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Railway applications – Rolling stock – Batteries for auxiliary power supply systems –
Part 2: Nickel Cadmium (NiCd) batteries

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

Part 2: Nickel Cadmium (NiCd) batteries

FOREWORD

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International Standard IEC 62973-2 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

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

FDIS	Report on voting
9/2585/FDIS	9/2594/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 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 "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- withdrawn,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.

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INTRODUCTION

This document considers the requirements for vented or partial recombination Nickel Cadmium (NiCd) batteries following IEC 62973-1:2018.

In this document the interface with a LVPS or charger is specified and the LVPS or charger itself is out of scope.

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

Part 2: Nickel Cadmium (NiCd) batteries

1 Scope

This part of IEC 62973 applies to NiCd rechargeable batteries for auxiliary power supply systems used on railway vehicles. It is an extension of IEC 62973-1:2018 which specifies common requirements for all battery technologies of other parts of IEC 62973. Unless otherwise specified, the requirements of IEC 62973-1:2018 apply.

Battery systems described in this document are used in conjunction with charging systems onboard rolling stock, as described in IEC 62973-1:2018. Charging systems (e.g. LVPS, converters, etc.) are excluded from the scope of this document.

This document also specifies the design, operation parameters, safety recommendations, routine and type tests, as well as marking and designation.

This document is used in addition to IEC 60623:2017 or IEC 62259:2003 for NiCd Cells.

Specific requirements on subcomponents within the battery systems are covered in this document, e.g. temperature measurement components.

When there is an existing IEC standard specifying additional test conditions and requirements for NiCd batteries used in specific railway applications and which conflicts with this document, the latter takes precedence.

The main objective of this document is to achieve standardization of the electrical interfaces by considering NiCd battery parameters to allow for calculating the NiCd battery capacity required for a specific load profile.

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 60051 (all parts), *Direct acting indicating analogue electrical measuring instruments and their accessories*

IEC 60077-1, *Railway applications – Electric equipment for rolling stock – Part 1: General service conditions and general rules*

IEC 60623:2017, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Vented nickel-cadmium prismatic rechargeable single cells*

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

IEC 62259:2003, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Nickel cadmium prismatic secondary single cells with partial gas recombination*

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

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