

# SLOVENSKI STANDARD

## SIST EN 61347-2-9:2002

01-december-2002

Nadomešča:  
SIST EN 60922:1999

---

**Krmilne stikalne naprave - 2-9. del: Posebne zahteve za dušilke za sijalke (razen fluorescenčnih sijalk) (IEC 61347-2-9:2000)**

Lamp controlgear - Part 2-9: Particular requirements for ballasts for discharge lamps (excluding fluorescent lamps)

Geräte für Lampen - Teil 2-9: Besondere Anforderungen an Vorschaltgeräte für Entladungslampen (ausgenommen Leuchtstofflampen)

Appareillages de lampes - Partie 2-9: Prescriptions particulières pour les ballasts pour lampes à décharge (à l'exclusion des lampes fluorescentes)

**Ta slovenski standard je istoveten z: EN 61347-2-9:2001**

---

**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 61347-2-9:2002** en

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 61347-2-9:2002

<https://standards.iteh.ai/catalog/standards/sist/29333dea-bb7c-4fa2-b69f-81d82ff88c52/sist-en-61347-2-9-2002>

EUROPEAN STANDARD

**EN 61347-2-9**

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2001

ICS 29.140.99

Supersedes EN 60922:1997

English version

**Lamp controlgear**  
**Part 2-9: Particular requirements for ballasts for discharge lamps**  
**(excluding fluorescent lamps)**  
**(IEC 61347-2-9:2000)**

Appareillages de lampes  
Partie 2-9: Prescriptions particulières  
pour les ballasts pour lampes à décharge  
(à l'exclusion des lampes fluorescentes)  
(CEI 61347-2-9:2000)

Geräte für Lampen  
Teil 2-9: Besondere Anforderungen an  
Vorschaltgeräte für Entladungslampen  
(ausgenommen Leuchtstofflampen)  
(IEC 61347-2-9:2000)

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 61347-2-9:2002](https://standards.iteh.ai/catalog/standards/sist/29333dea-bb7c-4fa2-b69f-31248c31c914/EN-61347-2-9-2000)

<https://standards.iteh.ai/catalog/standards/sist/29333dea-bb7c-4fa2-b69f-31248c31c914/EN-61347-2-9-2000>  
This European Standard was approved by CENELEC on 2000-11-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 European Standard 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 34C/506/FDIS, future edition 1 of IEC 61347-2-9, 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 EN 61347-2-9 on 2000-11-01.

This European Standard, together with EN 61347-1, supersedes EN 60922:1997.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2001-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2003-11-01

This standard shall be used in conjunction with EN 61347-1:2001.

NOTE In this standard, the following print types are used:

- requirements : in roman type;
- *test specifications: in italic type;*
- notes: in smaller roman type.

Annexes designated "normative" are part of the body of the standard. In this standard, annexes A, B, D, E, F, H, I and ZA are normative and annex J is informative. Annex ZA has been added by CENELEC.

SIST EN 61347-2-9:2002  
<https://standards.iteh.ai/catalog/standards/sist/29333dea-bb7c-4fa2-b69f-81d82ff88c52/sist-en-61347-2-9-2002>  
**Endorsement notice**

The text of the International Standard IEC 61347-2-9:2000 was approved by CENELEC as a European Standard without any modification.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60188 (mod)	<sup>1)</sup>	High-pressure mercury vapour lamps	EN 60188	1988 <sup>2)</sup>
IEC 60192	<sup>1)</sup>	Low-pressure sodium vapour lamps	EN 60192	1993 <sup>2)</sup>
IEC 60662	<sup>1)</sup>	High-pressure sodium vapour lamps	EN 60662	1993 <sup>2)</sup>
IEC 60923	<sup>1)</sup>	Auxiliaries for lamps - Ballasts for discharge lamps (excluding tubular fluorescent lamps) - Performance requirements	EN 60923	1996 <sup>2)</sup>
IEC 61347-1	2000	Lamp controlgear Part 1: General and safety requirements	EN 61347-1	2001
IEC 61347-2-1	<sup>1)</sup>	Part 2-1: Particular requirements for starting devices (other than glow starters)	EN 61347-2-1	2001 <sup>2)</sup>

---

<sup>1)</sup> undated reference.

<sup>2)</sup> valid edition at date of issue.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 61347-2-9:2002

<https://standards.iteh.ai/catalog/standards/sist/29333dea-bb7c-4fa2-b69f-81d82ff88c52/sist-en-61347-2-9-2002>

NORME  
INTERNATIONALE

CEI  
IEC

INTERNATIONAL  
STANDARD

61347-2-9

Première édition  
First edition  
2000-10

---

---

Appareillages de lampes –

Partie 2-9:

Prescriptions particulières pour les ballasts  
pour lampes à décharge (à l'exclusion des lampes  
fluorescentes)

ITEH STANDARD PREVIEW

(standards.iteh.ai)

Lamp controlgear –

SIST EN 61347-2-9:2002

<http://standards.iteh.ai/catalog/standards/sist/29333dea-bb7c-4fa2-b69f-81d82ff88c52/sist-en-61347-2-9-2002>

Part 2-9:

Particular requirements for ballasts  
for discharge lamps (excluding fluorescent lamps)

© IEC 2000 Droits de reproduction réservés — Copyright - all rights reserved

Aucune partie de cette publication ne peut être reproduite ni  
utilisée sous quelque forme que ce soit et par aucun procédé,  
électronique ou mécanique, y compris la photocopie et les  
microfilms, sans l'accord écrit de l'éditeur.

No part of this publication may be reproduced or utilized in  
any form or by any means, electronic or mechanical,  
including photocopying and microfilm, without permission in  
writing from the publisher.

International Electrotechnical Commission  
Telefax: +41 22 919 0300

e-mail: [inmail@iec.ch](mailto:inmail@iec.ch)

3, rue de Varembe Geneva, Switzerland  
IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

CODE PRIX  
PRICE CODE

S

Pour prix, voir catalogue en vigueur  
For price, see current catalogue

## CONTENTS

	Page
FOREWORD .....	5
INTRODUCTION .....	9
Clause	
1 Scope .....	11
2 Normative references .....	11
3 Definitions .....	11
4 General requirements .....	13
4.1 Capacitors and other components .....	13
4.2 Thermally protected ballasts .....	13
5 General notes on tests .....	13
6 Classification .....	15
7 Marking .....	15
7.1 Mandatory markings .....	15
7.2 Information to be provided, if applicable .....	15
7.3 Other information .....	15
8 Protection against accidental contact with live parts .....	17
9 Terminals .....	17
10 Provisions for earthing .....	17
11 Moisture resistance and insulation .....	17
12 Electric strength .....	17
13 Thermal endurance test for windings .....	17
14 Ballast heating .....	17
15 High-voltage impulse testing .....	25
16 Fault conditions .....	27
17 Construction .....	27
18 Creepage distances and clearances .....	27
19 Screws, current-carrying parts and connections .....	27
20 Resistance to heat, fire and tracking .....	27
21 Resistance to corrosion .....	27
Annexes .....	29
Figure J.1 – Test circuit for ballasts for lamps with integral starting devices .....	39
Figure J.2 – Test hood for ballast heating test .....	41
Figure J.3 – Test corner for ballast heating .....	41
Table 1 – Maximum temperatures .....	21
Table 2 – Limiting temperatures of windings under abnormal operating conditions and at 110 % of rated voltage for ballasts subjected to an endurance test duration of 30 days .....	23
Table 3 – Limiting temperatures of windings under abnormal operating conditions and at 110 % of rated voltage for ballasts marked “D6” which are subjected to an endurance test duration of 60 days .....	23



## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## LAMP CONTROLGEAR -

**Part 2-9: Particular requirements for ballasts for discharge lamps  
(excluding fluorescent lamps)**

## FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61347-2-9 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lamps and related equipment.

This first edition of IEC 61347-2-9, together with IEC 61347-1, cancels and replaces the second edition of IEC 60922, published in 1997, and constitutes a minor revision.

This standard shall be used in conjunction with IEC 61347-1. It was established on the basis of the first edition (2000) of that standard.

This part 2 supplements or modifies the corresponding clauses in IEC 61347-1, so as to convert that publication into the IEC Standard: Particular requirements for ballasts for discharge lamps (excluding fluorescent lamps).

NOTE In this standard, the following print types are used:

- Requirements proper: in roman type.
- *Test specifications: in italic type.*
- Explanatory matter: in smaller roman type.

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

FDIS	Report on voting
34C/506/FDIS	34C/520/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

Annexes A, B, D, E, F, H and I form an integral part of this standard.

Annex J is for information only.

IEC 61347 consists of the following parts, under the general title *Lamp controlgear*:

- Part 1: General and safety requirements
- Part 2-1: Particular requirements for starting devices (other than glow starters)
- Part 2-2: Particular requirements for d.c. or a.c. supplied electronic step-down convertors for filament lamps
- Part 2-3: Particular requirements for a.c. supplied electronic ballasts for fluorescent lamps
- Part 2-4: Particular requirements for d.c. electronic ballasts for general lighting
- Part 2-5: Particular requirements for d.c. supplied electronic ballasts for public transport lighting
- Part 2-6: Particular requirements for d.c. supplied electronic ballasts for aircraft lighting
- Part 2-7: Particular requirements for d.c. supplied electronic ballasts for emergency lighting
- Part 2-8: Particular requirements for ballasts for fluorescent lamps
- Part 2-9: Particular requirements for ballasts for discharge lamps (excluding fluorescent lamps)
- Part 2-10: Particular requirements for electronic invertors and convertors for high-frequency operation of cold start tubular discharge lamps (neon tubes)
- Part 2-11: Particular requirements for miscellaneous electronic circuits used with luminaires<sup>1)</sup>

The committee has decided that the contents of this publication will remain unchanged until 2003. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition; or
- amended.

<sup>1)</sup> To be published.

## INTRODUCTION

This first edition of IEC 61347-2-9, published in conjunction with IEC 61347-1, represents an editorial review of IEC 60922. The formatting into separately published parts provides for ease of future amendments and revisions. Additional requirements will be added as and when a need for them is recognized.

This standard, and the parts which make up IEC 61347-2, in referring to any of the clauses of IEC 61347-1, specify the extent to which such a clause is applicable and the order in which the tests are to be performed; they also include additional requirements, as necessary. All parts which make up IEC 61347-2 are self-contained and, therefore, do not include references to each other.

Where the requirements of any of the clauses of IEC 61347-1 are referred to in this standard by the phrase "The requirements of clause n of IEC 61347-1 apply", this phrase is interpreted as meaning that all requirements of the clause in question of part 1 apply, except any which are clearly inapplicable to the specific type of lamp controlgear covered by this particular part of IEC 61347-2.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 61347-2-9:2002

<https://standards.iteh.ai/catalog/standards/sist/29333dea-bb7c-4fa2-b69f-81d82ff88c52/sist-en-61347-2-9-2002>