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Laddningsbara celler och batterier för system för förnybar energi – Allmänna fordringar och provning – Del 1: Användning i från nätet fristående anläggningar med solceller

*Secondary cells and batteries for renewable energy storage –
General requirements and methods of test –
Part 1: Photovoltaic off-grid application*

Som svensk standard gäller europastandarden EN 61427-1:2013. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61427-1:2013.

Nationellt förord

Europastandarden EN 61427-1:2013

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61427-1, First edition, 2013 - Secondary cells and batteries for renewable energy storage - General requirements and methods of test - Part 1: Photovoltaic off-grid application**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61427, utgåva 2, 2005, gäller ej fr o m 2016-05-28.

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English version

**Secondary cells and batteries for renewable energy storage -
General requirements and methods of test -
Part 1: Photovoltaic off-grid application
(IEC 61427-1:2013)**

Accumulateurs pour le stockage de
l'énergie renouvelable -
Exigences générales et méthodes
d'essais -
Partie 1: Applications photovoltaïques
hors réseaux
(CEI 61427-1:2013)

Wiederaufladbare Zellen und Batterien für
die Speicherung erneuerbarer Energien -
Allgemeine Anforderungen und
Prüfverfahren -
Teil 1: Photovoltaische netzunabhängige
Anwendung
(IEC 61427-1:2013)

This European Standard was approved by CENELEC on 2013-05-28. 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.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 21/793/FDIS, future edition 1 of IEC 61427-1, prepared by IEC/TC 21 "Secondary cells and batteries" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61427-1:2013.

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) 2014-02-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-05-28

This document supersedes EN 61427:2005.

EN 61427-1:2013 includes the following significant technical changes with respect to EN 61427:2005:

- a) a restructuration of the previous edition of the document;
- b) a clarification of the different clauses with regard to conditions of use, general requirements, functional characteristics, general tests conditions, test method and recommended use of tests, the aim being to ensure a better understanding by the end user;
- c) a clear distinction between on-grid and off-grid applications for future markets needs.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61427-1:2013 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60721-1 NOTE Harmonised as EN 60721-1.

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 When 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	Series	International Electrotechnical vocabulary (IEV)-		-
IEC 60622	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Sealed nickel-cadmium prismatic rechargeable single cells	EN 60622	-
IEC 60623	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Vented nickel-cadmium prismatic rechargeable single cells	EN 60623	-
IEC 60896-11	-	Stationary lead-acid batteries - Part 11: Vented types - General requirements and methods of tests	EN 60896-11	-
IEC 60896-21	-	Stationary lead-acid batteries - Part 21: Valve regulated types - Methods of test	EN 60896-21	-
IEC 61056-1	-	General purpose lead-acid batteries (valve-regulated types) - Part 1: General requirements, functional characteristics - Methods of test	EN 61056-1	-
IEC 61836	-	Solar photovoltaic energy systems - Terms, definitions and symbols	-	-
IEC 61951-1	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Portable sealed rechargeable single cells - Part 1: Nickel-cadmium	EN 61951-1	-
IEC 61951-2	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Portable sealed rechargeable single cells - Part 2: Nickel-metal hydride	EN 61951-2	-
IEC 61960	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications	EN 61960	-
IEC 62259	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Nickel-cadmium prismatic secondary single cells with partial gas recombination	EN 62259	-

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SECONDARY CELLS AND BATTERIES FOR RENEWABLE ENERGY STORAGE – GENERAL REQUIREMENTS AND METHODS OF TEST –

Part 1: Photovoltaic off-grid application

1 Scope

This part of the IEC 61427 series gives general information relating to the requirements for the secondary batteries used in photovoltaic energy systems (PVES) and to the typical methods of test used for the verification of battery performances. This part deals with cells and batteries used in photovoltaic off-grid applications.

NOTE The part 2 of this series will cover cells and batteries used in “renewable energy storage in on-grid applications”.

This International Standard does not include specific information relating to battery sizing, method of charge or PVES design.

This standard is applicable to all types of secondary batteries.

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 (all parts), *International Electrotechnical Vocabulary (IEV)* (available at <www.electropedia.org>)

IEC 60622, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Sealed nickel-cadmium prismatic rechargeable single cells*

IEC 60623, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Vented nickel-cadmium prismatic rechargeable single cells*

IEC 60896-11, *Stationary lead-acid batteries – Part 11: Vented types – General requirements and methods of test*

IEC 60896-21, *Stationary lead-acid batteries – Part 21: Valve regulated types – Methods of test*

IEC 61056-1, *General purpose lead-acid batteries (valve-regulated types) – Part 1: General requirements, functional characteristics – Methods of test*

IEC 61836, *Solar photovoltaic energy systems – Terms, definitions and symbols*

IEC 61951-1, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Portable sealed rechargeable single cells – Part 1: Nickel-cadmium*

IEC 61951-2, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Portable sealed rechargeable single cells – Part 2: Nickel-metal hydride*

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

IEC 62259, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Nickel-cadmium prismatic secondary single cells with partial gas recombination*