



SLOVENSKI STANDARD
oSIST prEN IEC 61347-2-2:2023
01-september-2023

Stikalne naprave za sijalke - Varnost - 2-2. del: Posebne zahteve za elektronske pretvornike za žarnice

Controlgear for electric light sources - Safety - Part 2-2: Particular requirements for electronic step-down convertors for filament lamps

Geräte für Lampen - Teil 2-2: Besondere Anforderungen an gleich- oder wechselstromversorgte elektronische Konverter für Glühlampen

Appareillages de lampes - Partie 2-2: Exigences particulières pour les convertisseurs abaisseurs électroniques alimentés en courant continu ou alternatif pour lampes à incandescence

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ICS:

29.130.01	Stikalne in krmilne naprave na splošno	Switchgear and controlgear in general
29.140.99	Drugi standardi v zvezi z žarnicami	Other standards related to lamps

oSIST prEN IEC 61347-2-2:2023 **en**



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TITLE:

Controlgear for electric light sources - Safety - Part 2-2: Particular requirements for electronic step-down convertors for filament lamps

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONTROLGEAR FOR ELECTRIC LIGHT SOURCES – SAFETY

Part 2-2: Particular requirements for electronic step-down convertors for filament lamps

FOREWORD

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International Standard IEC 61347-2-2 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lighting.

This third edition cancels and replaces the second edition published in 2011. This edition constitutes a technical revision.

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

- 77 a) changes in IEC 61347-1 (see ED 4 of IEC 61347-1)
- 78 – alignment with respect to edition 4 of IEC 61347-1:
- 79 – introduction of dated references as appropriate
- 80 b) deletion of the clauses/subclauses which are either no longer relevant or now covered in
81 part 1
- 82 c) scope extension to 1 500 V for DC
- 83 d) scope clarification
- 84 e) deletion of unused definitions
- 85 f) revision of information and marking requirements

86 This document is intended to be used in conjunction with IEC 61347-1. Where the requirements
87 of any of the clauses of IEC 61347-1 are referred to in this document by the phrase "IEC 61347-
88 1, Clause n applies", this phrase is interpreted as meaning that all requirements of the clause
89 in question of IEC 61347-1 apply, except any which are clearly inapplicable to the specific type
90 of controlgear covered by this document.

91 A list of all parts in the IEC 61347, published under the general title *Controlgear for electric light*
92 *sources* can be found on the IEC website.

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

FDIS	Report on voting
34C/____/FDIS	34C/____/RVD

94 Full information on the voting for the approval of this standard can be found in the report on
95 voting indicated in the above table.
96

97 The language used for the development of this International Standard is English.

98 This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in
99 accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available
100 at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are
101 described in greater detail at www.iec.ch/publications.

102 The committee has decided that the contents of this document will remain unchanged until the
103 stability date indicated on the IEC website under webstore.iec.ch in the data related to the
104 specific document. At this date, the document will be

- 105 • reconfirmed,
- 106 • withdrawn,
- 107 • replaced by a revised edition, or
- 108 • amended.

109

110

INTRODUCTION

111 This document specifies safety requirements for filament lamp controlgear. However, only those
112 requirements specific to filament lamp controlgear are contained in this document itself. All
113 general requirements, which apply to controlgear for electric light sources in general, regardless
114 of the specific type of light source in question, are contained in Part 1 of IEC 61347.
115 Corresponding general requirements apply to filament lamp controlgear by clause-wise
116 reference in this document to any of the clauses of IEC 61347-1 thereby specifying the extent
117 to which such a clause is applicable and the order in which the tests are to be performed.

118 In the same way, further documents exist specifying individual safety requirements for different
119 type of controlgear related to different type of electric light sources which, together with this
120 document, constitute the IEC 61347-2 series.

121 Any such parts 2 are the leading documents for the safety assessment of the corresponding
122 type of controlgear; it is not IEC 61347-1.

123 Also, all parts 2 of the IEC 61347 series are self-contained and therefore typically do not include
124 references to each other.

iTeh STANDARD PREVIEW
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[oSIST prEN IEC 61347-2-2:2023](https://standards.iteh.ai/catalog/standards/sist/ab132e33-44d3-4229-8d1d-1e9dd696dafa/osist-pren-iec-61347-2-2-2023)

<https://standards.iteh.ai/catalog/standards/sist/ab132e33-44d3-4229-8d1d-1e9dd696dafa/osist-pren-iec-61347-2-2-2023>

125 CONTROLGEAR FOR ELECTRIC LIGHT SOURCES – SAFETY –

126 Part 2-2: Particular requirements for 127 electronic step-down convertors for filament lamps 128 129

130 1 Scope

131 This document specifies safety requirements for electronic step-down convertors for use on DC
132 supplies of up to 1 500 V or AC supplies of up to 1 000 V, at 50 Hz or 60 Hz and with rated
133 output voltage ≤ 50 V (RMS) at a frequency deviating from the supply frequency, or 120 V ripple
134 free DC between conductors and between any conductor and earth, associated with tungsten-
135 halogen lamps as specified in IEC 60357 and other filament lamps.

136 NOTE 1 The limits of 50 V (AC) and 120 V (DC) are in accordance with the ELV (extra low voltage) band of
137 IEC 61140:2016.

138 NOTE 2 Performance requirements are covered by IEC 61047.

139 NOTE 3 Such controlgear can also be used for electric sources producing optical radiation with the same technology
140 used for purposes different than illumination and producing radiation other than visible spectrum.

141 2 Normative references

142 The following documents are referred to in the text in such a way that some or all of their content
143 constitutes requirements of this document. For dated references, only the edition cited applies.
144 For undated references, the latest edition of the referenced document (including any
145 amendments) applies.

146 IEC 61347-1:202X¹, *Controlgear for electric light sources – Safety – Part 1: General*
147 *requirements*

148 3 Terms and definitions

149 For the purpose of this document, the terms and definitions given in IEC 61347-1:202X¹ apply
150 together with the following.

151 ISO and IEC maintain terminological databases for use in standardization at the following
152 addresses:

- 153 • IEC Electropedia: available at <https://www.electropedia.org/>
- 154 • ISO Online browsing platform: available at <https://www.iso.org/obp>

155 3.1 156 electronic step-down convertor 157 convertor

158 unit inserted between the supply and one or more tungsten-halogen or other filament lamps
159 which serves to supply the lamp(s) with its (their) rated voltage, generally at high frequency

160 The unit may consist of one or more separate components and may include means for dimming,
161 correcting the power factor and suppressing radio interference.

162 Note 1 to entry: Whenever the term controlgear is used in IEC 61347-1, this includes convertors, being a specific
163 type of controlgear.

¹ Edition 4 (under preparation).

164 4 General requirements

165 IEC 61347-1:202X¹, Clause 4 applies, together with the following:

166 Plug-in convertors are considered independent controlgear.

167 5 General notes on tests

168 IEC 61347-1:202X¹, Clause 5 applies, together with the following:

- 169 – Tests are carried out at the most onerous length of the output wire or cable being the
170 minimum or the maximum length according to the declaration of the manufacturer. If no
171 minimum or maximum length is declared, cable lengths of 20 cm or 200 cm shall be chosen.
172 It is possible to use two twisted wires or cable H03VV-. The cross section of the conductors
173 shall be chosen according to the rated power and the current density shall not exceed
174 5 A/mm² in normal use.

175 For schedule of more onerous requirements introduced in this document with respect to the
176 previous editions, refer to Annex A.

177 6 Information and marking

178 6.1 Information and marking items

179 6.1.1 Mandatory marking

180 Convertors, other than integral convertors, shall be marked with the following:

- 181 – items a1), a2), b1), c2), c3), c4), e1), e2), f1), f3), g2), g3), j2), j4), j5), k1) and l1) of
182 IEC 61347-1:202X¹, 6.1;
183 – for non-isolated convertors: Item n1) of IEC 61347-1:202X¹, 6.1;
184 – rated output voltage;
185 – symbols according to item o) of IEC 61347-1: 202X¹, 6.1, shall be used, if the corresponding
186 elements are marked.

187 6.1.2 Information to be provided

188 The following information, if applicable, shall be given either on the convertor, or be made
189 available in the manufacturer's catalogue or similar:

- 190 – items b2), b3), c1), c5), c6), c7), c8), c9), e3), f2), g1), h), i), j1), j3), k2), l2), m) and n3) of
191 IEC 61347-1:202X¹, 6.1;
192 – a declaration of the allowed length of the output wire or cable, if it is not between 20 cm and
193 200 cm.

194 6.2 Durability and legibility of marking

195 IEC 61347-1:202X¹, 6.2 applies.

196 6.3 Built-in and integral controlgear

197 IEC 61347-1: 202X¹, 6.3 applies.

198 7 Terminals

199 IEC 61347-1:202X¹, Clause 7 applies.

200 **8 Earthing**

201 IEC 61347-1:202X¹, Clause 8 applies.

202 **9 Protection against accidental contact with hazardous live parts**

203 IEC 61347-1:202X¹, Clause 9 applies.

204 **10 Insulation resistance and electric strength**

205 IEC 61347-1:202X¹, Clause 10 applies.

206 **11 Fault conditions**

207 IEC 61347-1:202X¹, Clause 11 applies, together with the following compliance condition in
208 addition to 11.4.2:

209 The output voltage of the convertor, shall not exceed the ELV limit or 115 % of the rated output
210 voltage whichever is the lower value.

211 **12 Construction**

212 IEC 61347-1:202X¹, Clause 12 applies.

213 **13 Creepage distances, clearances and distances through insulation**

214 IEC 61347-1:202X¹, Clause 13 applies.

215 **14 Screws, current-carrying parts and connections**

216 IEC 61347-1:202X¹, Clause 14 applies.

217 **15 Resistance to heat, fire and tracking**

218 IEC 61347-1:202X¹, Clause 15 applies.

219 **16 Thermal requirements for controlgear**

220 **16.1 General**

221 In addition to IEC 61347-1:202X¹, 16.1, the following applies:

222 The output voltage of the convertor shall not exceed the ELV limit or 115 % of the rated output
223 voltage whichever is the lower value.

224 **16.2 Normal operation**

225 In addition to IEC 61347-1:202X¹, 16.2, the following applies:

226 Filament lamps should be used as loads.