

**Energy performance of lamp controlgear - Part 3:
Controlgear for halogen lamps and LED modules -
Method of measurement to determine the efficiency of
the controlgear**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 62442-3:2014 sisaldab Euroopa standardi EN 62442-3:2014 ingliskeelset teksti.	This Estonian standard EVS-EN 62442-3:2014 consists of the English text of the European standard EN 62442-3:2014.
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ICS 29.140.99

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English Version

Energy performance of lamp controlgear - Part 3: Controlgear for
halogen lamps and LED modules - Method of measurement to
determine the efficiency of the controlgear
(IEC 62442-3:2014)

Performance énergétique des appareillages de lampes -
Partie 3: Appareillage de lampes à halogène et modules de
DEL - Méthode de mesure pour la détermination du
rendement de l'appareillage
(CEI 62442-3:2014)

Energieeffizienz von Lampenbetriebsgeräten - Teil 3:
Betriebsgeräte für Halogenlampen und LED-Module -
Messverfahren zur Bestimmung des Wirkungsgrades des
Betriebsgerätes
(IEC 62442-3:2014)

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 34C/1077/FDIS, future edition 1 of IEC 62442-3, prepared by SC 34C "Auxiliaries for lamps", of IEC/TC 34 "Lamps and related equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62442-3:2014.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-03-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-05-29

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Endorsement notice

The text of the International Standard IEC 62442-3:2014 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60357	NOTE	Harmonized as EN 60357.
IEC 62384	NOTE	Harmonized as EN 62384.
IEC 62442-1:2011	NOTE	Harmonized as EN 62442-1:2011 (not modified).
IEC 62442-2:—	NOTE	Harmonized as EN 62442-2:2014 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61047	2004	DC or AC supplied electronic step-down convertors for filament lamps - Performance requirements	EN 61047	2004
IEC 61347-1 (mod)	2007	Lamp controlgear -	EN 61347-1	2008
+A1	2010	Part 1: General and safety requirements	+A1	2011
+A2	2012		+A2	2013
IEC 61347-2-2	-	Lamp controlgear - Part 2-2: Particular requirements for d.c. or a.c. supplied electronic step-down convertors for filament lamps	EN 61347-2-2	-
IEC 61347-2-13	-	Lamp controlgear - Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules	EN 61347-2-13	-
IEC 61558-1	-	Safety of power transformers, power supplies, reactors and similar products - Part 1: General requirements and tests	EN 61558-1	-
IEC 61558-2-6	-	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers	EN 61558-2-6	-
IEC Guide 115	2007	Application of uncertainty of measurement to conformity assessment activities in the electrotechnical sector	-	-

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ENERGY PERFORMANCE OF LAMP CONTROLGEAR –

Part 3: Controlgear for halogen lamps and LED modules – Method of measurement to determine the efficiency of the controlgear

1 Scope

This part of the IEC 62442 series defines a measurement method for the power losses of magnetic transformers and the power losses with the standby power of electronic convertor for halogen lamps and LED modules.

Also a calculation method of the efficiency for the mentioned controlgear for halogen lamps and LED modules is defined.

This part of IEC 62442 applies to electrical controlgear – lamp circuits comprised solely of the controlgear and of the lamp(s).

For multipurpose power supplies only the lighting part will be considered.

NOTE 1 Requirements for testing individual controlgear during production are not included.

It specifies the measurement method for the total input power, the standby power and the calculation method of the controlgear efficiency for all controlgear sold for domestic and normal commercial purposes operating with halogen lamps and LED modules.

This part of IEC 62442 does not apply to:

- controlgear which form an integral part of lamps;
- controlgear circuits with capacitors connected in series;
- controllable wire-wound electromagnetic controlgear.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61047:2004, *DC or AC. supplied electronic step-down convertors for filament lamps – Performance requirements*

IEC 61347-1:2007, *Lamp controlgear – Part 1: General and safety requirements*
Amendment 1:2010
Amendment 2:2012

IEC 61347-2-2, *Lamp controlgear – Part 2-2: Particular requirements for d.c. or a.c. supplied electronic step-down convertors for filament lamps*

IEC 61347-2-13, *Lamp controlgear – Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules*

IEC 61558-1, *Safety of power transformers, power supplies, reactors and similar products – Part 1: General requirements and tests*

IEC 61558-2-6, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers*

IEC Guide 115:2007, *Application of uncertainty of measurement to conformity assessment activities in the electrotechnical sector*

3 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

3.1

nominal value

suitable approximate quantity value used to designate or identify a component, device or equipment

[SOURCE: IEC 62442-1:2011, 3.1]

3.2

rated value

quantity value for specified operating conditions of a component, device or equipment

The value and conditions are specified in the relevant standard or assigned by the manufacturer or responsible vendor

[SOURCE: IEC 62442-1:2011, 3.3, modified – The note has been removed.]

3.3

controlgear

one or more component between supply and one or more lamps which may serve to transform the supply voltage, limit the current of lamp(s) to the required value, provide starting voltage and preheating current, prevent cold starting, correct power factor or reduce radio interference

[SOURCE: IEC 62442-1:2011, 3.4]

3.4

electromagnetic controlgear

controlgear which by means of inductance, or a combination of inductance and capacitance, serves mainly to limit the current of lamp(s) to the required value

Frequency of the lamp controlgear is the same as supply frequency

[SOURCE: IEC 62442-1:2011, 3.5]

3.5

magnetic transformer

transformer

magnetic controlgear which transform the supply voltage to operate lamp(s) with the same frequency as supply frequency at the lamps rated voltage

3.6

electronic controlgear, <used for filament lamp(s) or LED module(s)>

A.C. and/or D.C. supplied electronic circuit including stabilizing elements for operating one or more filament lamp(s) or one or more LED module(s)