



DPC: 25/30510726 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

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Interested committees:

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



21/1254/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER:

IEC 62932-2-2 ED2

DATE OF CIRCULATION:

2025-04-25

CLOSING DATE FOR COMMENTS:

2025-06-20

SUPERSEDES DOCUMENTS:

21/1207/RR

IEC TC 21 : SECONDARY CELLS AND BATTERIES

SECRETARIAT:

France

SECRETARY:

Mr Yves BOUDOU

OF INTEREST TO THE FOLLOWING COMMITTEES:

SC 21A, TC 105

HORIZONTAL FUNCTION(S):

ASPECTS CONCERNED:

Safety

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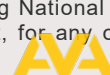
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TITLE:

Flow battery energy systems for stationary applications - Part 2-2: Safety requirements

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Link to Committee Draft (CD) online document:

<https://osd.iec.ch/#/editor/archive/3396b1b4-6a4b-b7d4-e063-1410000abac3/en/CD/1>

How to access

This link leads you to the Online Standards Development (OSD) platform for National Mirror Committee's (NMC) comments. The project draft may be found further down this document.

Resource materials

We recommend NCs to review the available materials to better understand the member commenting on the OSD platform. This includes the:

- OSD NC roles overview: [here](#)
- How to add and submit comments to the IEC: [here](#)

Contact

Should you require any assistance, please contact the IEC IT Helpdesk at helpdesk@iec.ch.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

Flow battery energy systems for stationary applications - Part 2-2: Safety requirements –

FOREWORD

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

This second edition cancels and replaces the first edition published in 2020. This edition constitutes a technical revision.

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

a) ...;

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

Draft	Report on voting

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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 webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

A flow battery system (FBS) can be utilized in 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/output via a point of connection (POC).

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

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

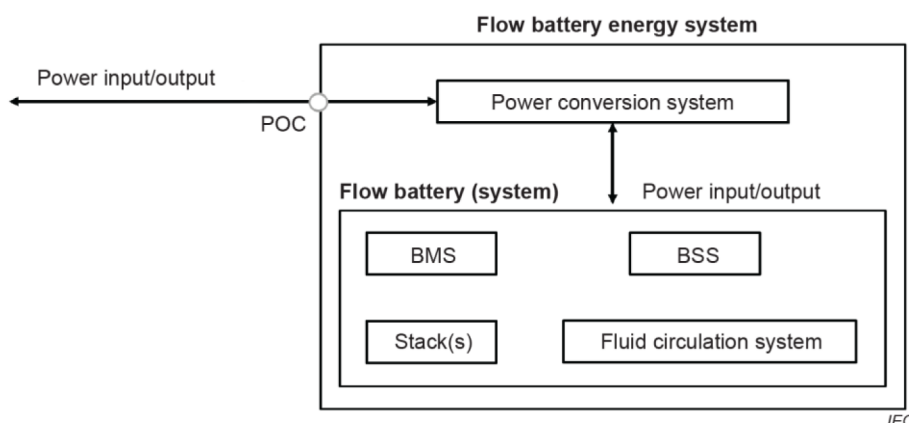


Figure 1 – Flow battery energy system

The following items were listed in the bibliography but not cited in the text. Please find a suitable place to cite them to justify their inclusion in the bibliography:

IEC 60364-5-53, *Low-voltage electrical installations - Part 5-53: Selection and erection of electrical equipment - Devices for protection for safety, isolation, switching, control and monitoring* IEC 60364-5-53 [1]

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*[IEC 60529 \[2\]](#)

IEC 60664-1, *Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests* IEC 60664-1 [3]

IEC 60721-3-2, Classification of environmental conditions - Part 3-2: Classification of groups of environmental parameters and their severities - Transportation and Handling IEC 60721-3-2 [4]

IEC 60900, *Live working - Hand tools for use up to 1 000 V AC and 1 500 V DC* IEC 60900 [5]

IEC 61000 (all parts), *Electromagnetic compatibility (EMC)* IEC 61000 (all parts) [6]

IEC 61660-1, *Short-circuit currents in d.c. auxiliary installations in power plants and substations - Part 1: Calculation of short-circuit currents* IEC 61660-1 [7]

IEC 61660-2, *Short-circuit currents in d.c. auxiliary installations in power plants and substations - Part 2: Calculation of effects*[IEC 61660-2 \[8\]](#)

IEC 62282-3-100, *Fuel cell technologies - Part 3-100: Stationary fuel cell power systems - Safety* IEC 62282-3-100 [9]

IEC 62282-3-300, *Fuel cell technologies - Part 3-300: Stationary fuel cell power systems - Installation*[IEC 62282-3-300 \[10\]](#)

IEC 62477-1, *Safety requirements for power electronic converter systems and equipment - Part 1: General*[IEC 62477-1 \[11\]](#)

IEC 62932-2-1, *Flow battery energy systems for stationary applications - Part 2-1: Performance general requirements and test methods*[IEC 62932-2-1 \[12\]](#)

ISO 3864 (all parts), *Graphical symbols - Safety colours and safety signs*[ISO 3864 \(all parts\) \[13\]](#)

ISO 7000, *Graphic symbols for use on equipment - Registered symbols (available from: <<http://www.graphical-symbols.info/equipment>>)*[ISO 7000 \[14\]](#)

ISO 13850, *Safety of machinery - Emergency stop function - Principles for design*[ISO 13850 \[15\]](#)

CENELEC WORKSHOP AGREEMENT, CWA 50611, Flow batteries - Guidance on the specification, installation and operation [\[16\]](#)

United Nations, Globally Harmonized System of Classification and Labelling of Chemicals (GHS) (available at <http://www.ghs-label.com/>) [\[17\]](#)