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INTERNATIONAL STANDARD



**Railway applications – Rolling stock – Batteries for auxiliary power supply systems –
Part 3: Lead acid batteries**

INTERNATIONAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RAILWAY APPLICATIONS – ROLLING STOCK –
BATTERIES FOR AUXILIARY POWER SUPPLY SYSTEMS –**

Part 3: Lead acid batteries

FOREWORD

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IEC 62973-3 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways. It is an International Standard.

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

Draft	Report on voting
9/3041/FDIS	9/3066/RVD

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 62973 series, published under the general title *Railway applications – Rolling stock – Batteries for auxiliary power supply systems*, 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- withdrawn, or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.

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RAILWAY APPLICATIONS – ROLLING STOCK – BATTERIES FOR AUXILIARY POWER SUPPLY SYSTEMS –

Part 3: Lead acid batteries

1 Scope

This part of IEC 62973 establishes the framework for the electrical interfaces to the train, and the sizing (e.g., capacity, cell number, to meet the requested load profile) and operation of lead acid batteries of the VRLA type for auxiliary power supply systems on rolling stock of railways and complements IEC 62973-1, unless otherwise specified.

This document provides guidance and links to standards for the required battery qualification tests procedures and safety measures to be implemented.

The cited normative references for lead acid batteries provide multiple requirements and tests applicable for their qualification.

In this document, the most appropriate clauses of these cited standards have been selected and adapted as needed to reflect the intended use of these batteries as auxiliary power sources on rolling stock of railways.

The battery-specific requirements for subcomponents of battery systems such as containers, charging controls, temperature probes, nameplates and similar are covered in this document as needed.

Charging systems are excluded from the scope of this document.

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 60896-21:2004, *Stationary lead-acid batteries – Part 21: Valve regulated types – Methods of test*

IEC 60896-22:2004, *Stationary lead-acid batteries – Part 22: Valve regulated types – Requirements*

IEC 61373:2010, *Railway applications – Rolling stock equipment – Shock and vibration tests*

IEC TS 61430, *Secondary cells and batteries – Test methods for checking the performance of devices designed for reducing explosion hazards – Lead-acid starter batteries*

IEC TR 61431:2020, *Guidelines for the use of monitor systems for lead-acid traction batteries*

IEC 62485-2:2010, *Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries*

IEC 62498-1:2010, *Railway applications – Environmental conditions for equipment – Part 1: Equipment on board rolling stock*

IEC 62973-1:2018, *Railway applications – Rolling stock– Batteries for auxiliary power supply systems – Part 1: General requirements*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*