



NSAI
Standards

Irish Standard
I.S. EN IEC 62932-2-1:2020

Flow battery energy systems for
stationary applications - Part 2-1:
Performance general requirements and
test methods

I.S. EN IEC 62932-2-1:2020

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN IEC 62932-2-1:2020 is the adopted Irish version of the European Document EN IEC 62932-2-1:2020, Flow battery energy systems for stationary applications - Part 2-1: Performance general requirements and test methods

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EUROPEAN STANDARD

EN IEC 62932-2-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2020

ICS 29.220.99

English Version

**Flow battery energy systems for stationary applications - Part 2-
1: Performance general requirements and test methods
(IEC 62932-2-1:2020)**

Systèmes de production d'énergie de batteries
d'accumulateurs à circulation d'électrolyte pour applications
stationnaires - Partie 2-1: Exigences générales de
performances et méthodes d'essai
(IEC 62932-2-1:2020)

Flussbatterie-Systeme für stationäre Anwendungen - Teil 2-
1 : Allgemeine Leistungsanforderungen und Prüfverfahren
(IEC 62932-2-1:2020)

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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

EN IEC 62932-2-1:2020 (E)

European foreword

The text of document 21/1028/FDIS, future edition 1 of IEC 62932-2-1, prepared by IEC/TC 21 "Secondary cells and batteries" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62932-2-1:2020.

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) 2020-12-24
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-03-24

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Endorsement notice

The text of the International Standard IEC 62932-2-1:2020 was approved by CENELEC as a European Standard without any modification.

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.

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61427-2	-	Secondary cells and batteries for renewable energy storage - General requirements and methods of test - Part 2: On-grid applications	EN 61427-2	-
IEC 62932-1	-	Flow battery energy systems for stationary applications - Part 1: Terminology and general aspects	-	-
IEC 62932-2-2	-	Flow battery energy systems for stationary applications - Part 2-2 Safety requirements	-	-

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IEC 62932-2-1

Edition 1.0 2020-02

INTERNATIONAL STANDARD

**Flow battery energy systems for stationary applications –
Part 2-1: Performance general requirements and test methods**





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IEC 62932-2-1

Edition 1.0 2020-02

INTERNATIONAL STANDARD

**Flow battery energy systems for stationary applications –
Part 2-1: Performance general requirements and test methods**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FLOW BATTERY ENERGY SYSTEMS FOR STATIONARY APPLICATIONS –**Part 2-1: Performance general requirements and test methods**

FOREWORD

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International Standard IEC 62932-2-1 has been prepared by IEC technical committee 21: Secondary cells and batteries, in collaboration with IEC technical committee 105: Fuel cell technologies.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
21/1028/FDIS	21/1036/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 62932 series, published under the general title *Flow battery energy systems for stationary 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.

INTRODUCTION

A flow battery system (FBS) can be utilized as a main part of a flow battery energy system (FBES). Such an FBES can consist of:

- a flow battery system,
- a power conversion system,
- other equipment and surroundings.

The FBES is connected to the external power input or output via a point of connection (POC).

This document includes the domain of the FBES, as shown in Figure 1. Auxiliary energy to the battery management system (BMS), battery support system (BSS), and power conversion system (PCS) may be supplied by one of the following:

- direct connection to the external power source;
- the internal power source of the FBES or FBS itself.

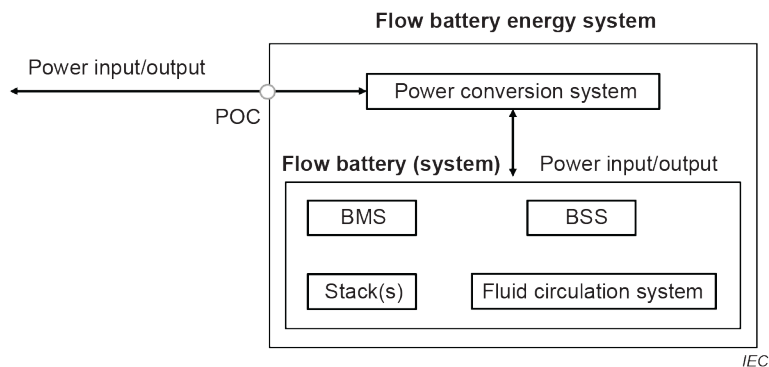


Figure 1 – Flow battery energy system

FLOW BATTERY ENERGY SYSTEMS FOR STATIONARY APPLICATIONS –

Part 2-1: Performance general requirements and test methods

1 Scope

This part of IEC 62932 specifies methods of test and requirements for the flow battery system (FBS) and the flow battery energy system (FBES) for the verification of their performances.

This document is applicable to FBES or FBS which are designed and used for service in stationary locations (i.e. not generally to be moved from place to place).

This document does not cover testing of the system for electromagnetic compatibility (EMC).

2 Normative references

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.

IEC 62932-1, *Flow battery energy systems for stationary applications – Part 1: Terminology and general aspects*

IEC 62932-2-2, *Flow battery energy systems for stationary applications – Part 2-2: Safety requirements*

IEC 61427-2, *Secondary cells and batteries for renewable energy storage – General requirements and methods of test – Part 2: On-grid applications*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document the terms and definitions given in IEC 62932-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>.
- ISO Online browsing platform: available at <http://www.iso.org/obp>.

3.2 Abbreviated terms

BMS	battery management system
BSS	battery support system
FBES	flow battery energy system
FBS	flow battery system
PCS	power conversion system
POC	point of connection
POM	point of measurement
TOU	test object unit

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