

Particular requirements for load-shedding equipment  
(LSE)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 62962:2019 sisaldab Euroopa standardi EN IEC 62962:2019 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 62962:2019 consists of the English text of the European standard EN IEC 62962:2019.
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ICS 27.015; 29.020

English Version

**Particular requirements for load-shedding equipment (LSE)  
(IEC 62962:2019)**

Exigences spécifiques pour les délesteurs (LSE)  
(IEC 62962:2019)

Besondere Anforderungen für Lastabwurfeinrichtungen  
(LSE)  
(IEC 62962:2019)

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Europäisches Komitee für Elektrotechnische Normung

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## European foreword

The text of document 23K/47/FDIS, future edition 1 of IEC 62962, prepared by SC 23K "Electrical Energy Efficiency products" of IEC/TC 23 "Electrical accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62962:2019.

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- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-07-18
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-10-18

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### Endorsement notice

The text of the International Standard IEC 62962:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60038	NOTE	Harmonized as EN 60038
IEC 60112	NOTE	Harmonized as EN 60112
IEC 60364-4-41	NOTE	Harmonized as HD 60364-4-41
IEC 60364-5-51:2005	NOTE	Harmonized as HD 60364-5-51:2009
IEC 60364-8-1:2019	NOTE	Harmonized as HD 60364-8-1:2019 (not modified)
IEC 60529	NOTE	Harmonized as EN 60529
IEC 60669-1:2017	NOTE	Harmonized as EN 60669-1:2018
IEC 60721-3-3	NOTE	Harmonized as EN IEC 60721-3-3
IEC 60947-1:2007	NOTE	Harmonized as EN 60947-1:2007 (not modified)
IEC 60998-2-2:2002	NOTE	Harmonized as EN 60998-2-2:2004
IEC 61000-3-2	NOTE	Harmonized as EN IEC 61000-3-2
IEC 61008-1:2010	NOTE	Harmonized as EN 61008-1:2012
IEC 61008-1:2010/A1:2012	NOTE	Harmonized as EN 61008-1:2012/A1:2014
IEC 61008-1:2010/A2:2013	NOTE	Harmonized as EN 61008-1:2012/A2:2014
IEC 61009-1:2010	NOTE	Harmonized as EN 61009-1:2012
IEC 61009-1:2010/A1:2012	NOTE	Harmonized as EN 61009-1:2012/A1:2014
IEC 61009-1:2010/A2:2013	NOTE	Harmonized as EN 61009-1:2012/A2:2014
IEC 61140	NOTE	Harmonized as EN 61140
ISO 2039-2:1987	NOTE	Harmonized as EN ISO 2039-2:1999 (not modified)

## 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.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60065	2001	Audio, video and similar electronic apparatus - Safety requirements	-	-
IEC 60085	-	Electrical insulation - Thermal evaluation and designation	EN 60085	-
IEC 60127	series	Miniature fuses	EN 60127	series
IEC 60212	-	Standard conditions for use prior to and during the testing of solid electrical insulating materials	EN 60212	-
IEC 60317-0-1	1997	Specifications for particular types of winding wires -- Part 0-1: General requirements - Enamelled round copper wire	-	-
IEC 60364	series	Low-voltage electrical installations	HD 60364	series
IEC 60384-14	1993	Fixed capacitors for use in electronic equipment -- Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	-	-
IEC 60417	-	Graphical symbols for use on equipment. Index, survey and compilation of the single sheets.	-	-
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60695-2-10	2000	Fire hazard testing -- Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	-	-
IEC 60695-2-11	2000	Fire hazard testing -- Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60730	series	Automatic electrical controls	EN 60730	series
IEC 61000-2-2	-	Electromagnetic compatibility (EMC) - Part 2-2: Environment - Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems	EN 61000-2-2	-
IEC 61000-4-2	-	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	-
IEC 61000-4-3	-	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	-	-
IEC 61000-4-4	-	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	-
IEC 61000-4-5	-	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	-
IEC 61000-4-6	-	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	-
IEC 61000-4-8	-	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	-
IEC 61000-4-11	-	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	-
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998
IEC 61558-2-6	-	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers	EN 61558-2-6	-
ISO 306	-	Plastics - Thermoplastic materials - Determination of Vicat softening temperature (VST)	EN ISO 306	-
CISPR 15	-	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	EN IEC 55015	-

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**PARTICULAR REQUIREMENTS FOR  
LOAD-SHEDDING EQUIPMENT (LSE)**

## FOREWORD

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International Standard IEC 62962 has been prepared by subcommittee 23K: Electrical energy efficiency products, of IEC technical committee 23: Electrical accessories.

The text of this standard is based on the following documents:

FDIS	Report on voting
23K/47/FDIS	23K/48/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

In this document, the following print types are used:

- *conformity statements: in italic type.*

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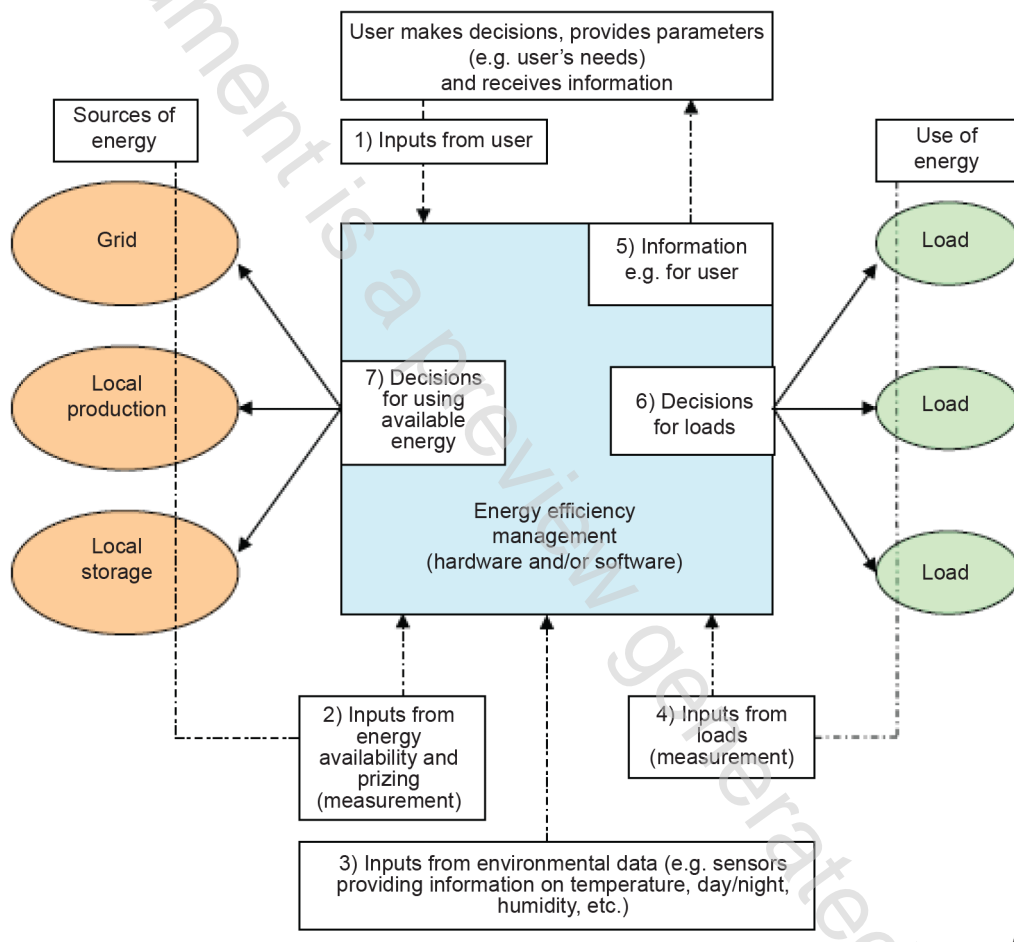
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## INTRODUCTION

The optimization of electrical energy usage can be facilitated by appropriate design and installation considerations. An electrical installation can provide the required level of service and safety for the lowest electrical consumption.

This is considered by designers as a general requirement of their design procedures to establish the best use of electrical energy.

The optimization of the use of electricity is based on energy efficiency management which is based on the price of electricity, electrical consumption and real-time adaptation, as described in Figure 1 according to IEC 60364-8-1:2019.



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**Figure 1 – Energy efficiency management system**

This document applies to load-shedding equipment (LSE), for household and similar uses.

The LSE is an equipment able to respond to the monitored current or power, or alternative monitored parameters to switch ON and OFF selected loads when certain conditions are met.

The load-shedding function is used in energy management systems to optimize the overall use of electrical energy including production and storage, and can be used for example for energy efficiency purposes as per IEC 60364-8-1:2019.



## PARTICULAR REQUIREMENTS FOR LOAD-SHEDDING EQUIPMENT (LSE)

### 1 Scope

The purpose of this document is to provide requirements for equipment to be used in energy efficiency systems. This document covers load-shedding equipment (LSE).

Guidelines relating to safety for LSE as given in IEC Guide 110 have been followed.

This document applies to load-shedding equipment for household and similar uses. The load-shedding function is used in energy management systems to optimize the overall use of electrical energy including production and storage. Load-shedding can be used for example for energy efficiency purposes as per IEC 60364-8-1:2019.

This document applies to LSE for operation under normal conditions:

- AC circuits with a rated frequency of 50 Hz, 60 Hz or both, with a rated voltage not exceeding 440 V (between phases), a rated current not exceeding 125 A and a rated short-circuit capacity not exceeding 25 000 A; or
- DC circuits<sup>1</sup>.

LSEs are intended to control the energy supplied to one or more load, circuit or mesh when:

- defined conditions of time and current are reached;
- a command or information from an external system is received.

An LSE is intended to serve as:

- a single equipment having all the necessary means able to control the loads (e.g. the electrical energy management function is embedded in such an equipment); or
- a unit integrated into a more complex equipment or an independent equipment being part of an electrical energy management system (EEMS); or
- an assembly of independent equipment forming an LSE (e.g. an LSE with external current sensors); or
- as a combination of the above points.

LSE can have a wireless interface.

LSE is part of the fixed installation.

NOTE 1 This document covers load shedding equipment in the fixed installations including portable appliances connected thereto.

LSE are intended for use in circuits with protection against electrical shock and over-current according to IEC 60364 (all parts).

NOTE 2 For example, fault protection (indirect contact protection) can be covered as follows:

- in TT systems, by an upstream RCBOs or RCCBs according to IEC 61008-1 and IEC 61009-1;

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<sup>1</sup> LSE for DC circuits are under consideration.