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

GB 18384-2025

Replacing GB 18384-2020

Electric vehicles safety requirements

电动汽车安全要求

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1 Scope

GB 18384 is the safety standard an electric vehicle has to satisfy before it can be sold in China. It specifies the safety requirements and the corresponding test methods for electric vehicles whose maximum working voltage falls in Class B, covering the voltage classification itself, the requirements grouped under safety, the test procedures that verify them, the rules for judging when two vehicles count as the same type, and the

arrangements for applying the standard. A normative annex completes it. Vehicles that remain continuously connected to the grid while driving are outside its scope. The 2025 edition replaces GB 18384-2020 and comes into force on 1 July 2026, which is the date manufacturers and importers have to work back from: type approval evidence prepared against the 2020 text does not carry over by itself. For anyone certifying an electric vehicle, a battery pack integration or an imported model for China, this is the governing document.

This document specifies the safety requirements for electric vehicles and describes the test methods. This document applies to electric vehicles with a maximum working voltage of class B. This document does not apply to road vehicles that are continuously connected to the power grid while in motion.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 4094.2, Electric vehicles - Symbols for controls, indicators and tell-tales

GB/T 4208-2017, Degrees of protection provided by enclosure (IP code)

GB 8410, Flammability of automotive interior materials

GB 11551, The protection of the occupants in the event of a frontal collision for motor vehicle

GB/T 12113-2023, Methods of measurement of touch current and protective conductor current

GB 17354, Front and rear protective devices for passenger cars

GB/T 18385-2024, Battery electric vehicles - Power performance - Test method

GB/T 18387, Limits and test method of magnetic and electric field strength from electric vehicles

GB/T 19596, Terminology of electric vehicles

GB/T 19752-2024, Hybrid electric vehicles - Power performance - Test method

GB/T 19836, Instrumentation for electric vehicles

GB 20071, The protection of the occupants in the event of a lateral collision

GB 20072, The requirements of safety in the event of rear-end collision for passenger car

3 Terms and definitions

Terms and definitions determined by GB/T 19596 and the following ones are applicable to this document.

3.1 rechargeable electrical energy storage system; REESS A rechargeable energy storage system that can provide electrical energy.

3.2 high voltage service disconnect A device, equipped with a built-in voltage class B part, that is used to disconnect high-voltage circuits when inspecting or repairing voltage class B components.

3.3 low voltage service disconnect A device, not equipped with a built-in voltage class B part, that is used to disconnect high-voltage circuits when inspecting or repairing voltage class B components.

3.4 conductive connection Electrical connection made using conductors.

3.5 high voltage connector A component consisting of one or more sets of conductor terminals and insulating sheaths that provides electrical connection and disconnection functions between high-voltage cables in electric vehicles and between high-voltage cables and high-voltage components. [Source: GB/T 37133-2025, 3.2]

3.6 direct driving The driver controls the vehicle through the steering wheel, brake pedal, gear shifting mechanism, accelerator pedal, etc.

3.7 cut off the power of propulsion system The high-voltage circuit of the entire vehicle is disconnected, at least the high-voltage circuit between the drive system and the rechargeable electrical energy storage system is disconnected. For fuel cell vehicles, the circuit between the fuel cell system and the drive system must be disconnected simultaneously.

3.8 touch current The electric current flowing through a person or animal's body when the person or animal comes into contact with one or more accessible parts of a device or apparatus. [Source: GB/T 12113-2023, 3.1]

4 Voltage level

4.1 Electrical components or circuits are classified according to their maximum working voltage as shown in Table 1.

4.2 For voltage class A electric circuits and voltage class B electric circuits that are conductively connected, if one pole of a DC live part in the circuit is connected to the electrical chassis, and the maximum voltage between any other live part and this pole is not greater than 30 V (a.c.)(rms) and not greater than 60 V (d.c.), then the conductive connection circuit does not completely belong to the voltage class B electric circuit, and

only the part that operates at voltage class B electric circuit is identified as a voltage class B electric circuit.

5.1.1 General

5.1.1.1 Requirements for personnel protection against electric shock shall include the following four parts. -- High voltage marking requirements; -- Direct contact protection requirements; -- Indirect contact protection requirements; -- Waterproof requirements.

5.1.1.2 For voltage class A electric circuits and voltage class B electric circuits that are conductively connected, if one pole of a DC live part in the circuit is connected to the electrical chassis, and the maximum voltage between any other live part and this pole is not greater than 30 V (a.c.) (rms) and not greater than 60 V (d.c.), then the requirements of 5.1.4.1, 5.1.4.2,

5.1.5 do not apply to the circuit (including the DC and AC parts).

5.1.2 Requirements for high-voltage marking

5.1.2.1 Requirements for high-voltage warning sign Voltage class B energy storage systems or generating devices (such as REESS and fuel cell stacks), voltage class B electric circuit systems and components (such as drive motors, high-voltage distribution boxes, on-board chargers, etc.) shall be marked with the symbols shown in Figure

1. For voltage class A electric circuits and voltage class B electric circuits that are conductively connected, if one pole of a DC live part in the circuit is connected to the electrical chassis, and the maximum voltage between any other live part and this pole is not greater than 30 V (a.c.) (rms) and not greater than 60 V (d.c.), then REESS allows the symbol shown in Figure 1 not to be marked. The symbol background shall be yellow, and the border and arrow shall be black. When the barrier or enclosure is removed to expose the voltage class B live parts, the same symbol shall be clearly visible on the barrier and enclosure. When assessing whether this symbol is needed, the accessibility and removability of the barrier or enclosure must be considered.

5.1.2.2 Marking requirements for voltage class B wires In voltage class B electric circuits, the outer sheath of cables and wire harnesses shall be distinguished by orange, except for those behind barriers or inside enclosures that meet the requirements of 5.1.3.2.