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## **Laddningsbara batterier och batterianläggningar – Säkerhet – Del 1: Allmänt**

*Safety requirements for secondary batteries and battery installations –  
Part 1: General safety information*

Som svensk standard gäller europastandarden EN IEC 62485-1:2018. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 62485-1:2018.

### **Nationellt förord**

Europastandarden EN IEC 62485-1:2018

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 62485-1, First edition, 2015 - Safety requirements for secondary batteries and battery installations - Part 1: General safety information**

utarbetad inom International Electrotechnical Commission, IEC.

EN från CENELEC som är identiska med motsvarande IEC-standarder och som görs tillgängliga för nationalkommittéerna efter den 1 januari 2018 får en beteckning som inleds med EN IEC istället för som tidigare bara EN.

Tidigare fastställd svensk standard SS-EN 50272-1, utgåva 1, 2011, gäller ej fr o m 2021-04-09.

### *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.

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### *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.

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

### **SEK Svensk Elstandard**

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English Version

Safety requirements for secondary batteries and battery  
installations - Part 1: General safety information  
(IEC 62485-1:2015)

Exigences de sécurité pour les batteries d'accumulateurs et  
les installations de batteries - Partie 1: Informations  
générales de sécurité  
(IEC 62485-1:2015)

Sicherheitsanforderungen an Sekundär-Batterien und  
Batterieanlagen - Teil 1: Allgemeine  
Sicherheitsinformationen  
(IEC 62485-1:2015)

This European Standard was approved by CENELEC on 2018-04-09. 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

## European foreword

This document (EN IEC 62485-1:2018) consists of the text of IEC 62485-1:2015 prepared by IEC/TC 21 "Secondary cells and batteries".

The following dates are fixed:

- latest date by which this document has to be implemented (dop) 2019-04-09  
at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2021-04-09

This document supersedes EN 50272-1:2010.

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.

## Endorsement notice

The text of the International Standard IEC 62485-1:2015 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 60254-1      | NOTE Harmonized as EN 60254-1.      |
| IEC 60254-2      | NOTE Harmonized as EN 60254-2.      |
| IEC 60622        | NOTE Harmonized as EN 60622.        |
| IEC 60623        | NOTE Harmonized as EN 60623.        |
| IEC 60896-21     | NOTE Harmonized as EN 60896-21.     |
| IEC 60896-22     | NOTE Harmonized as EN 60896-22.     |
| IEC 60952-1      | NOTE Harmonized as EN 60952-1.      |
| IEC 60952-2      | NOTE Harmonized as EN 60952-2.      |
| IEC 60952-3      | NOTE Harmonized as EN 60952-3.      |
| IEC 61056-1      | NOTE Harmonized as EN 61056-1.      |
| IEC 61056-2      | NOTE Harmonized as EN 61056-2.      |
| IEC 61427 series | NOTE Harmonized as EN 61427 series. |
| IEC 61951-1      | NOTE Harmonized as EN 61951-1.      |
| IEC 61951-2      | NOTE Harmonized as EN 61951-2.      |
| IEC 61959        | NOTE Harmonized as EN 61959.        |
| IEC 61960        | NOTE Harmonized as EN 61960.        |
| IEC 61982        | NOTE Harmonized as EN 61982.        |
| IEC 62133        | NOTE Harmonized as EN 62133.        |
| IEC 62259        | NOTE Harmonized as EN 62259.        |
| IEC 62877-1      | NOTE Harmonized as EN 62877-1.      |
| IEC 62877-2      | NOTE Harmonized as EN 62877-2.      |

## 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 60050-482      | 2004        | International Electrotechnical Vocabulary (IEV) -- Part 482: Primary and secondary cells and batteries                                                       | -                  | -           |
| IEC 60364-4-41     | -           | Low-voltage electrical installations -- Part 4-41: Protection for safety - Protection against electric shock                                                 | HD 60364-4-41      | -           |
| IEC 60993          | -           | Electrolyte for vented nickel-cadmium cells                                                                                                                  | EN 60993           | -           |
| IEC 61429          | 1995        | Marking of secondary cells and batteries with the international recycling symbol ISO 7000-1135 and indications regarding directives 93/86/EEC and 91/157/EEC | EN 61429           | 1996        |
| -                  | -           |                                                                                                                                                              | + A11              | 1998        |
| -                  | -           |                                                                                                                                                              | + corrigendum Oct. | 1998        |
| IEC 62485-2        | -           | Safety requirements for secondary batteries and battery installations -- Part 2: Stationary batteries                                                        | EN 62485-2         | -           |
| IEC 62485-3        | -           | Safety requirements for secondary batteries and battery installations -- Part 3: Traction batteries                                                          | EN 62485-3         | -           |
| IEC 62485-4        | -           | Safety requirements for secondary batteries and battery installations -- Part 4: Valve-regulated lead-acid batteries for use in portable appliances          | EN 62485-4         | -           |
| ISO 7000           | -           | Graphical symbols for use on equipment - Registered symbols                                                                                                  | -                  | -           |

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## SAFETY REQUIREMENTS FOR SECONDARY BATTERIES AND BATTERY INSTALLATIONS –

### Part 1: General safety information

#### 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.
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International Standard IEC 62485-1 has been prepared by IEC technical committee 21: Secondary cells and batteries.

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

| FDIS        | Report on voting |
|-------------|------------------|
| 21/851/FDIS | 21/856/RVD       |

Full information on the voting for the approval of this standard 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.

A list of all parts of the IEC 62485 series can be found, under the general title *Safety requirements for secondary batteries and battery installations*, on the IEC website.

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

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

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

# SAFETY REQUIREMENTS FOR SECONDARY BATTERIES AND BATTERY INSTALLATIONS –

## Part 1: General safety information

### 1 Scope

This Part of IEC 62485 specifies the basic requirements for secondary batteries and battery installations.

The requirements regarding safety, reliability, life expectancy, mechanical strength, cycle stability, internal resistance, and battery temperature, are determined by various applications, and this, in turn, determines the selection of the battery design and technology.

In general, the requirements and definitions are specified for lead-acid and nickel-cadmium batteries. For other battery systems with aqueous electrolyte, the requirements may be applied accordingly.

The standard covers safety aspects taking into account hazards associated with:

- electricity (installation, charging, discharging, etc.);
- electrolyte;
- inflammable gas mixtures;
- storage and transportation.

With respect to electrical safety, reference is made to IEC 60364-4-41.

### 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.

IEC 60050-482:2004, *International Electrotechnical Vocabulary – Part 482: Primary and secondary cells and batteries*

IEC 60364-4-41, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60993, *Electrolyte for vented nickel-cadmium cells*

IEC 61429:1995, *Marking of secondary cells and batteries with the international recycling symbol ISO 7000-1135*

IEC 62485-2, *Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries*

IEC 62485-3, *Safety requirements for secondary batteries and battery installations – Part 3: Traction batteries*

IEC 62485-4, *Safety requirements for secondary batteries and battery installations – Part 4: Valve-regulated lead-acid batteries for use in portable appliances*

ISO 7000, *Graphical symbols for use on equipment – Registered symbols*