



SLOVENSKI STANDARD
SIST EN 60400:2008/A1:2011
01-september-2011

Okovi za cevaste fluorescenčne sijalke in starterski okovi

Lampholders for tubular fluorescent lamps and starterholders

Lampenfassungen für röhrenförmige Leuchtstofflampen und Starterfassungen

Douilles pour lampes tubulaires à fluorescence et douilles pour starters

Ta slovenski standard je istoveten z: EN 60400:2008/A1:2011

[SIST EN 60400:2008/A1:2011](https://standards.iteh.ai/catalog/standards/sist/8a6640fe-a90a-4bab-a671-b4e90dad37f4/sist-en-60400-2008-a1-2011)

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ICS:

29.140.10 Grla in držala žarnic Lamp caps and holders

SIST EN 60400:2008/A1:2011 **en**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60400/A1

May 2011

ICS 29.140.10

English version

Lampholders for tubular fluorescent lamps and starterholders
(IEC 60400:2008/A1:2011)

Douilles pour lampes tubulaires à
fluorescence et douilles pour starters
(CEI 60400:2008/A1:2011)

Lampenfassungen für röhrenförmige
Leuchtstofflampen und Starterfassungen
(IEC 60400:2008/A1:2011)

This amendment A1 modifies the European Standard EN 60400:2008; it was approved by CENELEC on 2011-05-25. 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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 34B/1591/FDIS, future amendment 1 to IEC 60400:2008, prepared by SC 34B, Lamp caps and holders, 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 60400:2008 on 2011-05-25.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

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) 2012-02-25
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2014-05-25

Endorsement notice

The text of amendment 1:2011 to the International Standard IEC 60400:2008 was approved by CENELEC as an amendment to the European Standard without any modification.

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IEC 60400

Edition 7.0 2011-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
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Lampholders for tubular fluorescent lamps and starterholders

Douilles pour lampes tubulaires à fluorescence et douilles pour starters

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

R

ICS 29.140.10

ISBN 978-2-88912-464-0

FOREWORD

This amendment has been prepared by subcommittee 34B: Lamp caps and holders, of IEC technical committee 34: Lamps and related equipment.

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

| | |
|---------------|------------------|
| FDIS | Report on voting |
| 34B/1591/FDIS | 34B/1600/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 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.

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1 General

1.1 Scope

Add, after the last paragraph, the following new text:

Where the term “bi-pin lampholder” is used, lampholders for wedged caps are also intended.

2 Terms and definitions

2.3 Flexible lampholders for linear double-capped fluorescent lamps

Replace the existing note by the following new note:

NOTE In case of doubt as to whether a lampholder G5, GX5 or G13 provides the required axial movement of the contacts, a test with the device shown in Figure 3 may be carried out.

Add the following new definitions:

2.19

basic insulation

insulation applied to live parts to provide basic protection against electric shock

NOTE Basic insulation does not necessarily include insulation used exclusively for functional purposes.

2.20

supplementary insulation

independent insulation applied in addition to basic insulation in order to provide protection against electric shock in the event of a failure of basic insulation

2.21

double insulation

insulation comprising both basic insulation and supplementary insulation

2.22

reinforced insulation

single insulation system applied to live parts, which provides a degree of protection against electric shock equivalent to double insulation under the conditions specified

NOTE The term "insulation system" does not imply that the insulation must be one homogeneous piece. It may comprise several layers which cannot be tested singly as supplementary or basic insulation.

2.23

enclosed reinforced insulated lampholder

lampholder for building-in so designed that on its own it fulfils the requirements for double or reinforced insulated parts in class II applications

2.24

partly reinforced insulated lampholder

lampholder for building-in, so designed that some parts of the lampholder require additional means to fulfil the requirements with regard to double or reinforced insulation

NOTE In some cases, the dimensions might be achieved only after mounting into the luminaire.

4 General conditions for tests

Replace, in 4.4, the paragraph following the second note ("In the case of ...") by the following new paragraph:

In the case of flexible and inflexible lampholders G5, GX5 or G13 (see Definitions 2.3 and 2.4 respectively), the specimens are mounted on two pairs of mounting sheets as specified in Figure 2.

5 Electrical rating

Replace the existing third dashed item by the following:

- not less than 2 A for lampholders GX5, G13, 2G8, 2G13, G20, Fa6, Fa8 and R17d.

6 Classification

Replace the existing Subclause 6.1 by the following:

6.1 According to protection against electric shock:

- unenclosed lampholders;
- enclosed lampholders;
- independent lampholders;
- partly reinforced insulated lampholders;
- enclosed reinforced insulated lampholders.

NOTE Where a lampholder is used with a working voltage of 50 % or less of its maximum rating, it may be regarded as equivalent to a reinforced insulated lampholder.

7 Marking

Add the following new note to Subclause 7.1 below item “b) type reference”:

NOTE Available technical documentation of the manufacturer like printed catalogues or online catalogues should allow a clear identification of a lampholder either by a unique catalogue number or by an identifying reference on the holder, specifying the essential characteristic features and the basic design of the product supplemented by a clear description. Variations of the basic design like for example different cable length, fixing means, colours etc., which do not affect safety or performance of the lampholder, may be disregarded in the type reference marked on the product. Variations included in the type testing procedure are listed in the corresponding test reports.

Replace, in Subclause 7.2, the fourth paragraph (“Lampholders and starterholders complying...”), the note and the fifth paragraph by the following new text:

<https://standards.iteh.ai/catalog/standards/sist/8a6640fe-a90a-4bab-a671-b4e90d32751/sist-en-60400-2008-a1-2011>

Enclosed reinforced insulated lampholders offer an adequate level of protection for use in luminaires where they are accessible in normal use. This information shall be indicated in the manufacturer’s catalogue or the like.

For partly reinforced insulated lampholders, sufficient creepage distances and clearances to outer accessible surfaces will require additional protection to some parts of the lampholder by the luminaire design or by use of additional attachment(s) or cover(s). This information shall be indicated in the manufacturer’s catalogue or the like.

8 Protection against electric shock

Replace, in Subclause 8.2, the third paragraph by the following:

In the case of side entry lampholders for linear G5, GX5 and G13 capped lamps, compliance is checked:

- for lampholders G5 by means of gauge II as per IEC 60061-3, standard sheet 7006-47C, and
- for lampholders GX5 by means of gauge II as per IEC 60061-3, standard sheet 7006-47E, and
- for lampholders G13 by means of gauge II as per IEC 60061-3, standard sheet 7006-60C,

with the gauge face touching the lampholder face

Add, in 8.2, after the second compliance paragraph (after Note 2), the following new dashed item:

- for lampholders GX5, by means of the gauge as per IEC 60061-3, standard sheet 7006-47A, and in conjunction with gauge II as per IEC 60061-3, standard sheet 7006-47E and the standard test finger shown in Figure 41;

10 Construction

Add, at the end of Subclause 10.2, the following new text:

Lampholders GX5 shall only be for side entry, requiring a single entry slot as shown in Figures C.3 and C.4.

Lampholders GX5 shall be of flexible type or flexibly mounted. The maximum mounting distance between a pair of GX5 lampholders without a lamp inserted shall be based on the minimum lamp length as given in IEC 60081. This information shall be given in the lampholder manufacturer's or responsible vendor's documents.

Replace item a) of Subclause 10.3.1 by the following:

10.3.1 a) For bi-pin lampholders G5, GX5, G13 and G20 making contact mainly along one side of each pin of the cap, the contact force is measured with a single-ended gauge having pin dimensions and pin distances according to the following sheets of IEC 60061-3:

- for lampholders G5: 7006-47B, gauges III and V;
- for lampholders GX5: 7006-47D, gauges IV and V;
- for lampholders G13: 7006-60B, gauges III and V;
- for lampholders G20: under consideration.

The contact force is between:

- 2 N and 30 N for lampholders not providing support for the lamp pins;
- 2 N and 35 N for lampholders G5 and GX5, when the lamp pins are supported by the holder construction;
- 2 N and 45 N for lampholders G13 and G20, when the lamp pins are supported by the holder construction.

First the maximum contact force is measured with a pin distance as shown for gauge V. This is followed by measurement of the minimum contact force with the pin distance of gauge III for lampholders G5 and G13 and with the pin distance of gauge IV for lampholders GX5.

Replace item d) of Subclause 10.3.1 by the following:

d) For bi-pin lampholders G5, GX5, G13 and G20 requiring a rotary motion for the insertion and removal of the lamp, the torque required shall be measured with single-ended gauges having pin dimensions and pin distances according to the following standard sheets of IEC 60061-3:

- for lampholders G5: 7006-47B, gauge V, and a second gauge of the same dimensions but with E and D changed to 2,44 mm and 4,4 mm respectively;
- for lampholders GX5: 7006-47D, gauge V, and a second gauge of the same dimensions but with E2 and D changed to 2,75 mm and 4,4 mm respectively;
- for lampholders G13: 7006-60B, gauge V, and a second gauge of the same dimensions but with E and D changed to 2,44 mm and 12,35 mm respectively;
- for lampholders G20: under consideration.

The torque required to insert the gauges until the position representing the operating position of the lamp is reached shall not exceed:

- 0,3 Nm for lampholders G5 and GX5;
- 0,5 Nm for lampholders G13 and G20.

The torque required to clear the gauges from the normal seated position shall be between:

- 0,02 Nm and 0,3 Nm for lampholders G5 and GX5;
- 0,1 Nm and 0,5 Nm for lampholders G13 and G20.

During complete removal of the gauges, the maximum values shall not be exceeded.

Add, to item a) of Subclause 10.5 a), the following new dashed items:

- 7005-51A: Mounting of combined pair of lampholders GX5
- 7005-82A: Lampholder 2GX11
- 7005-115: Lampholder W4.3x8.5d
- 7005-125: Lampholder 2GX13
- 7005-131: Lampholder GRZ10d
- 7005-132: Lampholder GRZ10t
- 7005-141: Lampholder 2G8
- 7005-142: Lampholder GX53
- 7005-156: Lampholder GR14q
- 7005-160: Lampholder G28d

Replace item d) of Subclause 10.5 by the following:

d) Compliance is checked as follows:

- For lampholders G5, GX5 and G13, with two pairs of matching holders mounted in the mounting jig shown in Figure 1 and by use of the specified gauges, that is:
 - for lampholders G5: "Go" gauges 7006-47C and the gauges for testing contact-making 7006-47B;
 - for lampholders GX5: "Go" gauges 7006-47E and the gauges for testing contact-making 7006-47D;
 - for lampholders G13: "Go" gauges 7006-60C and the gauges for testing contact-making 7006-60B.
- Lampholders which, due to their design, do not allow testing in the mounting jig, and flexibly mounted lampholders (see 2.5) shall be tested together with the relevant luminaire and by use of the above gauges adapted to the specific lamp length according to IEC 60081.

When testing holders, the force required to insert the "Go" gauge shall not exceed:

- | | | |
|--|----------------------------------|---------------------|
| for lampholders | G5 | G13 |
| – force in the direction of the lamp axis: | 15 N | 30 N |
| – force in the direction perpendicular to the lamp axis: | under consideration ¹ | under consideration |

¹ Not applicable for lampholders where the final seating position of the cap within the holder is reached without an additional turning motion. These holders are already tested under 10.3.1 with single-ended gauges.

When testing contact-making, the gauges are pushed in the direction of each of the holder faces in turn with a force of:

- *for lampholders G5 and GX5: 2 N;*
- *for lampholders G13: 5 N.*

When testing in the mounting jig, this force can be achieved by vertical position of the gauge:

NOTE 3 For lampholders intended for use with more than one lamp at the same time, additional mass according to the number of lamps is placed on the lampholder face.

- *for lampholders R17d, by means of the gauges shown in standard sheets 7006-57A and 7006-57B of IEC 60061-3;*
- *for lampholders Fa8, by means of the gauges shown in standard sheets 7006-58 and 7006-58G of IEC 60061-3;*
- *for lampholders 2G13, by means of the gauges shown in standard sheets 7006-33A and 7006-33B of IEC 60061-3;*
- *for all other lampholders, by means of the relevant gauges shown in IEC 60061-3;*
- *for starterholders, by means of the gauges shown in Figures 11, 12 and 13;*
- *for starterholders intended for accepting only starters for class II luminaires, dimensions V and W indicated in Figure 10a are measured in addition.*

The manufacturer's mounting instructions shall show all information necessary for the correct mounting of the holders.

For (multi-key) lampholders G24q and GX24q, allowing insertion of lamps with keys –3 and –4, the lampholder manufacturer's documents shall include a warning notice about the restricted application, stating that these holders may only be used with ballasts which are approved for the operation of lamps with keys –3 and –4 (multilamp ballast).

NOTE 4 It is essential that the relevant safety and performance requirements are met with every lamp key.

11 Resistance to dust and moisture

Replace the penultimate and the last paragraph of Subclause 11.1 by the following:

The holders are mounted as in normal use and fitted either with test probes of minimum and maximum diameter according to Figure 46 for which the holders are designed or, if available, with lamps of the smallest and largest diameters as required by Figure 46.

Before the test, the holders are heated and brought to a stable operating temperature either by operating the lamp or with the test probes by heating within the heating cabinet at a temperature according to the T-marking or T_m-marking of the holder.

NOTE This test is for type test approval of the lampholder only and does not replace luminaire testing.

12 Insulation resistance and electrical strength

Add, in the third paragraph of Subclause 12.3, the following new dashed item to the existing list:

- *for enclosed and unenclosed reinforced insulated lampholders, the test voltage shall be determined from Table 10.2 of IEC 60598-1.*