



BSI Standards Publication

Small craft — Lithium-ion batteries

National foreword

This British Standard is the UK implementation of EN ISO 23625:2025. It is identical to ISO 23625:2025. It supersedes PD CEN ISO/TS 23625:2022, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GME/33, Small craft.

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

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English Version

Small craft - Lithium-ion batteries (ISO 23625:2025)

Petits navires - Batteries lithium-ion (ISO 23625:2025)

Kleinfahrzeuge - Lithium-Ionen-Batterien (ISO 23625:2025)

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 23625:2025) has been prepared by Technical Committee ISO/TC 188 "Small craft" in collaboration with Technical Committee CEN/TC 464 "Small Craft" the secretariat of which is held by SIS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2025, and conflicting national standards shall be withdrawn at the latest by September 2025.

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

This document supersedes CEN ISO/TS 23625:2022.

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Endorsement notice

The text of ISO 23625:2025 has been approved by CEN as EN ISO 23625:2025 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 188 *Small craft*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 464, *Small Craft*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces ISO/TS 23625:2021, which has been technically revised.

The main changes are as follows:

- a terminological entry for “audible alarm” has been added;
- requirements to comply with IEC 62619 and IEC 62620 have been added;
- EMC requirements for BMS have been added;
- [Annex A](#) has been extended;
- [Annexes B](#) and [C](#) have been added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Small craft — Lithium-ion batteries

WARNING — Lithium-ion batteries used in direct current (DC) electrical systems on boats that operate at potentials of 60 V or higher have additional safety requirements not addressed by this document. Refer to the battery manufacturer's recommendations.

1 Scope

This document specifies requirements and recommendations for the selection and installation of lithium-ion batteries for boats, as well as requirements for the safety information provided by the manufacturer.

This document is applicable to lithium-ion batteries and battery systems with a capacity greater than 500 Wh used on small craft for providing power for general electrical loads and/or to electric propulsion systems. It is primarily intended for manufacturers and battery installers.

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.

ISO 8846, *Small craft — Electrical devices — Protection against ignition of surrounding flammable gases*

ISO 13297, *Small craft — Electrical systems — Alternating and direct current installations*

ISO 25197, *Small craft — Electrical/electronic control systems for steering, shift and throttle*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 62619, *Secondary cells and batteries containing alkaline or other non-acid electrolytes — Safety requirements for secondary lithium cells and batteries, for use in industrial applications*

IEC 62620, *Secondary cells and batteries containing alkaline or other non-acid electrolytes — Secondary lithium cells and batteries for use in industrial applications*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

3.1 ampere interrupt capacity

AIC

maximum current a circuit breaker or fuse is rated to safely interrupt at a specific voltage

3.2 battery

collection of *cells* (3.7) wired in series (or series/parallel) and constituting a single physical unit

3.3

battery bank

set of *batteries* (3.2) electrically connected (parallel/series) to increase capacity and/or voltage

3.4

battery capacity

C

amount of energy storage of the *battery* (3.2) from the manufacturer's specified fully charged to discharged voltage levels

Note 1 to entry: The battery capacity is expressed in ampere hours (Ah) at a nominal voltage or in watt hours (Wh).

Note 2 to entry: Ah and Wh capacity rating is at a given discharge rate or time.

3.5

battery management system

BMS

system designed to protect a lithium-ion *battery* (3.2) from potentially damaging events, such as *overcharging* (3.19) or *overdischarging* (3.20) and high and low temperatures

3.6

battery system

battery (3.2) or batteries and all ancillary components

3.7

cell

fundamental building block that is inside a lithium-ion *battery* (3.2) where electrical energy is derived from the insertion/extraction reactions of lithium ions or oxidation/reduction reaction of lithium between the negative electrode and the positive electrode

3.8

C rating

measure of *battery* (3.2) charge and discharge rating

Note 1 to entry: The C rating is expressed as a function of the rated ampere hours (Ah) *battery capacity* (3.4).

EXAMPLE A 100 Ah battery charged or discharged at 100 A is a 1C rate.

3.9

contactor

relay/switch controlled by the *battery management system* (3.5)

3.10

disconnect device

switch controlled by the *battery management system* (3.5) which disconnects a *battery* (3.2) or *battery bank* (3.3) from charge and discharge sources, and other batteries or battery banks

3.11

high voltage cutout

HVC

battery management system's (3.5) response to a *high voltage event* (3.12) that protects the *battery* (3.2) from *overcharging* (3.19)

3.12

high voltage event

HVE

condition where a *cell* (3.7) has been charged to a voltage above the manufacturer's cell maximum voltage limit