ROMAN CAPITALS;

106 2) subclauses, figures, tables and notes which are additional to those in part 1 are numbered
107 starting from 101. Additional annexes are lettered starting from AA.

108 The committee has decided that the contents of this publication will remain unchanged until
109 the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data
110 related to the specific publication. At this date, the publication will be

- 111 • reconfirmed,
- 112 • withdrawn,
- 113 • replaced by a revised edition, or
- 114 • amended.

115

116

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)

[SIST EN IEC 61010-2-202:2021](https://standards.iteh.ai/catalog/standards/sist/0fb498f9-6bcc-4ba5-8497-90eaab25dc15/sist-en-iec-61010-2-202-2021)

<https://standards.iteh.ai/catalog/standards/sist/0fb498f9-6bcc-4ba5-8497-90eaab25dc15/sist-en-iec-61010-2-202-2021>

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

128
129 **Part 2-202: Particular requirements**
130 **for electrically operated valve actuators**
131
132
133

134 **1 Scope and object**

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

136 **1.1 Scope**

137 **1.1.1 Equipment included in scope**

138 *Replacement:*

139 *Replace the text by the following paragraphs:*

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

143 This part of IEC 61010 specifies:

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

147 **1.1.2 Equipment excluded from scope**

148 *Addition at the end of the list:*

149 This standard excludes:

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

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

- 152 – electric ACTUATORS and SOLENOIDS performing a safety function;

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

- 154 – positioners.

155 NOTE A positioner is defined as a "physical unit delivering an additional, often mechanical, feedback to a
156 mechanical final controlling element that improves its velocity and precision" in IEC 60050-351:2013, 351-56-
157 17.

158 **1.2 Object**

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

160 **1.2.2 Aspects excluded from scope**

161 *Addition at the end of the list:*

- 162 aa) mechanical parts/aspects of valves.

163 **1.2.101 Aspects included in other applicable documents**

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

167 Where aspects covered in IEC 61010-1 are not fully covered in these IEC or ISO documents,
168 tests of IEC 61010-1 shall be conducted as far to ensure that no hazard can occur in
169 NORMAL or in SINGLE FAULT CONDITION.

170 Note – IEC 61010-1, Figure 15 of clause 14.1 give a general overview of dealing with components within the scope
171 of other IEC or ISO standards. A similar approach can be used for equipment and sub-assemblies. Example -
172 Clauses 8 and 9.1 to 9.5 can generally be considered sufficiently covered where IEC 60079 has been applied.

173 **2 Normative references**

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

175 **3 Terms and definitions**

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

177 Additional terms and definitions:

178 **3.101.1**

179 **ACTUATOR**

180 device that controls a valve, in response to an external signal

181 **3.101.2**

182 **SERVICE PERSONNEL**

183 person, with the appropriate technical training, experience and awareness of HAZARDS and of
184 measures to minimize danger to themselves, other persons or to the control equipment, in an
185 industrial environment, changing or repairing the control equipment

186 Note 1 to entry: SERVICE PERSONNEL are persons having the appropriate technical training and experiences
187 necessary to be aware of HAZARDS – e.g, electrical HAZARDS, temperature HAZARDS, fire HAZARDS – to which they
188 are exposed in performing a task and of measures to minimize danger to themselves or to other persons or to the
189 control equipment, in an industrial environment

190 Note 2 to entry: SERVICE PERSONNEL change or repair the control equipment e.g. hardware configuration or
191 installing software updates provided by the manufacturer.

192 **3.101.3**

193 **SOLENOID**

194 cylindrical coil, the length of which is much greater than its transverse dimensions and which
195 is used to produce a magnetic field

196 **3.101.4**

197 **SWITCH**

198 contact device actuated by the valve mechanism

199 **4 Tests**

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

201 **4.4.2.1 General**

202 *Replace the first sentence with the following sentence:*

203 Fault conditions shall include those specified in 4.4.2.2 to 4.4.2.14 and in 4.4.2.101.