SLOVENSKI STANDARD
SIST EN 61347-2-3:2002/A1:2005

01-junij-2005

Krmilne stikalne naprave za sijalke – 2-3. del: Posebne zahteve za izmenično napajane elektronske predstikalne naprave za fluorescenčne sijalke (IEC 61347-2-3:2000/A1:2004)

Lamp controlgear -- Part 2-3: Particular requirements for a.c. supplied electronic ballasts for fluorescent lamps

Geräte für Lampen -- Teil 2-3: Besondere Anforderungen an wechselstromversorgte elektronische Vorschaltgeräte für Leuchtstofflampen

Appareillages de lampes -- Partie 2-3: Prescriptions particulières pour les ballasts électroniques alimentés en courant alternatif pour lampes fluorescentes

Ta slovenski standard je istoveten z: **EN 61347-2-3:2001/A1:2004**

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

SIST EN 61347-2-3:2002/A1:2005 **en**

EUROPEAN STANDARD **EN 61347-2-3/A1**

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English version

Lamp controlgear
Part 2-3: Particular requirements for a.c. supplied electronic ballasts for fluorescent lamps
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(IEC 61347-2-3:2000/A1:2004)

This amendment A1 modifies the European Standard EN 61347-2-3:2001; it was approved by CENELEC on 2004-09-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC
European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 34C/636/FDIS, future amendment 1 to IEC 61347-2-3:2000, prepared by SC 34C, Auxiliaries for lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 61347-2-3:2001 on 2004-09-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-06-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2007-09-01

Endorsement notice

The text of amendment 1:2004 to the International Standard IEC 61347-2-3:2000 was approved by CENELEC as an amendment to the European Standard without any modification.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
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61347-2-3

2000

AMENDEMENT 1
AMENDMENT 1
2004-06

Amendement 1

Appareillages de lampes –

Partie 2-3:
Prescriptions particulières pour les ballasts électroniques alimentés en courant alternatif pour lampes fluorescentes

Amendment 1

Lamp controlgear –

Part 2-3:
Particular requirements for a.c. supplied electronic ballasts for fluorescent lamps

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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/636/FDIS	34C/644/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 consolidated contents of this publication will remain unchanged until the maintenance result 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.

CONTENTS

Add the title of the new Clause 17 as follows:

17 Behaviour of the ballast at the end of lamp life

Renumber existing Clauses 17 to 21 as Clauses 18 to 22.

Add the titles of new Figures 3, 4 and 5 as follows:

Figure 3 – Asymmetric pulse test circuit

Figure 4 – Asymmetric power detection circuit

Figure 5 – Open filament test circuits

Add the titles of new Tables K.1 and K.2 as follows:

Table K.1 – Material specification

Table K.2 – Transformer specification

Page 15

5 General notes on tests

Amend, in the first dash, reference to Clause 21 to read Clause 22.

Page 19

16 Abnormal conditions

Amend, on page 21, beneath the equation, the explanation of I_n as follows:

I_n is the rated lamp current of the lamp.

Add the following new Clause 17:

17 Behaviour of the ballast at end of lamp life

17.1 End of lamp life effects

At the end of lamp life the ballast shall behave in such a way that no overheating of lamp cap(s) occurs at any voltage between 90% and 110% of the rated supply voltage.

For the test simulating end of lamp life effects, three tests are described:

a) asymmetric pulse test (described in 17.2);
b) asymmetric power dissipation test (described in 17.3);
c) open filament test (described in 17.4).

Any of the three tests may be used to qualify electronic ballasts. The ballast manufacturer shall determine which of the three tests will be used to test a given ballast based on the design of that particular ballast circuit. The chosen test method shall be indicated in the ballast manufacturer's literature.

NOTE Checking ballasts against their capability to cope with the partial rectifying effect is recommended by IEC 61195, Annex E, and IEC 61199, Annex H.

Lamps used in the ballast test circuits shall be new lamps seasoned for 100 h.

17.2 Asymmetric pulse test

The ballast shall have adequate protection to prevent lamp cap overheating at the end of the lamp life cycle. Compliance is checked by the following test.

The following values of maximum cathode power P_{max} apply:

– for 13 mm (T4) lamps, P_{max} = 5,0 W;
– for 16 mm (T5) lamps, P_{max} = 7,5 W.

(Other diameters are under study.)

Test procedure

Refer to the schematic diagram in Figure 3.

If only one connection per electrode is available at the ballast and/or lamp, T1 shall be removed and then the ballast shall be connected to J2 and the lamp to J4. The ballast manufacturer should be asked which of the output terminals has to be connected to J4 and, in case two output terminals per electrode exist, whether they can be short-circuited or be bridged with a resistor.

(1) Close switches S1 and S4, and set switch S2 to position A.

(2) Turn on the ballast under test and allow lamp(s) to warm up for 5 min.

(3) Close S3, open S1, and wait for 15 s. Open S4 and wait for 15 s.

(4) Measure the sum of the average power dissipated in the power resistors, R1A to R1C and R2A and R2B, and the Zener diodes, D5 to D8.

NOTE The power should be measured as the average value of the product of the voltage between terminals J5 and J6 times the current flowing from J8 to J7. The voltage should be measured with a differential voltage probe, and the current should be measured with a dc current probe. A digital oscilloscope can be used for the multiplication and averaging functions. If the ballast operates in a cycling mode, the averaging interval should be set to cover an integer number of cycles. (Each cycle is typically greater than 1 s.) The sampling rate and number of samples included in the calculations should be sufficient to avoid aliasing errors.

The power dissipation shall be below P_{max}.

If the power dissipation is greater than P_{max}, the ballast has failed and the test is discontinued.

(5) Close S1 and S4.

(6) Set S2 to position B.

(7) Repeat steps (2), (3) and (4).

The ballast shall pass both position "A" and position "B" tests.

(8) For multi-lamp ballasts, repeat steps (1) to (7) for each lamp position.

A multi-lamp ballast shall pass the tests for each lamp position.

(9) For ballasts that operate multiple lamp types (e.g 26W, 32W, 42W), each lamp type specified shall be tested. Repeat steps (1) to (8) for each lamp type.

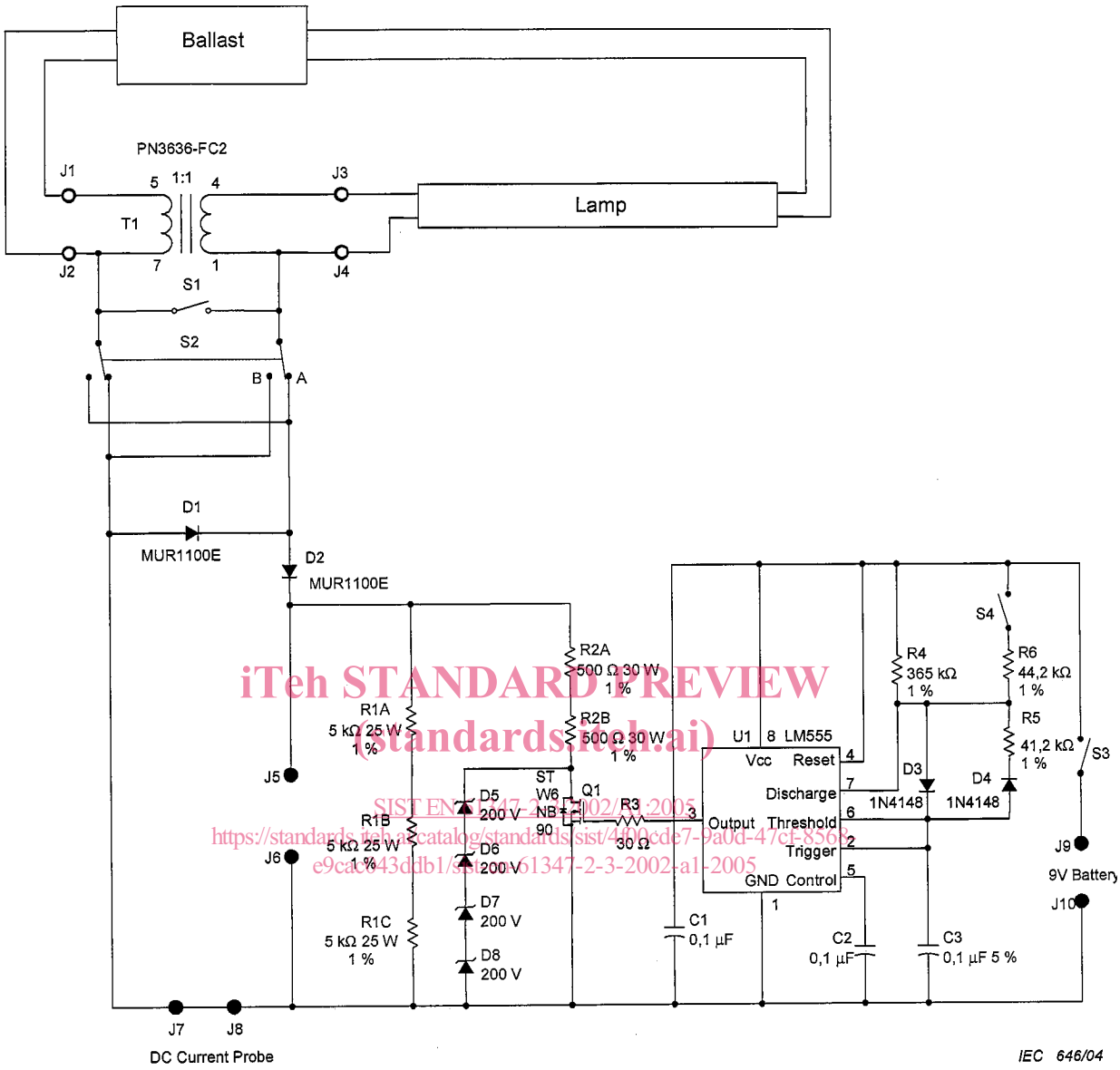

Figure 3 – Asymmetric pulse test circuit

NOTE FET Q1 should be on for 3 ms and off for 3 ms when S4 is closed, and on for 27 ms and off for 3 ms when S4 is open.

A list of material and transformer specifications is given in Annex K. Any other transformer components with the same functionality are permitted.