

ICS 45.060
CCS S 35



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 46713.3-2026

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

轨道交通 机车车辆 辅助供电系统蓄电池 第3部分：铅酸蓄电池

(English Translation)

Issued on: February 27, 2026

Implemented on: September 1, 2026

Issued by: State Administration for Market Regulation

Table of Contents

Preface
Introduction
1 Scope
2 Normative References
3 Terms, Definitions, and Abbreviations
4 General Requirements
5 Optional Additional Components
6 Mechanical requirements
7 Electrical Interface
8 Mark
9 Transportation and storage
10 Experiment
Appendix A (Normative) Individual Batteries and Integrated Batteries
Appendix B (Normative) Dielectric Test
References

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 3 of GB/T 46713 "Batteries for Auxiliary Power Supply Systems of Rail Transit Locomotives and Rolling Stock".

The following sections have been released.

---Part 1: General Requirements;

---Part 2: Nickel-Cadmium Batteries;

---Part 3: Lead-acid batteries;

---Part 4: Nickel-Metal Hydrate Batteries;

---Part 5: Lithium-ion Batteries.

This document is modified to adopt IEC 62973-3:2024 "Batteries for auxiliary power supply

systems of rail transport locomotives and rolling stock - Part 3: Lead-acid batteries".

Storage battery.

This document has undergone the following structural adjustments compared to IEC 62973-3:2024.

---Sections 3.1.4 to 3.1.8 have been removed from IEC 62973-3:2024;

--- Section 5.4 of IEC 62973-3:2024 has been removed;

---Table 7 has been added;

---Version 10.2.2 has been added; the original 10.2.2 has been revised to 10.2.6.

---Appendix A has been added;

--- Annex A and Annex C of IEC 62973-3:2024 have been deleted.

The technical differences between this document and IEC 62973-3:2024, and the reasons therefor, are as follows.

---The scope has been modified (see Chapter 1) to suit my country's technological conditions;

---IEC 62973-1:2018 (see 3.1, 4.4, 6.2, 7.2, 8.1) has been replaced by the normatively referenced GB/T 46713.1-2025.

10.2.4), the degree of consistency between the two documents is modified to adapt to my country's technical conditions;

---IEC 61373:2010 has been replaced with the normatively referenced GB/T 21563-2018 (see 6.3, 10.2.5), between the two documents.

The degree of consistency is modified to adapt to my country's technical conditions;

---IEC 60896-22:2004 has been replaced with the normatively referenced GB/T 19638.1-2014 (see 8.1.3), between the two documents.

The degree of consistency is modified to adapt to my country's technological conditions;

---IEC 62485-2:2010 (see 4.4.2, 6.4) has been replaced by the normatively referenced GB/T 44233.2-2024. The two documents...

The degree of consistency between them needs to be modified to adapt to my country's technological conditions;

---IEC TS61430 has been replaced with the normatively referenced GB/Z 141 (see 6.4), and the degree of consistency between the two documents is [revision].

Modify it to adapt to my country's technological conditions;

---The environmental conditions have been changed (see 4.3), and the normative reference

GB/T 32347.1-2015 has been added to conform to national conditions and maintain consistency with international standards.

Consistent with GB/T 46713.1;

---The requirements agreed upon through negotiation between the supply and demand parties (see 4.4.1 and 4.5.1) have been modified to better suit national conditions;

---The requirements for product parameter providers and battery providers have been changed (see 4.4.2, 4.4.3.2, 4.4.4, 4.4.5, 4.5.2, 4.5.3, 5.3).

(6.4, 7.2), to conform to national conditions;

---The fire protection requirements have been revised (see 4.6) to adapt to my country's technical conditions;

---The phrase "thermostat or shut-off switch" (see 5.4 in IEC 62973-3:2024) has been removed to conform to national conditions;

---The content of the safety markings for individual batteries and overall batteries has been revised (see 8.1.3) to adapt to my country's technical conditions;

---The requirements for the battery enclosure nameplate have been changed (see 8.2.1) to adapt to my country's technical conditions;

---The details of the transport have been changed (see 9.1) to suit our country's technical conditions;

---The test guidelines (see 10.1, 10.2.1, 10.3.1) have been revised to adapt to my country's technical conditions;

---Visual inspection for type testing has been added (see 10.2.2) to adapt to my country's technical conditions;

---The load curve verification test (see 10.2.4) has been modified to conform to national conditions and remain consistent with GB/T 46713.1;

---The criteria for shock and vibration tests have been modified (see 10.2.5) to suit my country's technical conditions;

---The certification requirement of ISO/IEC 17025 (see 10.2.2 in IEC 62973-3:2024) has been removed to better suit national circumstances;

---The requirements and tests for individual batteries/complete batteries have been revised (see 10.2.6, 10.3.4, Appendix A), and normative references have been added.

GB/T 191 and GB/T 2828.1 are in line with national conditions.

The following editorial changes have been made to this document.

---The notes in Tables 1 and 2 of IEC 62973-3:2024 have been deleted;

---The statement of test unit equivalence in Appendix A (informative) has been deleted.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the National Railway Administration.

This document is under the jurisdiction of the National Technical Committee on Standardization of Rail Transit Electrical Equipment and Systems (SAC/TC278).

Introduction

With the rapid development of my country's rail transit industry, battery products for auxiliary power supply systems are constantly being innovated and the technology is becoming increasingly mature. To adapt to...

To meet market demand, my country should maintain its international standards for battery technology in auxiliary power supply systems for rail transit and improve the auxiliary power supply system for rail transit.

The system battery standard framework, based on international standards and domestic application realities, is formulated using GB/T 46713 "Rail Transit Locomotives and Rolling Stock".

The standard GB/T 46713, "Auxiliary Power Supply System Storage Battery", is proposed to consist of five parts.

---Part 1: General Requirements. The aim is to standardize the electrical interfaces of battery systems by considering various types of batteries.

Based on specific load curves, the required capacity for various types of battery systems is calculated.

---Part 2: Nickel-Cadmium Batteries. The purpose is to specify the general requirements for nickel-cadmium batteries in auxiliary power supply systems of rail transit locomotives and rolling stock.

Requirements, mechanical requirements, electrical interfaces, markings, transportation, storage, and testing, while also specifying the use of individual/integrated nickel-cadmium batteries in rail transit.

Requirements for use on locomotives and rolling stock.

---Part 3: Lead-acid Batteries. The purpose is to specify the general requirements for lead-acid batteries in auxiliary power supply systems of rail transit locomotives and rolling stock.

Requirements, mechanical requirements, electrical interfaces, markings, transportation, storage, and testing, while also specifying the use of individual/integrated lead-acid