

© Copyright SEK. Reproduction in any form without permission is prohibited.

## **Elektrisk och elektronisk utrustning för hem och kontor – Mätning av låg elförbrukning**

*Electrical and electronic household and office equipment –  
Measurement of low power consumption*

Som svensk standard gäller europastandarden EN 50564:2011. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50564:2011.

### **Nationellt förord**

Europastandarden EN 50564:2011

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 62301, Second edition, 2011 - Household electrical appliances - Measurement of standby power**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 62301, utgåva 1, 2006, gäller ej fr o m 2014-03-03.

Där texten i europastandarden avviker från texten i motsvarande avsnitt i IEC 62301 har detta markerats med lodrätt streck i marginalen.

---

ICS 27.140

## *Standarder underlättar utvecklingen och höjer elsäkerheten*

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

## *SEK är Sveriges röst i standardiseringssarbetet inom elområdet*

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

## *Stora delar av arbetet sker internationellt*

Utdriften av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringssarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringssverksamhet och medlemsavgift till IEC och CENELEC.

## *Var med och påverka!*

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtidens standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

### **SEK Svensk Elstandard**

Box 1284  
164 29 Kista  
Tel 08-444 14 00  
[www.elstandard.se](http://www.elstandard.se)

**EUROPEAN STANDARD**  
**NORME EUROPÉENNE**  
**EUROPÄISCHE NORM**

**EN 50564**

May 2011

ICS 27.140

Supersedes EN 62301:2005

English version

**Electrical and electronic household and office equipment -  
Measurement of low power consumption  
(IEC 62301:2011, modified)**

Appareils électriques et électroniques  
pour application domestique et  
équipement de bureau -  
Mesure de la consommation faible  
puissance  
(CEI 62301:2011, modifiée)

Elektrische und elektronische Haushalts-  
und Bürogeräte -  
Messung niedriger Leistungsaufnahmen  
(IEC 62301:2011, modifiziert)

This European Standard was approved by CENELEC on 2011-03-03. 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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**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

This European Standard was prepared by Technical Committee CENELEC TC 59X, Performance of household and similar electrical appliances.

A draft amendment covering common modifications towards IEC 62301:2011, prepared by the Technical Committees CENELEC TC 59X, Performance of household and similar electrical appliances and CENELEC TC 108X, Safety of electronic equipment within the fields of audio/video, information technology and communication technology, was submitted to the formal vote.

The combined texts were approved by CENELEC as EN 50564 on 2011-03-03.

This European Standard supersedes EN 62301:2005.

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) 2012-03-03
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2014-03-03

Clauses, subclauses, notes, tables and figures which are additional to those in IEC 62301:2011 are prefixed “Z”.

This European standard was prepared under standardisation mandate M/439. To fulfill the requirements of the mandate the scope of EN 50564 had to be broadened in comparison with IEC 62301:2011 to cover a range of electrical and electronic household and office equipment. This is reflected in the title of EN 50564 in comparison with the title of IEC 62301:2011.

In this European Standard, the common modifications to the International Standard are indicated by a vertical line in the left margin of the text.

Words in **bold** in the text are defined in Clause 3 Terms and definitions.

## Introduction

The methods defined in this European Standard are intended to define requirements for the measurement of low power. This standard may be used in support of other, more specific, product standards where it is required to measure power consumption.

The aim of the common modification is to ensure this European Standard is compatible with the objectives of EU legislation for ecodesign and for energy labeling.

Since the **mode** definitions are given in the relevant EU regulation they are not contained in this standard. Additional product specific **mode** definitions might be given in more specific product standards.

## Contents

1	Scope.....	5
2	Normative references .....	5
3	Terms and definitions .....	6
4	General conditions for measurements.....	8
4.1	General .....	8
4.2	Test room.....	8
4.3	Power supply.....	8
4.4	Power measuring instruments .....	9
5	Measurements.....	10
5.1	General .....	10
5.2	Preparation of product.....	11
5.3	Procedure .....	11
6	Test report.....	15
6.1	Product details .....	15
6.2	Test parameters .....	15
6.3	Measured data, for each product mode as applicable .....	15
6.4	Test and laboratory details .....	16
	Annex A (Void) .....	17
	Annex B (informative) Notes on the measurement of low power modes.....	18
	Annex C (informative) Converting power values to energy .....	26
	Annex D (informative) Determination of uncertainty of measurement .....	28
	Annex ZA (informative) Test report template .....	33

## 1 Scope

This European Standard specifies methods of measurement of electrical power consumption and the reporting of the results for a range of electrical and electronic household and office equipment, hereafter referred to as products.

This standard

- addresses issues associated with measuring electrical power, in particular low power (in the order of a few Watts or less), consumed by mains powered products,
- describes in detail the requirements for testing single phase products with a rated input voltage in the range of 100 V a.c. to 250 V a.c. but it may, with some adaptations, also be used with three phase products,
- may also be of assistance in determining the energy efficiency of products in conjunction with other, more specific, product standards.

The value of energy consumed will depend on the operating **mode** of the product under test, for instance whether the equipment is in an **off mode**, in a **standby mode** or in an **active mode**. This standard does not specify these **modes** and so it is not possible to use this standard on its own. Instead, it provides a method of measurement with a variety of **modes** which are defined elsewhere.

This standard does not

- specify safety requirements,
- specify minimum performance requirements,
- set maximum limits on power or energy consumption,
- contain limit values or procedures for verifying compliance with regulatory requirements.

NOTE Z1 This standard has been written in particular to support EC Commission Regulation n° 1275/2008 for the measurement of **off mode** and **standby mode** power consumption. This standard specifies methods of measurement of electrical power consumption in **standby mode(s)** and other **low power modes (off mode)**, as applicable.

NOTE Z2 This standard is applicable to electrical products with a rated input voltage of 230 V a.c. for single phase products and 400 V a.c. for three phase products.

NOTE Z3 The measurement of energy consumption and performance of products during intended use are generally specified in more specific product standards and are not covered by this standard.

NOTE Z4 The term “products” in this standard includes household appliances or information technology products, consumer electronics, audio, video and multimedia systems, however the measurement methodology could be applied to other products.

NOTE Z5 Where this standard is referenced by more specific standards or procedures, these should define and name the relevant conditions to which this test procedure is applied.

## 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*