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INTERNATIONAL STANDARD

NORME INTERNATIONALE

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AMENDMENT 1
AMENDEMENT 1

Lamp controlgear –
Part 1: General and safety requirements

Appareillages de lampes –
Partie 1: Exigences générales et exigences de sécurité

IEC 61347-1:2015-02/AMD1:2017-09(en-fr)

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Lamp controlgear – Part 1: General and safety requirements

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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FOREWORD

This amendment has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lamps and related equipment.

The text of this amendment is based on the following documents:

FDIS	Report on voting
34C/1351/FDIS	34C/1358/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website 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- withdrawn,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.

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1 Scope

Replace the first paragraph with the following new text:

This part of IEC 61347 specifies general and safety requirements for lamp controlgear for use on d.c. supplies up to 1 000 V and/or a.c. supplies up to 1 000 V at 50 Hz or 60 Hz.

3 Terms and definitions

Add, at the end of Clause 3, the following new definition:

3.49
surge protective device
SPD
device that is intended to limit transient overvoltages and divert surge currents and which contains at least one nonlinear component

Note 1 to entry: This note applies to the French language only.

7.1 Items to be marked

Replace, in item f), the third paragraph with the following new text:

Controlgear with an integrated SPD requiring connection to earth shall be marked with the protective earth symbol according to IEC 60417-5019: 2006-08.

Replace existing item s) with the following new item s):

s) SELV circuits in lamp controlgear shall be identified by the following symbol which shall be readable with normal or corrected vision:

SELV

Replace under item u), the second bulleted list item with the following new list item:

- any output terminal and earth (if applicable – particularly, SELV-circuits are excluded)

Replace Table 2 with the following new Table 2:

Table 2 – Working voltage and U_{out} steps

Working voltage	< 50 V a.c. or ≤ 120 V d.c.	< 500 V a.c. or d.c.	≥ 500 V a.c. or d.c.
U_{out} in steps of	1 V	10 V	50 V

Add, after item w), the following new item x):

x) Indication: “Integrated SPD” for CLASS I application if an overvoltage protective device is integrated in the controlgear.

Replace the existing Clause 8 with the following new Clause 8:

8 Terminals

8.1 Integral terminals

Integral terminals shall comply with the following clauses of IEC 60598-1:

- Clause 14 for screw terminals;
- Clause 15 for screwless terminals.

Compliance is checked by inspection and the relevant tests.

8.2 Terminals other than integral terminals

Terminals, other than integral terminals, shall comply with the requirements of the relevant IEC standards, if any.

Terminals which comply with the requirements of the relevant IEC standard and marked with individual ratings shall suit the conditions which may occur in use.

Aspects of use not covered by the respective standard shall require them to satisfy the additional relevant requirements of this standard.

Terminals complying with the requirements of their own standard and used in accordance with their intended use, shall only meet the requirements of this standard where there are no requirements in the "terminals" standard.

Compliance is checked by inspection and the relevant tests.

NOTE Example terminal standards are IEC 60947-7-4, IEC 60838-2-2 and IEC 60998 (all parts).

10.4

Replace the fifth paragraph with the following new text:

Accessible conductive parts separated by double or reinforced insulation, for example live parts and the body or primary and secondary circuits, may be bridged (conductive bridged) by resistors or Y2 capacitors provided they consist of at least two separate components of the same rated value (resistance or capacitance) in series and each component is rated for the total working voltage and whose impedance is unlikely to change significantly during the individual lifetime of the controlgear. In addition, accessible conductive parts separated by double or reinforced insulation from live parts, as above, may be bridged by a single Y1 capacitor.

11 Moisture resistance and insulation

Add, at the end of Clause 11, the following new text:

The over voltage protective device (SPD) is disconnected if it complies with IEC 61643-11 when conducting the insulation and electric strength test.

14.5

Add, at the end of Subclause 14.5, the following new text:

Short circuit across or, if applicable, interruption of components for SPDs (e.g. MOV, VDR or spare gaps components). Only one component at a time shall be short circuited (or interrupted).

14.7

Replace the first paragraph with the following new text:

Connect the controlgear under test to a high-power a.c. and in turn to a d.c. (if claimed so) supply capable of passing a fault current of 160 A $^{+10}_{0}$ % r.m.s., as shown in Figure 2.

16.1 General

Add between the eighth paragraph and NOTE 1 the following new text:

The insulation properties of printed circuit board over a metallic substrate (metal core printed circuit board – MCPCB) are only to be considered as a single level of insulation (basic or supplementary).

16.2.1 General

Replace the second paragraph with the following new text:

For the dimensioning of the creepage distances the r.m.s. values of the working voltage (Table 7) shall be taken into account. In case of insulation between circuits and accessible parts, the requirements in 15.4 shall be taken into consideration to find the working voltage.

Replace Figure 4 with the following new Figure 4:

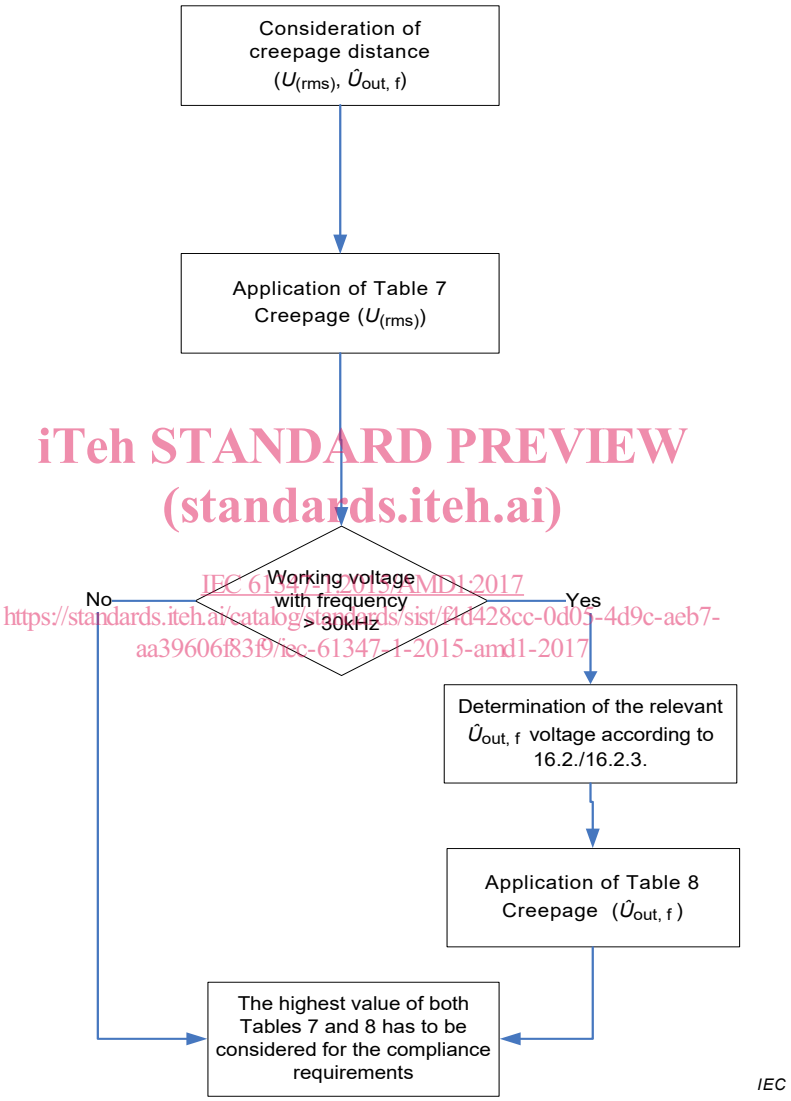

Figure 4 – Application of Table 7 and Table 8

Replace, in the last paragraph, "Table 1" *with* "Table 3"

16.3.1 General

Replace Figure 6 with the following new Figure 6:

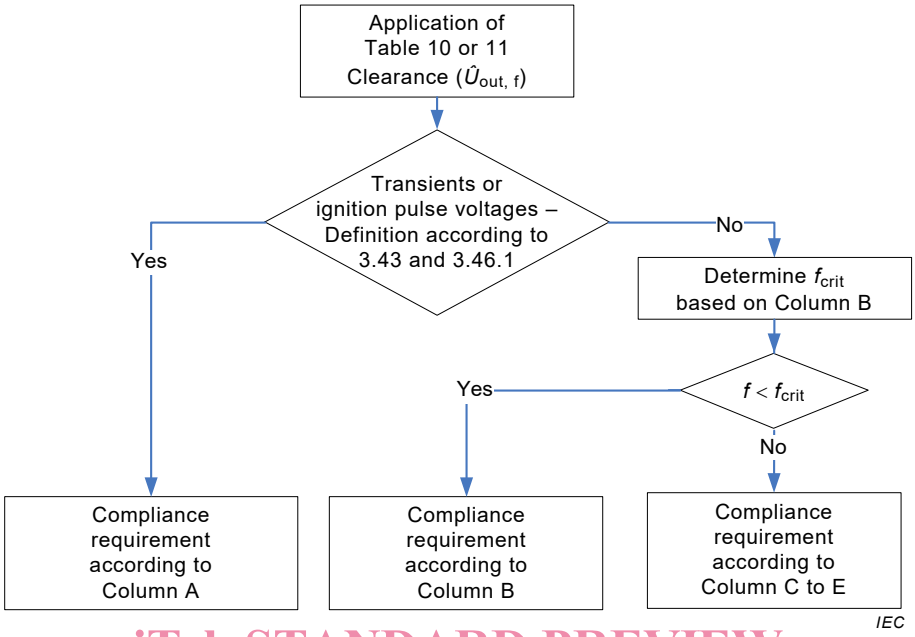

Figure 6 – Application of Table 10 and Table 11

16.3.2 Clearances for working voltages

Replace Table 9 with the following new Table 9:

Table 9 – Minimum clearances for working voltages

Distances [a] mm	RMS working voltage not exceeding V				
	50	**150**	**300**	**600**	**1 000**
Clearances with mains supply transients according to impulse withstand category II [a]					
– Basic or supplementary insulation	0,2	0,5	1,5	3,0	5,5
– Reinforced insulation	0,2	1,5	3,0	5,5	8
Clearances without mains supply transients [a b]					
– Basic or supplementary insulation	0,2	0,2	0,2	0,2	0,7
– Reinforced insulation	0,2	0,2	0,2	0,6	1,6
Interpolation between columns is not allowed if transients according to the impulse withstand category II have to be considered for the main supply. NOTE In Japan and North America, these values are not applicable. Japan and North America require larger values.					
[a] For clearances, the equivalent d.c. voltage is equal to the peak of the a.c. voltage. [b] The values in this row are applicable to circuits where it is ensured that they are free from transient (e.g. battery circuits).					

L.4 Marking

Table L.1

Replace in the last row the existing symbol and text with the following new symbol:

SELV

L.6 Heating

Replace Table L.2 with the following new Table L.2:

Table L.2 – Values of temperatures in normal use

Parts	Temperature °C
Case of capacitor	
– if t_c is marked	t_c [a]
– if t_c is not marked	
Windings (with bobbins and laminations have contact), if the winding insulation is	
– of class A material [b]	100
– of class E material	115
– of class B material	120
– of class F material	140
– of class H material	165
– of other material [c]	-

[a] The maximum temperature of capacitors according to IEC 61048 shall be lower than 50 °C if t_c is not marked; in the case t_c is marked the maximum temperature is t_c; the maximum temperature of the capacitors according to IEC 60384-14, bridging the separation transformer, shall be lower than the maximum value of their climatic category. For other components, see Table 12.1 of IEC 60598-1:2014.

[b] The material classification is in accordance with IEC 60085 or IEC 60317-0-1 or equivalent standard.

[c] If material other than those specified in IEC 60085:2007 under Class A, E, B, F and H are used, they shall withstand the tests of 14.3 in IEC 61558-1:2005.

O.13 Fault conditions

Replace, in the second paragraph, "Clause O.12" *with* "Clause 12" *and* "Table 1" *with* "Table 3"

T.2 Clearances for working voltages of lamp controlgear not protected against pollution by coating or potting materials

Replace Table T.1 with the following new Table T.1:

Table T.1 – Minimum clearances – Impulse withstand category III

Distances [a] mm	RMS working voltage not exceeding V				
	50	**150**	**300**	**600**	**1 000**
Clearance with mains supply transients according to impulse withstand category III [a]					
– Basic or supplementary insulation	0,2	1,5	3,0	5,5	8,0
– Reinforced insulation	0,5	3,0	5,5	8,0	14
Clearance without mains supply transients [a] [b]					
– Basic or supplementary insulation	0,2	0,2	0,2	0,2	0,7
– Reinforced insulation	0,2	0,2	0,2	0,6	1,6
Linear Interpolation between columns is not allowed if transients according to the impulse withstand category III have to be considered for the main supply.					
NOTE In Japan and North America, the values given in the above table are not applicable. Japan and North America require larger values than the values given in the table.					
[a] For clearances, the equivalent d.c. voltage is equal to the peak of the a.c. voltage.					
[b] The values in this row are applicable to circuits where it is ensured that they are free from transient (e.g. battery circuits).					

Delete the last paragraph after Table T.1.

Bibliography

Add the following new references:

IEC 60838-2-2, *Miscellaneous lampholders – Part 2-2: Particular requirements – Connectors for LED-modules*

IEC 60947-7-4, *Low-voltage switchgear and controlgear – Part 7-4: Ancillary equipment – PCB terminal blocks for copper conductors*

IEC 60998 (all parts), *Connecting devices for low-voltage circuits for household and similar purposes*

IEC 61048, *Auxiliaries for lamps – Capacitors for use in tubular fluorescent and other discharge lamp circuits – General and safety requirements*

IEC 61643-11, *Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and test methods*