

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

## **Elektrisk och elektronisk utrustning för hem och kontor – Mätning av elförbrukning vid nätverksanslutet standbyläge för utrustning ansluten till ett nätverk**

*Electrical and electronic household and office equipment –  
Measurement of networked standby power consumption of edge equipment*

Som svensk standard gäller europastandarden EN 50643:2018. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50643:2018.

---

ICS 35.260.00; 97.030.00

Denna standard är fastställd av SEK Svensk Elstandard,  
som också kan lämna upplysningar om **sakinnehållet** i standarden.  
Postadress: Box 1284, 164 29 KISTA  
Telefon: 08 - 444 14 00.  
E-post: sek@elstandard.se. Internet: [www.elstandard.se](http://www.elstandard.se)

---

## *Standarder underlättar utvecklingen och höjer elsäkerheten*

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar 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 standardiseringsarbetet 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*

Utformningen 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).

Standardiseringsarbetet 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 standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

## *Var med och påverka!*

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida 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 50643**

April 2018

ICS 35.260; 97.030

English Version

**Electrical and electronic household and office equipment -  
Measurement of networked standby power consumption of edge  
equipment**

Appareils électriques et électroniques pour application  
domestique et équipement de bureau - Mesure de la  
consommation d'énergie en veille avec maintien de la  
connexion au réseau des équipements de périphérie

Elektrische und elektronische Haushalts- und Bürogeräte -  
Messung der Leistungsaufnahme im vernetzten  
Bereitschaftsbetrieb von Geräten am Netzwerkrand

This European Standard was approved by CENELEC on 2017-12-11. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

---

© 2018 CENELEC All rights of exploitation in any form and by any means reserved worldwide for CENELEC Members.

Ref. No. EN 50643:2018 E

## Contents

	Page
<b>European foreword .....</b>	<b>4</b>
<b>Introduction .....</b>	<b>5</b>
<b>1 Scope .....</b>	<b>6</b>
<b>1.1 Equipment in the scope of this standard .....</b>	<b>6</b>
<b>1.2 Equipment not in the scope of this standard .....</b>	<b>6</b>
<b>2 Normative references .....</b>	<b>6</b>
<b>3 Terms, definitions and abbreviations .....</b>	<b>6</b>
<b>3.1 Terms and definitions .....</b>	<b>6</b>
<b>3.2 Abbreviations .....</b>	<b>9</b>
<b>4 Information required for testing purposes.....</b>	<b>9</b>
<b>4.1 Information about network port(s).....</b>	<b>9</b>
<b>4.2 Power management function - periods and conditions .....</b>	<b>10</b>
<b>4.3 Activation and deactivation of wireless network connections .....</b>	<b>10</b>
<b>5 Measurement conditions .....</b>	<b>10</b>
<b>5.1 Common requirements .....</b>	<b>10</b>
<b>5.2 Test room.....</b>	<b>11</b>
<b>5.3 Power supply .....</b>	<b>11</b>
<b>5.4 Power measuring instruments .....</b>	<b>11</b>
<b>5.5 Configuration of network ports .....</b>	<b>11</b>
<b>5.6 Measurement uncertainty .....</b>	<b>11</b>
<b>6 Measurement procedure .....</b>	<b>11</b>
<b>6.1 General.....</b>	<b>11</b>
<b>6.2 Wireless network connection management.....</b>	<b>12</b>
<b>6.2.1 Test sequence .....</b>	<b>12</b>
<b>6.2.2 Verifying that wireless connections are deactivated.....</b>	<b>12</b>
<b>6.2.3 Verifying that a wireless network connection is active .....</b>	<b>12</b>
<b>6.3 Preparation of the EUT and general testing aspects .....</b>	<b>12</b>
<b>6.4 Power management, reactivation, and networked standby power consumption.....</b>	<b>12</b>
<b>6.5 Measurement of standby power consumption with all network ports disconnected .....</b>	<b>13</b>
<b>6.6 Measurement of networked standby power consumption with all network ports connected .....</b>	<b>13</b>
<b>7 Test report .....</b>	<b>14</b>
<b>7.1 Test and laboratory details .....</b>	<b>14</b>
<b>7.2 Details of product under test .....</b>	<b>14</b>
<b>7.3 Test parameters and network configuration.....</b>	<b>14</b>
<b>7.4 Measured and documented data.....</b>	<b>14</b>
<b>Annex A (normative) Test conditions - Connection types and test conditions .....</b>	<b>16</b>
<b>Annex B (informative) Additional scope considerations - Equipment classification and examples.....</b>	<b>17</b>
<b>Annex C (informative) General information on network technologies and network configurations with respect to power consumption - Examples of network port configurations .....</b>	<b>19</b>

<b>Annex D (informative) Information to be provided to the user and other interested parties .....</b>	<b>20</b>
D.1 <b>Information available online.....</b>	<b>20</b>
D.2 <b>Information available in the user manual.....</b>	<b>20</b>
<b>Annex E (informative) Example of a test report template .....</b>	<b>21</b>
<b>Annex ZA (informative) Relationship between this European Standard and the ecodesign requirements of Commission Regulation (EU) No 801/2013 aimed to be covered .....</b>	<b>24</b>
<b>Bibliography.....</b>	<b>27</b>

## European foreword

This document (EN 50643:2018) was prepared by Technical Committee CENELEC TC 100X, "Audio, video and multimedia systems and equipment and related sub-systems" in collaboration with CENELEC TC 59X, "Performance of household and similar electrical appliances".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-12-11
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2021-12-11

This document has been prepared under a mandate (M/544) given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

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 the power consumed by the equipment having one or more wired or wireless **network port(s)** able to resume a function by way of a remotely initiated trigger or **reactivation trigger** from a **network** connection.

For the measurement of low power, reference is made to EN 50564:2011. This standard also provides a method to test **power management** and whether it is possible to deactivate wireless **network** connection(s).

## 1 Scope

### 1.1 Equipment in the scope of this standard

This European Standard specifies methods of measurement of electrical power consumption in **networked standby** and the reporting of the results for **edge equipment**.

Power consumption in standby (other than **networked standby**) is covered by EN 50564, including the input voltage range.

This European Standard also provides a method to test **power management** and whether it is possible to deactivate wireless **network** connection(s).

**NOTE 1** This standard has been written in particular to support Commission Regulation (EU) No 801/2013 for the measurement of energy consumption in **networked standby**. This standard applies 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 2** The measurement of energy consumption and performance of products during intended use are generally specified in product standards and are not covered by this standard.

**NOTE 3** 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.

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.

### 1.2 Equipment not in the scope of this standard

This European Standard does not apply to the measurement of electrical power consumption in **networked standby** for **interconnecting equipment**.

**NOTE** Measurement of electrical power consumption in **networked standby** for interconnecting equipment is the subject of ETSI standard EN 303 423 “Environmental Engineering (EE) - Electrical and electronic household and office equipment; Measurement of networked standby power consumption for interconnecting equipment”.

## 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.

EN 50564:2011, *Electrical and electronic household and office equipment - Measurement of low power consumption*