

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

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EUROPEAN STANDARD

EN 61960

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2004

ICS 29.220.99

Partially supersedes EN 61960-1:2001 & EN 61960-2:2001

English version

**Secondary cells and batteries containing alkaline
or other non-acid electrolytes –
Secondary lithium cells and batteries for portable applications
(IEC 61960:2003)**

Accumulateurs alcalins et autres
accumulateurs à électrolyte non acide –
Eléments et batteries d'accumulateurs
au lithium pour applications portables
(CEI 61960:2003)

Akkumulatoren und Batterien
mit alkalischem oder anderen
nichtsäurehaltigen Elektrolyten –
Lithium-Akkumulatoren und -batterien
für tragbare Geräte
(IEC 61960:2003)

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This European Standard was approved by CENELEC on 2004-03-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 21A/391/FDIS, future edition 1 of IEC 61960, 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 was approved by CENELEC as EN 61960 on 2004-03-01.

This European Standard, together with EN 61959:2004 and EN 62133:2003, supersedes EN 61960-1:2001 and EN 61960-2:2001.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2004-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-03-01

Annex ZA has been added by CENELEC.

iTeh STANDARD PREVIEW Endorsement notice (standards.iteh.ai)

The text of the International Standard IEC 61960:2003 was approved by CENELEC as a European Standard without any modification. [SIST EN 61960:2004](https://standards.iteh.ai/catalog/standards/sist/35fbc13d-236c-4b73-9fd-85366e68d73/iec-61960-2004)

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

IEC 61434 NOTE Harmonized as EN 61434:1996 (not modified).

IEC 61959 NOTE Harmonized as EN 61959:2004 (not modified).

IEC 62133 NOTE Harmonized as EN 62133:2003 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-486	– ¹⁾	International Electrotechnical Vocabulary (IEV) Chapter 486: Secondary cells and batteries	–	–
IEC 60051-1	Series	Direct acting indicating analogue electrical measuring instruments and their accessories Part 1: Definitions and general requirements common to all parts	EN 60051-1	Series
IEC 60485	– ¹⁾	Digital (electronic d.c. voltmeters and d.c. electronic analogue-to-digital converters)	–	–
IEC 61000-4-2	– ¹⁾	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	1995 ²⁾

¹⁾ undated reference.

²⁾ valid edition at date of issue.

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NORME
INTERNATIONALE
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STANDARD

CEI
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61960

Première édition
First edition
2003-12

**Accumulateurs alcalins et autres accumulateurs
à électrolyte non acide –
Eléments et batteries d'accumulateurs
au lithium pour applications portables**

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alkaline or other non-acid electrolytes –
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International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

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International Standard IEC 61960 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.

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

FDIS	Report on voting
21A/391/FDIS	21A/396/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.

The committee has decided that the content of this publication will remain unchanged until 2008. At this date the publication will be

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

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

1 Scope

This International Standard specifies performance tests, designations, markings, dimensions and other requirements for secondary lithium single cells and batteries for portable applications.

The objective of this standard 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.

This standard 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.

This standard 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 end-of-discharge voltage during discharge. Users of secondary lithium cells and batteries are requested to consult the manufacturer for advice.

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 60050-486, *International Electrotechnical Vocabulary (IEV) – Chapter 486: Secondary cells and batteries*

IEC 60051 (all parts), *Direct acting indicating analogue electrical measuring instruments and their accessories*

IEC 60485, *Digital electronic d.c. voltmeters and d.c. electronic analogue-to-digital converters*

IEC 61000-4-2, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 2: Electrostatic discharge immunity test*