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**Stikalne naprave za sijalke - Varnost - 2-13. del: Posebne zahteve za elektronske stikalne naprave za LED-svetlobne vire**

Controlgear for electric light sources - Safety - Part 2-13: Particular requirements for electronic controlgear for LED light sources

Geräte für Lampen - Teil 2-13: Besondere Anforderungen an gleich- oder wechselstromversorgte elektronische Betriebsgeräte für LED-Module

Appareillage de lampes - Partie 2-13: Exigences particulières pour les appareillages électroniques alimentés en courant continu ou en courant alternatif pour modules de LED

**Ta slovenski standard je istoveten z: prEN IEC 61347-2-13:2023**

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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 61347-2-13:2023 en**





# 34C/1576/CDV

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SECRETARIAT: United Kingdom	SECRETARY: Mr Petar Luzajic
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> A 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
<p><b>Attention IEC-CENELEC parallel voting</b></p> <p>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.</p> <p><a href="https://standards.iteh.ai/catalog/standards/sist/b1263b8e-39d6-4d24-84f4-en-iec-61347-2-13-2023">https://standards.iteh.ai/catalog/standards/sist/b1263b8e-39d6-4d24-84f4-en-iec-61347-2-13-2023</a></p> <p>The CENELEC members are invited to vote through the CENELEC online voting system.</p>	

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- any relevant "in some countries" clauses to be included should this proposal proceed. Recipients are reminded that the enquiry stage is the final stage for submitting "in some countries" clauses. See AC/22/2007.

TITLE:

**Controlgear for electric light sources - Safety - Part 2-13: Particular requirements for electronic controlgear for LED light sources**

PROPOSED STABILITY DATE: 2027

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## 46 INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**CONTROLGEAR FOR ELECTRIC LIGHT SOURCES – SAFETY**

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**Part 2-13: Particular requirements for  
electronic controlgear for LED light sources**

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**FOREWORD**

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IEC 61347-2-13 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lighting.

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This third edition cancels and replaces the second edition published in 2014 and Amendment 1 (2016). This edition constitutes a technical revision.

91

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

- 94 a) changes in IEC 61347-1 (see ED 4 of IEC 61347-1)  
95 b) alignment with respect to edition 4 of IEC 61347-1:  
96 – introduction of dated references as appropriate  
97 – deletion of the clauses/subclauses which are either no longer relevant or now covered  
98 in part 1  
99 c) update of normative references, introducing dated references where appropriate  
100 d) scope extension to 1 500 V for DC  
101 e) scope clarification  
102 f) deletion of unused definitions  
103 g) revision of information and marking requirements  
104 h) new Marking requirement “LED controlgear”  
105 i) new requirements for LED controlgear with constant light output function or programmable  
106 current (additions to clauses 3, 6, 13 and 19)  
107 j) additional touch current requirements under fault conditions (clause 12)  
108 k) addition of requirements for the determination of the output working voltage (new Clause 18)

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

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

116 The text of this International Standard is based on the following documents: 24-84f4-

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

117  
118 Full information on the voting for the approval of this standard can be found in the report on  
119 voting indicated in the above table.

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

121 This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in  
122 accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available  
123 at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are  
124 described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

125 The committee has decided that the contents of this document will remain unchanged until the  
126 stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the  
127 specific document. At this date, the document will be

- 128 • reconfirmed,
- 129 • withdrawn,
- 130 • replaced by a revised edition, or
- 131 • amended.

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## INTRODUCTION

134 This document specifies safety requirements for LED controlgear. However, only those  
135 requirements specific to LED controlgear are contained in this document itself. All general  
136 requirements, which apply to controlgear for electric light sources in general, regardless of the  
137 specific type of light source in question, are contained in Part 1 of IEC 61347. Corresponding  
138 general requirements apply to LED controlgear by clause-wise reference in this document to  
139 any of the clauses of IEC 61347-1 thereby specifying the extent to which such a clause is  
140 applicable and the order in which the tests are to be performed.

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

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

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

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[oSIST prEN IEC 61347-2-13:2023](https://standards.iteh.ai/catalog/standards/sist/b1263b8e-39d6-4d24-84f4-1921661cb739/osist-pren-iec-61347-2-13-2023)

<https://standards.iteh.ai/catalog/standards/sist/b1263b8e-39d6-4d24-84f4-1921661cb739/osist-pren-iec-61347-2-13-2023>

## CONTROLGEAR FOR ELECTRIC LIGHT SOURCES – SAFETY –

### Part 2-13: Particular requirements for electronic controlgear for LED light sources

#### 1 Scope

This document specifies safety requirements for electronic controlgear for LED light sources for use on DC supplies up to 1 500 V or on AC supplies up to 1 000 V at 50 Hz or 60 Hz.

This document is applicable for controlgear with an output voltage (RMS) not higher than 1 000 V.

NOTE 1 Control units, such as devices connected between power supply unit and LED light sources that control or adjust the operation of LED light sources, are covered by this document.

NOTE 2 Performance requirements are covered by IEC 62384.

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

#### 2 Normative references

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.

IEC 60598-1:2020, *Luminaires - Part 1: General requirements and tests*

IEC 61347-1:202X<sup>1</sup>, *Controlgear for electric light sources – Safety – Part 1: General requirements*

IEC 61547, *Equipment for general lighting purposes – EMC immunity requirements*

IEC 62384:2020, *DC or AC supplied electronic controlgear for LED modules – Performance requirements*

#### 3 Terms and definitions

For the purpose of this document, the terms and definitions given in IEC 61347-1:202X<sup>1</sup>, apply, together with the following:

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

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

<sup>1</sup> Expected publication date of edition 4 (under preparation).



187 **3.1**  
188 **LED light source**  
189 electric light source based on LED technology

190 Note 1 to entry: An LED light source can take the form of an LED module or an LED lamp.

191 [SOURCE: IEC 60050-845:2020, 845-27-053]

192 **3.2**  
193 **emergency lighting**  
194 lighting provided for use when the power supply to the normal lighting fails

195 [SOURCE: IEC 60050-845:2020, 845-29-010, modified – Note 1 to entry has been deleted]

196 **3.3**  
197 **rated emergency supply voltage**  
198 rated supply voltage or rated supply voltage range of the controlgear for operation in emergency  
199 mode

200 **3.4**  
201 **emergency output factor**  
202  $EOF_x$   
203 ratio of the electrical output parameter when the controlgear is operated in emergency mode to  
204 the electrical output parameter when the controlgear is operated with the normal lighting  
205 conditions

206 Note 1 to entry: The electrical output parameter can be current ( $EOF_I$ ), voltage ( $EOF_U$ ) or power ( $EOF_P$ ) at the  
207 output(s) of the controlgear (it could be constant current, constant voltage or constant power).

208 Note 2 to entry: The emergency output factor is the minimum of the values measured at the appropriate time after  
209 failure of the normal supply and continuously.

210 **3.5**  
211 **rated emergency supply current**  
212 rated supply current of the controlgear when operating in emergency mode

213 **3.6**  
214 **constant light output function**  
215 function where the current passing through an LED light source is gradually increased through  
216 life to compensate for the gradual light output degradation of LED light sources that can be  
217 expected to occur

218 Note 1 to entry: Constant light output functions can be controlled by a programmed software algorithm that predicts  
219 the expected rate of natural light output degradation or by feedback from a connected sensor such as a photocell.

220 **3.7**  
221 **output winding**  
222 winding connected to the controlgear terminals at the secondary side of the transformer that is  
223 used in the controlgear to separate the controlgear output from the supply (e.g. mains)

224 **3.8**  
225 **test capacitor**  
226 Capacitor used to simulate the capacitive coupling between the output terminal and accessible  
227 conductive parts of the luminaire

## 228 **4 General requirements**

229 IEC 61347-1:202X<sup>1</sup>, Clause 4, applies.

230 For centrally supplied controlgear for emergency lighting additionally Annex A applies.

231 NOTE 1 This includes AC, AC/DC and DC supplied types.

232 EXAMPLE Centrally supplied systems are central battery systems and generator-based systems.

233 NOTE 2 Electronic controlgear used in self-contained emergency lighting luminaires is in the scope of IEC 61347-2-7.

## 234 5 General notes on tests

235 IEC 61347-1:202X<sup>1</sup>, Clause 5 applies.

236 For information on requalification of products compliant with the previous edition of this  
237 document, i.e. IEC 61347-2-13:2014+AMD1:2016, refer to Annex B.

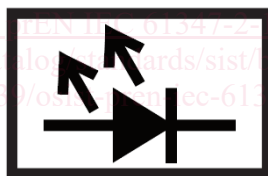
## 238 6 Information and marking

### 239 6.1 Marking and information

#### 240 6.1.1 Mandatory markings

241 Controlgear, other than integral controlgear, shall be marked with the following:

- 242 – items a1), a2), b1), c2), c3), c4), d1), e1), e2), e3), f1), f3), g2), g3), j2), j4), j5), k1), l1), n1)  
243 and o) of IEC 61347-1:202X<sup>1</sup>, 6.1;
- 244 – for constant voltage types: rated output power and rated output voltage
- 245 – for constant current types: rated output power and rated output current
- 246 – rated emergency supply voltage
- 247 – an indication that the controlgear is suitable for operation with LED light sources by using  
248 the symbol as in Figure 1 or by an equivalent sentence (e.g. "For LED" or "for LED light  
249 sources")



250

251

[SOURCE: IEC 60417-6451(2022-03)]

252

**Figure 1 – Symbol for electronic controlgear for LED modules**

#### 253 6.1.2 Information to be provided

254 The following information, if applicable, shall be given either on the controlgear, or be made  
255 available in the manufacturer's catalogue or similar:

- 256 – items b2), b3), c1), c5), c6), c7), c8), c9), d2), d3), e4), f2), g1), h), i), j1), j3), k2), l2), m)  
257 and n3) of IEC 61347-1: 202X<sup>1</sup>, 6.1;
- 258 – symbols according to item o) of IEC 61347-1: 202X<sup>1</sup>, 6.1, shall be used, if the corresponding  
259 elements are marked
- 260 – if the controlgear incorporates a constant light output function,  
261 – this shall be indicated
- 262 – details of (the range of) the rated output voltage or (the range of) the rated output current  
263 that may occur with respect to this function

## 264 6.2 Durability and legibility of marking

265 IEC 61347-1: 202X<sup>1</sup>, 6.2 applies.