

ICS 43.020
CCS T 40



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

GB/T 43332-2023

**Safety requirements of conductive charging and discharging
for electric vehicles**

电动汽车传导充放电安全要求

(English Translation)

Issued on: November 27, 2023

Implemented on: November 27, 2023

Issued by: State Administration for Market Regulation;

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives for Standardization - Part 1: Rules for the Structure and Drafting of Standardizing Documents.

This document modifies and adopts ISO 17409:2020 Electrically Propelled Road Vehicles -Conductive Power Transfer - Safety Requirements.

In comparison with ISO 17409:2020, there are many structural adjustments. A comparison of structural No. changes between the two documents is shown in Appendix A.

In comparison with ISO 17409:2020, the technical differences and the causes for these differences are as follows.

---The Scope of this document is modified (see Chapter 1; Chapter 1 of ISO 17409:2020) to be applicable to electric vehicles with Class B voltage circuits that comply with Chinese standards on charging interfaces, so as to adapt to the actual situation of Chinese charging system;

---The normative references to standards on power supply plugs GB/T 1002 and GB/T 2099.1 are added (see Chapter 1 and 4.1), so as to adapt to the actual situation of Chinese charging system;

---The normative reference GB/T 19596 is added (see Chapter 3), so as to comply with the technical requirements of electric vehicles in China;

---The relevant contents on automatic connection of charging devices are deleted (see 3.6.1, 6.2, 6.3, 6.5, 7.1, 7.2, 7.4, 10.1, 10.2, 13.2, 13.3 and 13.4 of ISO 17409:2020), so as to adapt to the actual situation of Chinese charging system;

---The normative reference for the general requirements for charging connection devices is modified, replacing IEC 62196-1 with GB/T 20234.1 (see 4.1, 4.2 and 11.3, 5.1 and 5.2 of ISO 17409:2020), so as to comply with the technical conditions of China;

---The normative reference for the AC charging interface is modified, replacing IEC 62196-2 with GB/T 20234.2 (see 4.1, 4.2, 5.2 and 9.1; 5.1 of ISO 17409:2020), so as to comply with the technical conditions of China;

---The normative reference for the DC charging interface is modified, replacing IEC 62196-3:2015 with GB/T 20234.3 (see 4.2, 5.2, 9.1 and 13.8; 5.2, 6.4.2, 7.2.4, 9.9, 13.7

and 13.8 of ISO 17409:2020), so as to comply with the technical conditions of China;

---The normative reference IEC/TS 62196-3-1 for the DC charging connection devices with thermal management system is deleted (see 5.2, 7.1, 9.7 and 13.7 of ISO 17409:2020), so as to comply with the technical conditions of China;

---The normative reference for the safety requirements for electric vehicles is modified, replacing ISO 6469-3 with GB 18384 (see 5.1, 5.4.2, 8.1, 11.2, 12.2 and 13.3.2; 6.1, 6.4.2, 6.5.1, 9.1, 10.3.3, 12.2, 13.3 and 13.4 of ISO 17409:2020), so as to comply with the technical conditions of China;

---The normative reference for the requirements for equipment protection degree is modified, replacing ISO 20653 with GB/T 30038 (see 5.2, 5.5 and 11.2; 6.2 and 6.5 of ISO 17409:2020), so as to comply with the technical conditions of China and improve the operability;

---The normative reference for the design requirements for the protective conductor cross-sectional area is modified, replacing IEC 60364-5-54 with GB/T 16895.3 (see 5.3.4; 6.3 of ISO 17409:2020), so as to comply with the technical conditions of China;

---The normative reference for the enclosure protection verification probe is modified, replacing IEC 61032 with GB/T 16842 (see 5.5.1; 6.5.1 of ISO 17409:2020), so as to comply with the technical conditions of China;

---The normative reference for the insulation coordination is modified, replacing IEC 60664-1 with GB/T 16935.1 (see 5.6.1 and 13.4.4; 6.6.1 and 13.4.2 of ISO 17409:2020), so as to comply with the technical conditions of China;

---The normative reference for the charging system is modified, replacing IEC 61851-1:2017 with GB/T 18487.1-2023 (see 5.8 and 7.2.1; 6.8, 8.2.1, 9.2, 9.5, 10.2.2.4 and 13.6.1 of ISO 17409:2020), so as to comply with the technical conditions of China;

---The normative reference for the requirements for overcurrent protection is modified, replacing IEC 60364-4-43:2008 with GB/T 16895.5-2012 (see 6.2.3.1 and 6.2.4.1; 7.2.3 and 7.2.4 of ISO 17409:2020), so as to comply with the technical conditions of China;

---The normative reference IEC 61851-23 for the DC charging system is deleted (see 7.2.4.1, 7.5, 9.2, 9.3, 9.5, 9.8, 10.3.1, 10.3.4 and 13.6.1 of ISO 17409:2020), so as to comply with the actual situation of Chinese charging system;

---The I_{2t} value applicable to Chinese charging system is added (see 6.2.4.1 and 6.2.4.2.1; 7.2.4.1 and 7.2.4.2 of ISO 17409:2020), so as to comply with the actual situation of Chinese charging system;

---The normative reference IEC 60038 for standard voltage is deleted (see 8.1 and 10.2.2.1 of ISO 17409:2020), so as to adapt to Chinese voltage level;