ARVUTITE JA SERVERITE KESKKONNAHOIDLIKU PROJEKTEERIMISE NÕUDED

Ecodesign requirements for computers and computer servers

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 50672:2017 sisaldab Euroopa standardi EN 50672:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 50672:2017 consists of the English text of the European standard EN 50672:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 17.11.2017.	Date of Availability of the European standard is 17.11.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 35.160

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50672

November 2017

ICS 35.160

English Version

Ecodesign requirements for computers and computer servers

Exigences d'écoconception applicables aux ordinateurs et aux serveurs informatiques

Anforderungen an die umweltgerechte Gestaltung von Computern und Computerservern

This European Standard was approved by CENELEC on 2017-08-28. 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.

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CENELEC

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

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Ref. No. EN 50672:2017 E

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European foreword

This document (EN 50672:2017) has been prepared by Technical Committee CLC/TC 100X, “Audio, video and multimedia systems and equipment and related sub-systems”, Working Group 02, “Energy efficiency”.

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)	2018-08-28
latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2020-08-28

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This document has been prepared under a mandate 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.

Introduction

A preparatory study carried out by the European Commission estimated the cost-efficient improvement potential in the electricity consumption of computers between 2011 and 2020 at about 93 TWh, which corresponds to 43 Mt of CO_2 emissions, and in 2020 at between 12,5 TWh and 16,3 TWh, which corresponds to 5,0-6,5 Mt of CO_2 emissions. Consequently, computers constitute a product group for which Ecodesign requirements have been established.

Since much of the energy-savings potential of desktop thin clients, workstations, small-scale servers and computer servers is linked to the efficiency of their internal power supplies and since the technical specifications of internal power supplies for these products are similar to those for desktop computers and integrated desktop computers, the provisions on internal power supply efficiency set up for desktop computers also apply to desktop thin clients, workstations, small-scale servers and computer servers.

While the focus is put on energy consumption, computer products (and energy-related products in general) are expected to be designed in such a way to also preserve other resources.

The present European Standard provides a way to determine compliance of computers and computer servers in scope of Commission Regulation (EU) N° 617/2013 with the applicable requirements through reliable, accurate and reproducible measurement methods, which take into account the recognized state of the art, including, where available, existing harmonized standards established in conformity with the applicable European standardization legislation. It also provides guidance for declarations that are required under the same Regulation.

1 Scope

This European Standard provides methods to determine, by means of tests, measurements and/or calculations:

— The energy consumption of desktop computers, integrated desktop computers and notebook computers in OFF mode, with Wake-on-LAN (when available) enabled and disabled;

— The energy consumption of desktop computers, integrated desktop computers and notebook computers in other modes of operation, including low power state(s);

— The lowest power state of desktop computers, integrated desktop computers and notebook computers;

— The Discrete Graphics Card (dGfx) category, when applicable;

— The internal power supply efficiency of desktop computers, integrated desktop computers, computer thin clients, workstations, small-scale servers and computer servers;

— The availability and the behaviour of a power management function.

NOTE The “Discrete Graphics Card” may not be a physically separate printed circuit board but any hardware providing graphics acceleration function.

This European Standard also suggests methods to determine, when such information is not otherwise available from a trustable source:

— The efficiency of the external power supply supplied with the computer, if applicable;

— The noise level of desktop computers, integrated desktop computers, computer thin clients, workstations, small-scale servers and computer servers;

— The minimum number of loading cycles that the batteries can withstand;

— The total mercury content in the integrated display, when applicable.

This European Standard additionally provides guidance on information to be provided by manufacturers under some Ecodesign programmes or regulations, including, when applicable:

— The results of the above mentioned energy efficiency measurements;

— Energy efficiency parameters calculated from the above measurements (e.g. the total energy consumption, based on a pre-defined duty cycle);

— The external power supply efficiency;

— The noise levels (the declared A-weighted sound power level) of the computer;

— The minimum number of loading cycles that the batteries can withstand;

— Whether internal batteries can be “accessed and replaced by a nonprofessional user”, and whether the related text is present and legible on the external packaging;

— User information on power management functionality;

— The total mercury content in the integrated display.

This European Standard applies to desktop computers, integrated desktop computers, notebook computers (including tablet computers, slate computers and mobile thin clients), desktop thin clients, workstations, mobile

workstations, small-scale servers and computer servers, that can be powered directly from the mains alternating current (a.c.), including via an external or internal power supply.

This European Standard does not cover blade systems and components, server appliances, multi-node servers, computer servers with more than four processor sockets, game consoles and docking stations.

This European Standard may be applied to any type of computer and computer server not specifically excluded, regardless of its power demand.

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 50563:2011, *External a.c. - d.c. and a.c. - a.c. power supplies – Determination of no-load power and average efficiency of active modes*

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

EN 61960:2011, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications*

EN 62321-4, *Determination of certain substances in electrotechnical products - Part 4: Mercury in polymers, metals and electronics by CV-AAS, CV-AFS, ICP-OES and ICP-MS (IEC 62321-4)*

EN 62554:2011, *Sample preparation for measurement of mercury level in fluorescent lamps (IEC 62554:2011)*

EN 62623:2013, *Desktop and notebook computers - Measurement of energy consumption (IEC 62623:2012)*

ECMA-74, *Measurement of Airborne Noise emitted by Information Technology and Telecommunications Equipment, 13th edition (June 2015)*

ECMA-109, *Declared Noise Emission Values of Information Technology and Telecommunications Equipment, 6th edition (December 2012)*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following term and definition applies.

NOTE 1 Further terms and definitions from standards and regulations related to the topic of this standard can be found in the compendium of terms used in Ecodesign Directives, Regulations and Standards, maintained by the CEN-CENELEC Ecodesign Coordination Group (EcoCG).

NOTE 2 When this European Standard is used to give presumption of conformity to a European Directive or Regulation, definitions given in the Directive or Regulation prevail.

3.1.1
rated output power
maximum continuous output power of the power supply, as specified by the manufacturer

Note 1 to entry: In EC Regulation 278/2009 the corresponding term is “nameplate output power”.

[SOURCE: EN 50563:2011, definition 3.1.5, modified by removal of “external”]