BS EN 61960-3:2017



BSI Standards Publication

Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications

Part 3: Prismatic and cylindrical lithium secondary cells, and batteries made from them (IEC 61960-3:2017)

bsi.

National foreword

This British Standard is the UK implementation of EN 61960-3:2017. It is identical to IEC 61960-3:2017. It supersedes BS EN 61960:2011, which will be withdrawn on 14 March 2020.

NOTE 1 Other standards with the same main identifier are as follows:

- BS EN 61960-1:2001, Secondary lithium cells and batteries for portable applications — Part 1: Secondary lithium cells, withdrawn on 1 March 2007 and replaced by BS EN 61959:2004, BS EN 62133:2003 and BS EN 61960:2004.
- BS EN 61960-2:2002, Secondary lithium cells and batteries for portable applications — Part 2: Secondary lithium batteries, withdrawn on 1 March 2007 and replaced by BS EN 61959:2004, BS EN 62133:2003 and BS EN 61960:2004.
- BS EN 61960:2004, Secondary cells and batteries containing alkaline or other non-acid electrolytes — Secondary lithium cells and batteries for portable applications, withdrawn on 1 July 2014 and replaced by BS EN 61960:2011.

NOTE 2 BS EN 61960-4, Secondary cells and batteries containing alkaline or other non-acid electrolytes — Secondary lithium cells and batteries for portable applications — Part 4: Coin-type lithium secondary cells and batteries, is in preparation.

The UK participation in its preparation was entrusted to Technical Committee PEL/21/1, Secondary cells and batteries containing alkaline and other non-acidic electrolytes.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications - Part 3: Prismatic and cylindrical lithium secondary cells, and batteries made from them (IEC 61960-3:2017)

Accumulateurs alcalins et autres accumulateurs à électrolyte non acide - Accumulateurs au lithium pour applications portables - Partie 3: Eléments et batteries d'accumulateurs au lithium, parallélépipédiques et cylindriques (IEC 61960-3:2017)

Akkumulatoren und Batterien mit alkalischen oder anderen nichtsäurehaltigen Elektrolyten - Lithium-Akkumulatoren und -batterien für tragbare Geräte - Teil 3: Prismatische und zylindrische Akkumulatoren und daraus hergestellte Batterien (IEC 61960-3:2017)

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

The text of document 21A/618/FDIS, future edition 1 of IEC 61960-3, prepared by SC 21A "Secondary cells and batteries containing alkaline or other non-acid electrolytes", of IEC/TC 21 "Secondary cells and batteries" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61960-3:2017.

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) 2017-12-14
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-03-14

This document supersedes EN 61960:2011

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Endorsement notice

The text of the International Standard IEC 61960-3:2017 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 60051	NOTE	Harmonized in EN 60051 series.
IEC 60086-4	NOTE	Harmonized as EN 60086-4.
IEC 61434	NOTE	Harmonized as EN 61434.
IEC 61959	NOTE	Harmonized as EN 61959.
IEC 62281	NOTE	Harmonized as EN 62281.
IEC 62368-1	NOTE	Harmonized as EN 62368-1.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 When 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.

Publication	Year	Title	EN/HD	Year
IEC 60050-482	2004	International Electrotechnical Vocabulary (IEV) - Part 482: Primary and secondary cells and batteries	-	-
IEC 61000-4-2	-	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	-
IEC 62133-2	2017	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems	EN 62133-2	2017

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SECONDARY CELLS AND BATTERIES CONTAINING ALKALINE OR OTHER NON-ACID ELECTROLYTES – SECONDARY LITHIUM CELLS AND BATTERIES FOR PORTABLE APPLICATIONS –

Part 3: Prismatic and cylindrical lithium secondary cells, and batteries made from them

FOREWORD

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International Standard IEC 61960-3 has been prepared by subcommittee 21A: Secondary cells and batteries containing alkaline or other non-acid electrolytes, of IEC technical committee 21: Secondary cells and batteries.

This first edition cancels and replaces the second edition of IEC 61960 published in 2011. It is a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- adding definition of portable applications (Scope),
- update of examples of cells (Table 1 and 2),

- adding “Dimensions of the cell with a laminate film case” (Annex A),
- adding “Capacity after storage” (from the date of manufacture) (Annex B).

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

FDIS	Report on voting
21A/618/FDIS	21A/625/RVD

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

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

A list of all parts in the IEC 61960 series, published under the general title *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Secondary lithium cells and batteries for portable applications*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://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.

SECONDARY CELLS AND BATTERIES CONTAINING ALKALINE OR OTHER NON-ACID ELECTROLYTES – SECONDARY LITHIUM CELLS AND BATTERIES FOR PORTABLE APPLICATIONS –

Part 3: Prismatic and cylindrical lithium secondary cells, and batteries made from them

1 Scope

This part of IEC 61960 specifies performance tests, designations, markings, dimensions and other requirements for secondary lithium single cells and batteries for portable applications.

The objective of this document is to provide the purchasers and users of secondary lithium cells and batteries with a set of criteria with which they can judge the performance of secondary lithium cells and batteries offered by various manufacturers.

Portable applications comprise hand-held equipment, transportable equipment and movable equipment.

Examples of the main uses are shown below:

a) hand-held equipment: smartphone, tablet PCs, audio/video players, and similar equipment;

b) transportable equipment: notebook computers, CD players, and similar equipment;

c) movable equipment

- 18 kg or less in mass and not fixed in place, or
- provided with wheels, castors, or other means to facilitate movement by an ordinary person as required to perform its intended use,
- power tools, power assisted cycles, business-use video cameras, and similar equipment.

NOTE 1 All applications using batteries whose nominal voltages are equal to or over the hazardous voltage of 60 V DC are excluded.

NOTE 2 EESS (Electrical Energy Storage Systems) and UPS, which use batteries over 500 Wh of electric energy are excluded.

NOTE 3 Self-propelled vehicles are excluded.

This document defines a minimum required level of performance and a standardized methodology by which testing is performed and the results of this testing reported to the user. Hence, users will be able to establish the viability of commercially available cells and batteries via the declared specification and thus be able to select the cell or battery best suited for their intended application. The end user can handle only batteries which have completely fulfilled all the requirements of this document and others concerning safety such as IEC 62133-2.

This document covers secondary lithium cells and batteries with a range of chemistries. Each electrochemical couple has a characteristic voltage range over which it releases its electrical capacity, a characteristic nominal voltage and a characteristic final voltage during discharge. Users of secondary lithium cells and batteries are requested to consult the manufacturer for advice.