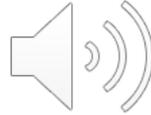




UDICER/NAUTITEST

EUROPEAN NOTIFIED BODY N. 0966

MOD. RCD/1-2026
MED/1-2026



CONTINUING TRAINING COURSE FOR UDICER SURVEYORS

ELECTRICAL SYSTEMS USING LITHIUM-ION BATTERIES IN NAUTICAL AND MARITIME ENVIRONMENTS

Unit safety and technical verification criteria under RCD, MED and Italian Ministerial Decree No. 146/2008





UDICER/NAUTITEST

EUROPEAN NOTIFIED BODY N. 0966

PROGRAMME

**Online technical course delivered via dedicated platform
starting from 23 January 2026
with continuous technical support and tutor**



Final learning assessment

Technical framework of lithium-ion batteries installed on board

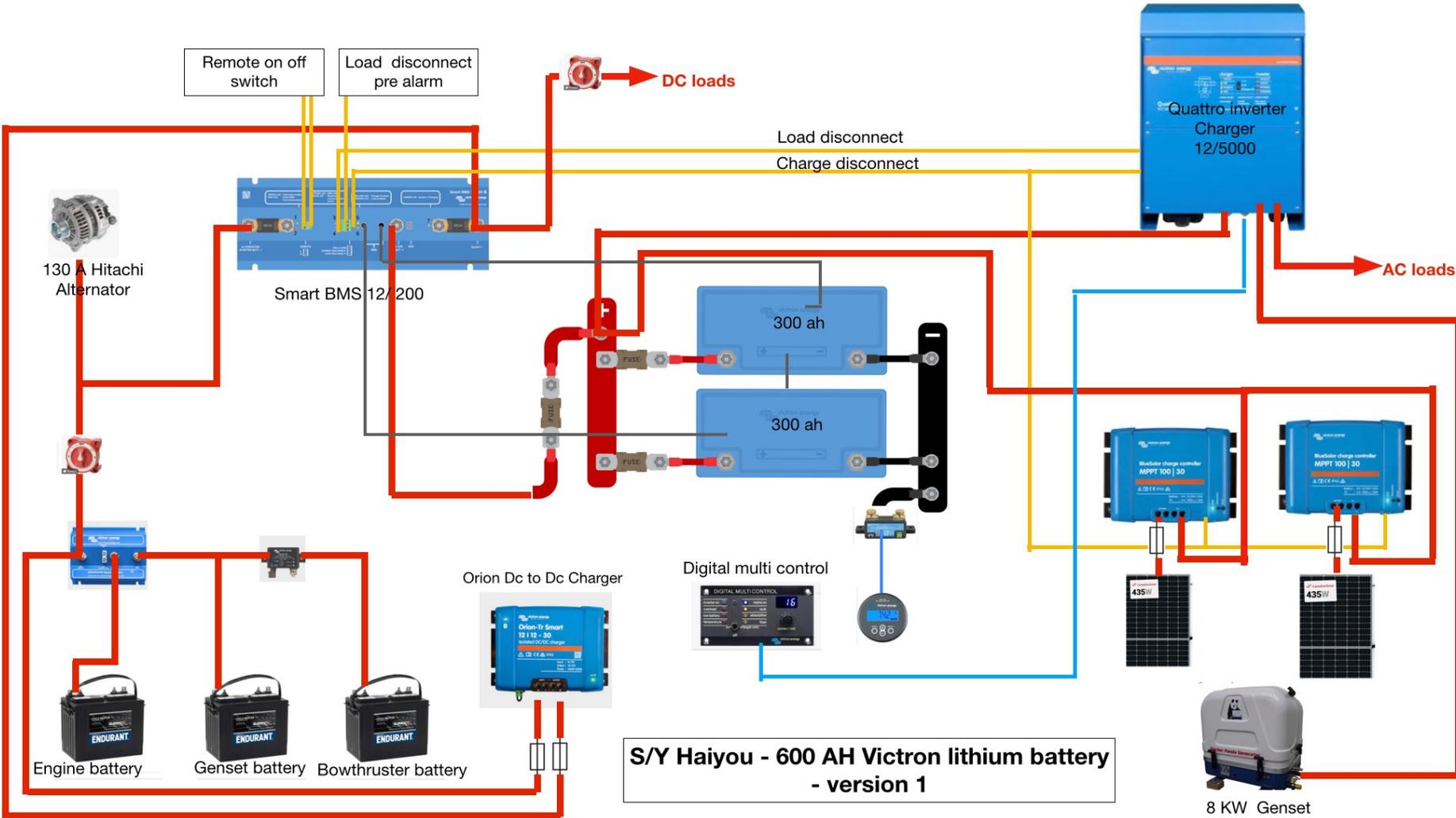
- **Hazard characteristics and real risk scenarios**
- **Safety principles and risk management**
- **On-board integration: installation, ventilation and fire protection**
- **Electrical integration and role of the BMS**
- **Recurring issues and case studies**
- **U/N Mod. LB checklist for technical inspection and assessment**
- **Practical application of the checklist during survey activities**

Lithium-ion battery systems introduce a higher level of technical complexity on board compared to traditional technologies.

They are not simple components, but integrated systems involving electrical, mechanical, thermal and safety aspects.

The technical assessment does not focus on the battery itself, but on how the system interacts with the unit and its installations.

A proper technical framework is therefore essential for any safety and compliance verification.



Acknowledgements to JAES Company for the audiovisual material used in this course, employed exclusively for training and educational purposes



This short video illustrates the basic operating principle of a lithium-ion battery.

[Cell structure]

A lithium-ion battery mainly consists of two electrodes, the anode and the cathode, separated by an electrolyte. The electrodes allow the controlled movement of lithium ions within the cell.

[Charging phase]

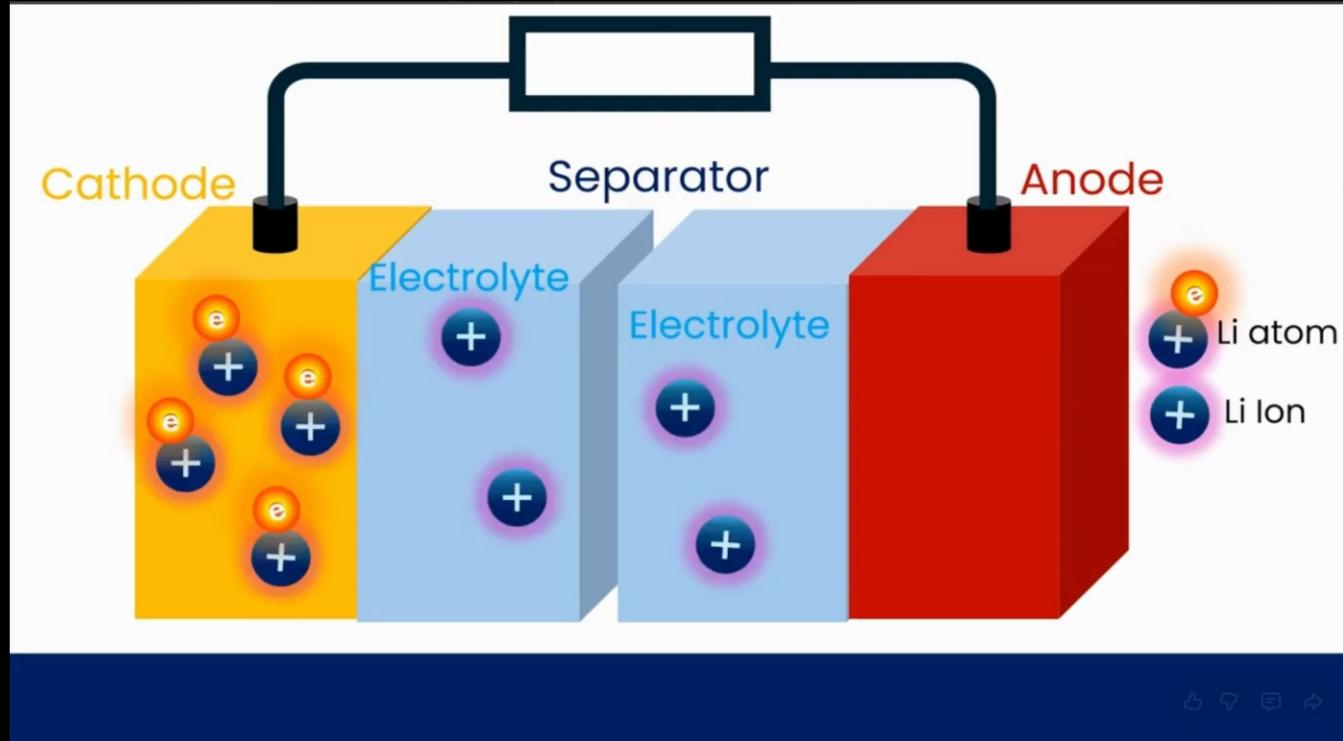
During charging, lithium ions move from the cathode to the anode through the electrolyte. Electrical energy is therefore stored inside the battery.

[Discharging phase]

During discharging, the process is reversed: ions move back toward the cathode, generating electrical current for on-board systems.

[Link to risk]

This internal balance must be maintained within precise limits. Thermal, electrical or mechanical disturbances may compromise the stability of the cell and the system.





Fire, deflagration and effects of thermal runaway



Thermal runaway – system-level sequence (conceptual)

Cell → venting (flammable gases) → deflagration/fire risk → propagation

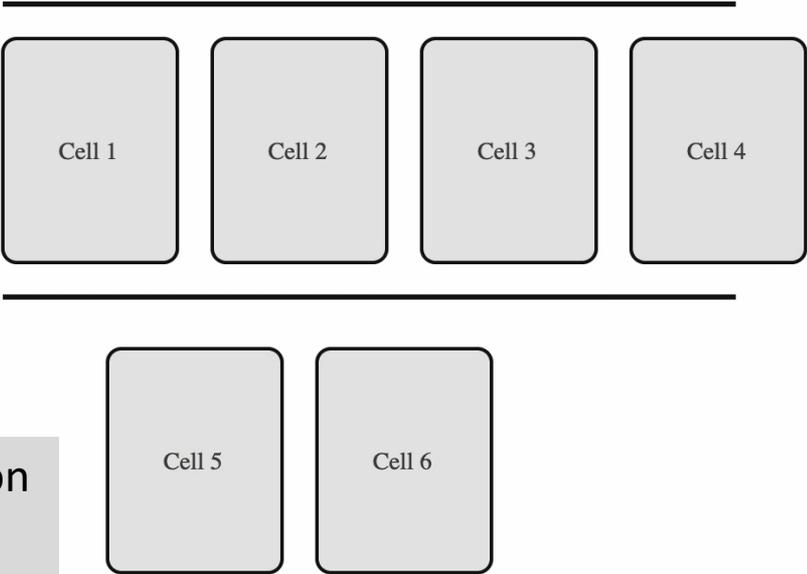
Phase: Normal

Cell internal temperature trend (conceptual)



Stable Abnormal heating **Runaway region**

Battery pack (cells)



The animation provides a conceptual representation of a typical **thermal runaway** sequence in an on-board lithium-ion battery system. Starting from an initially stable cell, it illustrates abnormal temperature rise, the release of flammable gases, the resulting fire or deflagration risk, and the potential **propagation of the event to adjacent cells** within the battery pack.

CASE STUDY

On 5 August 2025, an electrically powered day-hire barge at Gayton Marina, on the Grand Union Canal (UK), exploded during charging, ejecting debris more than 30 metres away. This was not a simple fire: it was a violent deflagration caused by lithium iron phosphate (LFP) batteries that had entered thermal runaway.



2025



*Gayton Marina - Grand Union Canal (UK)
Thermal runaway*

Water does not extinguish the fire.



Consequences of a thermal runaway event on board

Release of toxic and corrosive gases

generated by the decomposition of cell materials (e.g. hydrogen fluoride – HF), hazardous even at low concentrations.

Risk of deflagration

caused by the accumulation and ignition of flammable gases, resulting in a pressure wave.

Projection of fragments and parts of the craft

involving not only battery system components, but also structural and outfitting elements of the craft (covers, bulkheads, furnishings, superstructures), posing a serious hazard to persons and nearby units.

High intensity and prolonged fire event

with difficult control, potential re-ignition and progressive damage escalation.

Structural impairment of the craft

due to exposure to intense and localized heat, leading to loss of strength of structures and materials.

Structure and safety requirements of an on-board lithium-ion battery system



LITHIUM-ION BATTERY CELLS / BATTERY PACK



BATTERY MANAGEMENT SYSTEM (BMS)



DISCONNECTION & PROTECTION DEVICES



ELECTRICAL SYSTEM INTEGRATION



INSTALLATION COMPARTMENT AND
FIRE / RISK MITIGATION MEASURES

LITHIUM-ION BATTERY CELLS / BATTERY PACK



The **Lithium-ion Battery Cells / Battery Pack** consists of lithium-ion electrochemical cells assembled into modules or packs, intended to supply electrical energy to the craft.

Relevant characteristics

The battery pack is characterised by:

- high energy density
- capability to deliver high currents
- sensitivity to overvoltage, undervoltage and temperature conditions

Safety-critical aspects

Lithium-ion cells:

- contain **reactive and flammable materials**
- may generate **flammable and toxic gases** in case of failure
- may trigger **thermal runaway** under abnormal conditions

Role within the system

The battery pack:

- is **not an autonomous component**
- is **not intrinsically safe**
- requires **control, protection and correct integration** to be safely used on board

The safety of a lithium-ion battery system does not depend on the battery itself, but on how the battery pack is controlled, protected and integrated into the craft.

BATTERY MANAGEMENT SYSTEM (BMS)



The **Battery Management System (BMS)** is the **control and protection system** of the lithium-ion battery pack.

Main function

The BMS is intended to:

- **continuously monitor** battery operating conditions
- **prevent hazardous situations**
- **automatically intervene** in case of abnormal conditions

Parameters typically monitored

- individual cell voltage
- cell temperature
- charge and discharge current
- cell balancing

Role in safety

The BMS:

- prevents **overcharge and deep discharge**
- limits **overheating**
- commands **battery disconnection** under hazardous conditions

The BMS is an essential element of the system:

without an adequate BMS, a lithium-ion battery system cannot be considered safe.

DISCONNECTION & PROTECTION DEVICES



Disconnection & Protection Devices include all **electrical devices intended to protect and disconnect the system**, directly or indirectly controlled by the BMS.

Function

These devices are designed to:

- **interrupt energy flow** under abnormal conditions
- **limit the effects of electrical faults**
- **isolate the battery pack from the electrical system**

Typical devices

- power contactors
- fuses
- safety switches
- short-circuit and overcurrent protection devices



Role in safety

Disconnection devices:

- **do not prevent failures**
- but **limit the consequences of failures**
- are essential to prevent **electrical and thermal propagation**

A BMS without effective disconnection devices cannot ensure system safety.

ELECTRICAL SYSTEM INTEGRATION



Electrical System Integration refers to the integration of the battery system into the **on-board electrical system**.

Main aspects

Integration includes:

- wiring
- isolation and sectioning
- electrical panels
- interface with loads, inverters, chargers and generators

Critical aspects

Incorrect integration may lead to:

- overcurrents
- overheating
- malfunction of the BMS
- hazardous conditions even without cell failure

Role in safety

A lithium-ion battery system:

cannot be treated as a conventional battery

•requires integration consistent with its electrical characteristics

Incorrect electrical integration may make even a technically compliant battery pack unsafe.

INSTALLATION COMPARTMENT AND FIRE / RISK MITIGATION MEASURES

This block covers:

- the **battery installation compartment**
- the **risk mitigation measures**, particularly fire-related measures

Main aspects

The following shall be considered:

- compartment location
- segregation from habitable spaces
- mechanical fixing
- ventilation
- accessibility for emergency intervention

Risks to be mitigated

Mitigation measures are intended to:

- limit **fire propagation**
- reduce the effects of **toxic gases**
- contain the effects of **deflagration**

Role in safety

The battery compartment is an integral part of system safety:

- a safe battery pack **installed in an unsuitable compartment** remains hazardous
- safety is **system-based**, not component-based

Correct installation and risk mitigation measures are as critical as the quality of the battery and the BMS.





Udicer inspection activity

How to Conduct On-Site Assessments

Methodology, inspection workflow, and use of a dedicated checklist

The verification carried out by UDICER concerns:



- the safety of the craft employing lithium-ion battery systems
- the correct integration of the system on board
- the consistency of the installation with the applicable safety requirements (RCD, MED, Ministerial Decree 146/2008)

The assessment focuses on:

- battery pack
- BMS
- protection and disconnection devices
- electrical integration
- installation compartment and risk mitigation measures



The verification does not concern:

- the certification of the battery as a product
- the validation of the battery manufacturer's design
- the industrial qualification of the manufacturing process
- compliance with product standards not applicable to the craft

UDICER does not certify the lithium-ion battery as a product, but assesses the safety of the craft that employs it.

OBLIGATION AND TYPE OF ASSESSMENTS

For newly built craft, for the purpose of CE marking, under assessment modules B, F and G, the assessments shall also include the elements specified in the dedicated technical checklist for the installation of lithium-ion batteries.

The re-marking of craft with lithium-ion batteries on craft already in service constitutes a

significant modification.
The resulting UDICER technical assessments are as follows:

- CE-MARKED CRAFT:** re-CE marking of the craft under the **Post-Construction Assessment (PCA)**
- NON-CE-MARKED CRAFT** (Italian-flagged vessels or Italian pleasure craft): **special occasional survey**



UDICER/NAUTITEST

EUROPEAN NOTIFIED BODY N. 0966

U/N mod. LB – Ed 31.03.2025

Campo di applicazione della Direttiva 2013/53/UE e del Decreto Ministeriale 146/2008 – Report integrativo

Il presente report è di proprietà di UDICER S.R.L. Qualsiasi riproduzione, distribuzione o utilizzo, anche parziale, è vietato senza preventiva autorizzazione scritta da parte di UDICER. Il presente report è composto di 14 pagine.

Main Technical and Regulatory References Adopted in the Verification



IMO
SOLAS

The references are applied consistently with the applicable regulatory framework:

- Directive 2013/53/EU (RCD)
- MED Directive
- Ministerial Decree No. 146/2008

Technical standards specific to lithium-ion batteries

- ISO 23625:2025

Small craft — Lithium-ion batteries — Requirements and test methods

(specific technical reference standard for lithium-ion battery systems; **not harmonised**)

Standards for on-board electrical systems

- ISO 10133 – Low-voltage electrical systems (DC)
- ISO 13297 – Alternating current electrical systems (AC)
- IEC / EN 60529 – Degrees of protection (IP rating), where applicable
- ISO 8846 – Protection against ignition, where applicable
- ISO 9094 – Fire protection

(including the applicable parts depending on the type of craft)

- ISO 16315 – *Small craft — Electrical propulsion systems*

(where the battery system is part of electric or hybrid propulsion)



ABS



UDICER/NAUTITEST

EUROPEAN NOTIFIED BODY N. 0966

U/N mod. LB – Ed 31.03.2025

Scope of application of Directive 2013/53/EU and Ministerial

Decree 146/2008 – Supplementary Report

This report is the property of UDICER S.R.L. Any reproduction, distribution or use, even partial, is prohibited without prior written authorization from UDICER. - This report totals 15 pages

Lithium Battery Systems on Recreational Craft - Report and Operational Manual

- **Part I**
Inspection Checklist
- **Part II**
Appendix A: Technical Glossary
Appendix B: [Operational Notes](#)
Appendix C: Technical References and risk mitigated
Appendix D Case Studies and Lessons Learned
Appendix E – Recommended
- **Part III**
Conclusion and statement of suitability



The checklist is a support tool for inspection activities.

It guides the technical assessment but does not replace the professional judgement of the inspector.

The outcome of the assessment shall always take into account the overall coherence of the installed system.

INDEX

1. Documentation and Certification
2. Mechanical installation
3. Ventilation and Off-Gas Management
4. Fire Safety Integration (EN ISO 9094)
5. DC electrical integration
6. Battery Management System (BMS)
7. Charging Sources and Control
8. EMC and Interference
9. Marking, Labelling and Information
10. Protection Against Electric Shock
11. System Tests and Commissioning
12. Operation, Monitoring and Maintenance
13. Emergency and Incident Response
14. Storage and Transport
15. Craft Integration and Interfaces
16. Deviations and Manufacturer-Specific Requirements

In any case, the Inspector may at any time consult the Technical Management in order to complete the inspection activities.



The **KIBER** system

A new approach to assisting UDICER inspections, now available as an inspection support tool.



SEAMLESS
SMART
SOLUTIONS





UDICER/NAUTITEST

EUROPEAN NOTIFIED BODY N. 0966

1. Documentation and Certification

Completeness Consistency Traceability



Section 1 – Documentation and Certification

1.1 Does each cell/battery pack carry evidence of conformity to a recognized safety standard (e.g., IEC 62619) or equivalent third-party safety certification?

Yes No N.A.

To confidently answer “Yes” to this item, the following conditions must be met:

- *A formal document explicitly stating compliance with IEC 62619 (or equivalent).*
- *A technical and visual verification that the installed pack matches the certified version.*
- *No evident alterations to the battery pack or its protection systems.*

If even one of these conditions is not satisfied, it is advisable to mark “No” or “N.A.” and recommend a supplementary technical assessment or request supporting evidence.

1.2 Is UN 38.3 test compliance documented for the battery pack(s) (transportation testing report or manufacturer attestation)?

Yes No N.A.

To answer “Yes” with confidence to the question “Is compliance with UN 38.3 documented?”, the following conditions must be met:

1. *A valid test report or certificate confirming the battery pack passed all required tests according to the UN Manual of Tests and Criteria, Part III, Section 38.3, issued by a qualified lab or the battery manufacturer.*

2. Mechanical installation

Fixing and stability

Protection against shocks and vibrations

Accessibility and inspectability



Section 2 – Mechanical Installation

2.1 Are batteries securely mounted to withstand craft accelerations in all axes (incl. dynamic slam loads) with documented load ratings for brackets/straps?

Yes No N.A.

2.2 Is the installation orientation in accordance with manufacturer limits (cells and pack)?

Yes No N.A.

Note: batteries must be installed in the orientation allowed by the manufacturer (vertical, horizontal, inclined). A different mounting may impair heat dissipation, the operation of safety vents, and the validity of conformity tests.

2.3 Is the compartment dry, protected from spray and flooding (freeboard/limber holes) and away from heat sources/exhausts as specified by the manufacturer?

Yes No N.A.

3. Ventilation and gas management

Gas discharge Prevention of accumulation Protection of adjacent spaces



Section 3 – Ventilation and Off-Gas Management

3.1 If the battery pack requires ventilation/off-gas handling, is there a dedicated duct/vent path to the exterior (no discharge into habitable spaces), with terminations outside weather enclosures?

Yes No N.A.

3.2 Is the free area of intake/exhaust openings adequate for the specified airflow; fans (if fitted) are marine-rated and interlocked to charge/thermal controls as required?

Yes No N.A.

3.3 Are ventilation inlets/outlets positioned to avoid re-entrainment and comply with small-craft ventilation principles (e.g., referencing ISO 11105 concepts for exhaust to exterior)?

Yes No N.A.

3.4 If the manufacturer requires gas detection (e.g., HF or electrolyte vapour), are detectors installed, alarmed, and tested?

Yes No N.A.

Operational note: gas detectors are required when the battery compartment lacks direct ventilation to the open deck.

4. Fire safety integration



Compartmentation Limitation of fire propagation Fire-fighting means and accessibility

Section 4 – Fire Safety Integration (EN ISO 9094)

4.1 Is the battery compartment included in the craft fire-risk assessment (sources of ignition, materials, escape routes) and protection strategy?

Yes No N.A.

4.2 Are portable extinguishers of appropriate classes/capacity located near the compartment access (and elsewhere as required by the vessel's 9094 layout)?

Yes No N.A.

4.3 If fitted, does a fixed fire-extinguishing system (e.g., CO₂, aerosol, clean agent) protect the compartment, with manual remote actuation, interlocks for ventilation shutdown, and warning signage?

Yes No N.A.

Operational note: a ventilation interlock is required when lithium batteries are installed in enclosed or internally accessible compartments, to prevent system operation without active ventilation. If not provided, the inspector must verify that ventilation still ensures an equivalent level of safety.

4.4 Is a fire port provided (if applicable) to apply agent without opening the space, with clear labelling?

5. Electrical integration in DC

Cabling and conductor sizing Protection and disconnection devices Consistency with the on-board electrical system



Section 5 – Electrical Integration (DC)

5.1 Is the main battery disconnect readily accessible, clearly labelled, and capable of interrupting the system maximum short-circuit current safely?

Yes No N.A.

5.2 Is overcurrent protection (fuse/breaker) installed as close as practicable to the battery positive terminal for each outgoing circuit, sized for cable ampacity and prospective fault current?

Yes No N.A.

5.3 Are cable sizes selected per current, temperature rating, installation method, and voltage drop limits per small-craft standards, with proper crimp lugs and strain relief?

Yes No N.A.

5.4 Are all live parts finger-safe (IP2X); terminals covered; no exposed busbars; and tools/guards provided to avoid short circuits during service?

6. Battery Management System (BMS)



Monitoring of parameters

Protection functions

Interaction with safety devices

Section 6 – Battery Management System (BMS)

6.1 Does the system include a BMS with protections for over/under-voltage, over/under-temperature, over-current, short-circuit, and cell balancing?

Yes No N.A.

Operational note: the BMS must provide protection against overvoltage (OV), undervoltage (UV), overtemperature (OT), overcurrent (OC) and short circuit (SC), as well as cell balancing. The absence of any of these functions compromises the safety and compliance of the battery pack.

6.2 Are temperature sensors placed as required (cells, module core, heat sink), with setpoints per datasheet and verified during commissioning tests?

Yes No N.A.

6.3 Does the BMS control main contactors (charge/discharge) and pre-charge, and fail safe (open on critical fault/power-loss)?

Yes No N.A.

7. Charging sources and control

Battery chargers and generators Control of charging parameters Interaction with the BMS



Section 7 – Charging Sources and Control

7.1 Are shore chargers/inverters certified for lithium profiles and installed per ISO 13297 (AC side) and craft DC standards (DC side), with RCD (≤ 30 mA) protection on AC inlets and proper earthing/galvanic protection?

Yes No N.A.

7.2 Are alternator interfaces/DC-DC chargers used (no direct alternator connection unless explicitly approved), with current limiting and BMS control of charge acceptance?

Yes No N.A.

7.3 Are solar/wind charge controllers configured to the battery chemistry (absorption/float limits) and integrated with the BMS (charge inhibit on high temp/high SOC)?

Yes No N.A.

8. Electromagnetic compatibility

Emissions and immunity Interference with other on-board systems Cable routing and segregation



Section 8 – EMC and Interference

8.1 Do all components (battery, BMS, chargers, inverters, DC-DC) have EMC conformity (2014/30/EU) and evidence of emissions/immunity suitable for marine installations?

Yes No N.A.

8.2 Are cable routings planned to minimize coupling into VHF/GPS/AIS and instrumentation (twisted pairs, separation from antenna/coax runs, shield terminations)?

Yes No N.A.

8.3 Are grounds/bonds arranged to avoid ground loops and comply with the craft's earthing/bonding scheme?

Yes No N.A.

9. Marking and information



Identification of components Warnings and safety information Information for use and emergency situations

Section 9 – Marking, Labelling and Information

9.1 Are battery labels present (chemistry, nominal voltage, capacity, max charge/discharge current, IP rating, safety warnings) and hazard pictograms per EU/IEC guidance?

Yes No N.A.

9.2 Where applicable by category/date, does the battery comply with EU Reg. 2023/1542 labelling (e.g., QR code/CE, state-of-health/capacity info as phased in by the Regulation)?

Yes No N.A.

9.3 Is the compartment externally labelled (e.g., “*Lithium Battery – No Smoking / No Open Flame – Isolate on Alarm*”) and are emergency procedures posted nearby?

Yes No N.A.

9.4 Are operator instructions (normal operation, alarms, shutdown sequence) available on board?

Yes No N.A.

Vai a un numero

10. Protection against indirect electrical contacts



Earthing and equipotential bonding Insulation and electrical separation Continuity of protective paths

Section 10 – Protection Against Electric Shock

10.1 Are live parts finger-safe (IP2X); barriers/covers installed; tool-accessible only?

Yes No N.A.

10.2 Are creepage/clearance distances appropriate for the system voltage/environmental category; no contamination paths; anti-condensation measures applied?

Yes No N.A.

10.3 Are equalization/bleed circuits, pre-charge resistors and contactors enclosed; no inadvertent energized exposed parts after shutdown?

Yes No N.A.

10.4 Is an emergency disconnect clearly identified (colour/label), with instructions accessible at the helm and at the compartment access?

Yes No N.A.

11. System testing and commissioning



Functional checks

Operational tests

Recording of test results

Section 11 – System Tests and Commissioning

11.1 Continuity and polarity checks completed for all circuits; torque of terminals verified per manufacturer specs.

Yes No N.A.

11.2 Insulation resistance test performed at appropriate test voltage; results meet minimum criteria (or per manufacturer limits for BMS-sensitive circuits).

Yes No N.A.

11.3 Functional tests: BMS trips verified (OV/UV/OT/OC/SC), contactor operation, pre-charge timing, alarm annunciation, and recovery logic.

Yes No N.A.

11.4 Charging tests: shore/alternator/DC-DC/solar all reach correct setpoints; charge termination on high SOC/temp; no over-voltage on sudden load disconnect

12. Operation and maintenance

Operating conditions

System monitoring

Routine and periodic maintenance



Section 12 – Operation, Monitoring and Maintenance

12.1 Is a SoC/SoH display provided (local or integrated) with clear alarm thresholds and event log access?

Yes No N.A.

12.2 Are periodic inspections defined (fasteners, corrosion, vent path, firmware updates, capacity checks)

7

and recorded in a maintenance log?

Yes No N.A.

12.3 Are spare parts and special tools specified (fuses, contactors, fans, sensors) and available or procurable?

Yes No N.A.

12.4 Are firmware versions documented and update procedures controlled (rollback, validation after

13. Emergency and incident response



Emergency procedures Information for the crew Accessibility and intervention safety

Section 13 – Emergency and Incident Response

13.1 Are emergency procedures defined: isolate battery (main switch/BMS shutdown), evacuate space, cool adjacent structures, do not reopen space after fixed agent discharge unless safe?

Yes No N.A.

13.2 Is there a quarantine area and protocol for damaged/overheated batteries (non-combustible, ventilated, away from combustibles/waterways)?

Yes No N.A.

13.3 Are PPE requirements defined for responders (eye/hand protection, respirators if handling off-gassed packs per manufacturer MSDS)?

Yes No N.A.

14. Storage and transport



Environmental conditions
Mechanical protection
Prevention of damage

Section 14 – Storage and Transport

14.1 Are storage conditions defined (SOC window, temperature/humidity limits, periodic check/charge) and implemented?

Yes No N.A.

14.2 Are transport requirements (classification, packaging, documentation) compliant with UN 38.3 and ADR/IMDG/IATA as applicable?

Yes No N.A.

15. Integration and interfaces



Interaction with other on-board systems

Functional consistency

Impact on trim and use of the craft

Section 15 – Craft Integration and Interfaces

15.1 If the lithium system replaces legacy lead-acid, are protection devices, cable gauges, and charging sources re-evaluated for higher fault currents and different charge profile?

Yes No N.A.

15.2 Are essential services (bilge pumps, navigation, steering) arranged for redundancy (e.g., independent bank, emergency cross-tie with protection and interlocks)?

Yes No N.A.

15.3 Are heave/heel angles and flooding scenarios considered for the battery location (no immersion under standard operating conditions; protected against spray/splash)?

Yes No N.A.

Deviations and specific requirements



Manufacturer prescriptions
Alternative technical solutions
Case-by-case assessment

Section 16 – Deviations and Manufacturer-Specific Requirements

16.1 Are any manufacturer-specific requirements (clearances, vent rates, agent compatibility, prohibited locations) implemented as written?

Yes No N.A.

16.2 Are any deviations from standards justified by an engineering note and supported by test data or third-party assessment?

Yes No N.A.

Let us not fall into these errors.



Assessing individual components instead of the system as a whole

Confusing product certification with the safety of the craft

Applying the checklist in a mechanical or automatic manner

Underestimating emergency management aspects

Failing to involve the Technical Directorate in non-standard cases



Dear Inspectors,
the UDICER staff has developed this course in a precise and comprehensive manner.
However, the technical verification carried out in the field is entrusted to your professional judgement, and it is on this judgement that UDICER relies.
Within this framework, it is important to recall some fundamental principles,
which we are confident you always adhere to in the performance of your inspection activities.
In particular, it is appropriate to underline that:

- checklist = support tool**
- technical judgement = responsibility**
- safety of the craft / of the type design = final objective**

The checklist is a support tool.

It guides the inspection activity and helps ensure completeness and consistency of the verification, but it does not replace technical analysis.

Technical judgement remains a responsibility.

The inspector is required to critically assess the installation as a whole, exercising competence, experience, and professional discernment.

Safety is the final objective.

Inspection activities are always oriented toward the safety of the craft or of the type design, which represents the ultimate purpose of the verification.

Best regards and good work to all.

Capt. Christian Signorelli
Administrator



UDICER/NAUTITEST

EUROPEAN NOTIFIED BODY N. 0966

MOD. RCD/1-2026
MED/1-2026

CONTINUING TRAINING COURSE FOR UDICER SURVEYORS

ELECTRICAL SYSTEMS USING LITHIUM-ION BATTERIES IN NAUTICAL AND MARITIME ENVIRONMENTS

23 January 2026

