IEC 62442-2

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NORME INTERNATIONALE

Withdrawn

Energy performance of lamp controlgear – Part 2: Controlgear for high intensity discharge lamps (excluding fluorescent lamps) – Method of measurement to determine the efficiency of the controlgear

Performance énergétique des appareillages de lampes – Partie 2: Appareillages des lampes à décharge à haute intensité (à l'exclusion des lampes à fluorescence) – Méthode de mesure pour la détermination du rendement des appareillages

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ENERGY PERFORMANCE OF LAMP CONTROLGEAR –

Part 2: Controlgear for high intensity discharge lamps (excluding fluorescent lamps) – Method of measurement to determine the efficiency of the controlgear

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

FDIS	Report on voting
34C/1078/FDIS	34C/1089/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 2.

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A list of all parts of the IEC 62442 series, published under the general title *Energy performance of lamp controlgear,* can be found on the IEC website.

The committee has decided that the contents of this 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,
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ENERGY PERFORMANCE OF LAMP CONTROLGEAR –

Part 2: Controlgear for high intensity discharge lamps (excluding fluorescent lamps) – Method of measurement to determine the efficiency of the controlgear

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1 Scope

This part of the IEC 62442 series defines a measurement method of the power losses of electromagnetic controlgear, the total input power and the standby power of electronic controlgear for high intensity discharged lamps (excluding fluorescent lamps). Also a calculation method of the efficiency for controlgear for high intensity discharged lamp(s) is defined.

This International Standard applies to electrical controlgear – lamp circuits comprised solely of the controlgear and of the lamp(s).

NOTE 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 lamp controlgear efficiency for all controlgear sold for domestic and normal commercial purposes operating with high intensity discharge lamps.

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

IEC 61347-2-9:2012, *Lamp controlgear – Part 2-9: Particular requirements for electromagnetic controlgear for discharge lamps (excluding fluorescent lamps)*

IEC 61347-2-12:2010, *Lamp controlgear – Part 2-12: Particular requirements for d.c. or a.c. supplied electronic ballasts for discharge lamps (excluding fluorescent lamps)*

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

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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 components 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, 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
electronic controlgear, <used for high intensity discharge lamps>
A.C. and/or D.C. supplied electronic circuit including stabilizing elements for starting and operating one or more lamp(s)

3.6
discharge lamp
lamp in which the light is produced, directly or indirectly, by an electric discharge through a gas, a metal vapour or a mixture of several gases and vapours

3.7
controlgear – lamp circuit
electrical circuit, or part thereof, normally built in a luminaire, consisting of the controlgear and lamp(s)

[SOURCE: IEC 62442-1:2011,3.8]

3.8
standby mode
mode relevant for those controlgear which are permanently connected to the mains, where the lamp(s) are switched off via a control signal, not including failed lamp(s)

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Note 1 to entry: The ignition phase of lamp(s) is excluded from the standby mode.

3.9
standby power
average power consumption of a controlgear when subjected to standby mode

Note 1 to entry: Unit: W.

3.10
total input power
total power supplied to the controlgear – lamp circuit measured at rated input voltage

[SOURCE: CEI 62442-1:2011, 3.14, modified – The sentence "The rated power specified is related to a specific ballast lumen factor (BLF)." has been removed.]

3.11
lamp controlgear efficiency, <for controlgear used for high intensity discharge lamps>
η_{MCG}
η_{ECG}
ratio between the lamp power (controlgear output power) and the input power of the controlgear – lamp circuit with possible sensors, network connections and other auxiliary loads disconnected

3.12
multi-lamp type controlgear
controlgear designed for the operation of more than one type of lamp with different electrical characteristics e.g. power

4 General

4.1 Applicability

The measurement and calculation methods of this International Standard shall only be used for lamp controlgear which conforms to IEC 61347-1 with IEC 61347-2-9 or IEC 61347-1 with IEC 61347-2-12.

4.2 General notes on test

The measurement conditions are specified in IEC 61347-1:2007, Clauses H.1, H.2, H.4, H.8, H.9 and H.11; unless otherwise specified in this standard. The device under test (DUT) shall be placed according to IEC 61347-1:2007, Figure H.1.

An A.C. voltage source shall be used to provide input voltage to the DUT. During the tests, the supply voltage and the frequency shall be maintained constant within ± 0,5 % during the warm-up period. However, during the actual measurement, the voltage shall be adjusted to within ± 0,2 % of the specified testing value.

4.3 Controllable controlgear

Requirements for other than 100 % light output operation of controllable controlgear and multi-tapped electromagnetic controlgear are under consideration.

4.4 Multi-lamp type controlgear

If a single-lamp controlgear is designed for different lamp powers then the test shall be carried out for each lamp.

The test for multi-lamp controlgear shall be carried out with all possible combinations.

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