

Household electrical appliances — Measurement of standby power

The European Standard EN 62301:2005 has the status of a
British Standard

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National foreword

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Summary of pages

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**Household electrical appliances –
Measurement of standby power
(IEC 62301:2005, modified)**

Appareils électrodomestiques –
Mesure de l'alimentation générale
(CEI 62301:2005, modifiée)

Elektrische Geräte für den Hausgebrauch –
Messung der Stand-by-Leistungsaufnahme
(IEC 62301:2005, modifiziert)

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CENELEC

European Committee for Electrotechnical Standardization
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Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 59/409A/FDIS, future edition 1 of IEC 62301, prepared by IEC TC 59, Performance of household electrical appliances, was submitted to the IEC-CENELEC parallel vote.

This text, together with a draft amendment, prepared by the Technical Committee CENELEC TC 59X, Consumer information related to household electrical appliances, and submitted to the formal vote, was approved by CENELEC as EN 62301 on 2005-07-01.

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) 2006-06-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2008-07-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62301:2005 was approved by CENELEC as a European Standard with agreed common modifications.

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INTRODUCTION

The methods defined in this standard are not intended to be used to measure power consumption of appliances and equipment during normal operation (“on” mode), as these are generally covered by IEC product standards (see Bibliography). This standard is intended to cover appliances and equipment that fall within the scope of IEC TC59. However, it is acknowledged that, if desired, it can be applied to the relevant low power modes of other similar products.

The document is written as a specific measurement procedure and shall not normally be used on its own but as a referenced standard in a product performance standard. Thus where a product requires data on standby power, it shall be made by incorporation of a new clause in the product performance standard which makes reference to this standard and defines within that clause set-up data and control procedures.

However since it will no doubt be used as a generic measurement method for appliances that have no performance standard or are “new” appliances, further modifications to EN 62301 will likely be needed in the future.

The aim of the common modifications to the text of IEC 62301:2005 is to ensure the European Standard complies with the EU requirements for energy labelling.

HOUSEHOLD ELECTRICAL APPLIANCES – MEASUREMENT OF STANDBY POWER

1 Scope

This International Standard specifies methods of measurement of electrical power consumption in standby mode. It is applicable to mains powered electrical household appliances and to the mains powered parts of appliances that use other fuels such as gas or oil.

This standard does not specify safety requirements. It does not specify minimum performance requirements nor does it set maximum limits on power or energy consumption.

The objective of this standard is to provide a method of test to determine the power consumption of a range of appliances and equipment in standby mode (generally where the product is not performing its main function). This standard defines “standby” mode as the lowest power consumption when connected to the mains. The test method is also applicable to other low power modes where the mode is steady state or providing a background or secondary function (e.g. monitoring or display). Annex A provides some guidance on the expected modes that would be found for various appliance configurations and designs based on their circuitry and layout, but the standard does not define these modes.

The relevant low power modes (in addition to standby mode) to which this test procedure is applied should be defined by performance standards of appropriate appliances. As an example, IEC 62087 specifies a range of modes for TVs, VCRs and similar equipment.

NOTE 1 The measurement of energy consumption and performance of appliances during intended use are generally specified in the relevant product standards and are not intended to be covered by this standard.

NOTE 2 The term “appliances” in this standard means household appliances or equipment.

2 Normative references

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

IEC 60050-131, *International Electrotechnical Vocabulary (IEV) – Part 131: Circuit theory*

IEC 60050-300, *International Electrotechnical Vocabulary (IEV) – Electrical and electronic measurements and measuring instruments – Part 311: General terms relating to measurements – Part 312: General terms relating to electrical measurements – Part 313: Types of electrical measuring instruments – Part 314: Specific terms according to the type of instrument*

3 Terms and definitions

For the purposes of this document the terms and definitions contained in IEC 60050-131 and IEC 60050-300 as well as the following apply.

3.1

standby mode

lowest power consumption mode which cannot be switched off (influenced) by the user and that may persist for an indefinite time when an appliance is connected to the main electricity supply and used in accordance with the manufacturer's instructions

NOTE The standby mode is usually a non-operational mode when compared to the intended use of the appliance's primary function. The definition of standby mode in this standard is only applicable to the determination of standby power or standby energy consumption under this standard.

3.2

standby power

average power in standby mode when measured in accordance with Clause 5.

NOTE 1 The standby power is measured in watts.

NOTE 2 Refer to Annex C for examples of how to calculate energy consumption from power measurements.

3.3

rated power

input power assigned to the appliance by the manufacturer

3.4

rated voltage

voltage assigned to the appliance by the manufacturer

3.5

rated frequency

frequency assigned to the appliance by the manufacturer

4 General conditions for measurements

4.1 General

Unless otherwise specified, measurements shall be made under test conditions and with equipment specified in 4.2 to 4.5.

4.2 Test room

The tests shall be carried out in a room that has an air speed close to the appliance under test of $\leq 0,5$ m/s. The ambient temperature shall be maintained at (23 ± 5) °C throughout the test.

NOTE The measured power for some products and modes may be affected by the ambient conditions (e.g. illuminance, temperature).

4.3 Power supply

Where this standard is referenced by an external standard or regulation that specifies a test voltage and frequency, the test voltage and frequency so defined shall be used for all tests.