

© Copyright SEK Svensk Elstandard. 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 IEC 63474:2023. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 63474:2023.

Nationellt förord

Europastandarden EN IEC 63474:2023

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 63474, First edition, 2023 - Electrical and electronic household and office equipment – Measurement of networked standby power consumption of edge equipment**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 35.020.00

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

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

ICS 35.020

English Version

Electrical and electronic household and office equipment -
Measurement of networked standby power consumption of edge
equipment
(IEC 63474:2023)

Appareils électriques et électroniques pour application
domestique et équipement de bureau - Mesurage de la
consommation d'énergie en veille avec maintien de la
connexion au réseau des équipements de périphérie
(IEC 63474:2023)

Elektrische und elektronische Haushalts- und Bürogeräte -
Messung der Leistungsaufnahme im vernetzten
Bereitschaftsbetrieb von Geräten am Netzwerkrand
(IEC 63474:2023)

This European Standard was approved by CENELEC on 2023-06-27. 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye 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

European foreword

The text of document 100/3836/CDV, future edition 1 of IEC 63474, prepared by IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63474:2023.

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) 2024-03-27
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-06-27

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 63474:2023 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62301 NOTE Approved as EN 50564

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where 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.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62301	2011	Electrical and electronic household and office equipment - Measurement of low power consumption	EN 50564	2011

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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 – Mesurage de la consommation d'énergie en veille avec maintien de la connexion au réseau des équipements de périphérie

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 35.020

ISBN 978-2-8322-7029-5

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms, definitions and abbreviations	7
3.1 Terms and definitions.....	7
3.2 Abbreviated terms.....	9
4 Information required for testing purposes.....	9
4.1 Information about network port(s)	9
4.2 Power management function - periods and conditions.....	10
4.3 Activation and deactivation of wireless network connections	10
5 Measurement conditions.....	10
5.1 Common requirements.....	10
5.2 Test room	11
5.3 Power supply	11
5.4 Power measuring instruments	11
5.5 Configuration of network ports	11
5.6 Measurement uncertainty.....	12
6 Measurement procedure	12
6.1 General.....	12
6.2 Wireless network connection management.....	12
6.2.1 Test sequence.....	12
6.2.2 Verifying that wireless connections are deactivated	12
6.2.3 Verifying that a wireless network connection is active.....	12
6.3 Preparation of the EUT and general testing aspects.....	12
6.4 Power management, reactivation, and networked standby power consumption	12
6.5 Measurement of standby power consumption with all network ports disconnected	13
6.6 Measurement of networked standby power consumption with all network ports connected	14
7 Test report.....	14
7.1 Test and laboratory details.....	14
7.2 Details of product under test	14
7.3 Test parameters and network configuration.....	14
7.4 Measured and documented data	15
Annex A (normative) Test conditions – Connection types and test conditions.....	16
Annex B (informative) Additional scope considerations – Equipment classification and examples	17
Annex C (informative) General information on network technologies and network configurations with respect to power consumption – Examples of network port configurations	19
Annex D (informative) Information to be provided to the user and other interested parties	20
D.1 Information available online	20
D.2 Information available in the user manual.....	20
Annex E (informative) Example of a test report template.....	21

Bibliography..... 23

Table A.1 – Test conditions by type of connection..... 16

Table B.1 – Classification of networked equipment 17

Table B.2 – Examples of equipment definition and its classification 18

Table C.1 – Examples of technologies considered for networked standby 19

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL AND ELECTRONIC HOUSEHOLD AND OFFICE EQUIPMENT –
MEASUREMENT OF NETWORKED STANDBY POWER
CONSUMPTION OF EDGE EQUIPMENT**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 63474 has been prepared by technical area 19: Environmental and energy aspects for multimedia systems and equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment. It is an International Standard.

The text of this document is based on EN 50643:2018. It was submitted to the National Committees for voting under the Fast Track Procedure.

The text of this International Standard is based on the following documents:

Draft	Report on voting
100/3836/CDV	100/3898/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

The methods defined in this document 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 consumption, reference is made to EN 50564:2011. This document also provides a method to test power management and whether it is possible to deactivate wireless network connection(s).

ELECTRICAL AND ELECTRONIC HOUSEHOLD AND OFFICE EQUIPMENT – MEASUREMENT OF NETWORKED STANDBY POWER CONSUMPTION OF EDGE EQUIPMENT

1 Scope

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

NOTE 1 This document 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 document.

NOTE 3 The term "products" in this document includes household appliances or information technology products, consumer electronics, audio, video and multimedia systems; however, the measurement methodology can be applied to other products.

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

NOTE 4 Measurement of electrical power consumption in networked standby for interconnecting equipment is the subject of ETSI standard EN 303 423.

2 Normative references

The following documents are referred to in the text in such way that some or all of their content constitutes requirements 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.

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