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Electromagnetic Compatibility Requirements and Test Methods of Conductive Charging for Electric Vehicles
电动汽车传导充电电磁兼容性要求和试验方法

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Contents

Electromagnetic Compatibility Requirements and Test Methods of Conductive Charging for Electric Vehicles

1 SCOPE

This document specifies the electromagnetic compatibility requirements and test methods of conductive charging for electric vehicles.

This document applies to the off-vehicle-chargeable electric vehicles (or abbreviated as “vehicle”), and the systems consisting of electric vehicle and supply equipment.

This document applies to the electric vehicles of which the vehicle inlet (case B connection and case C connection) complies with the requirements of GB/T 20234.2 and/or GB/T 20234.3 and the plug (case A connection) complies with the requirements of GB/T 1002 and/or GB/T 20234.2.

This document doesn’t apply to electric buses with a top contact charging system.

2 NORMATIVE REFERENCES

The following documents contain provisions which, through reference in this text, constitute essential provisions of this document. For dated references, only the editions cited apply. For undated references, the latest editions of the normative document (including any amendments) apply.

GB/T 1002 Single phase plugs and socket-outlets for household and similar purposes - Types basic parameters and dimensions

GB/T 6113.102 Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-2: Radio disturbance and immunity measuring apparatus - Coupling devices for conducted disturbance measurements

GB/T 6113.201 Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-1: Methods of measurement of disturbances and immunity - Conducted disturbance measurements

GB 17625.1 Electromagnetic compatibility – Limits - Limits for harmonic current emissions (equipment input current ≤16 A per phase)

GB 17625.2 Electromagnetic compatibility (EMC)-Limits-Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

GB 17625.7 Electromagnetic compatibility – Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated current ≤ 75 A and subject to conditional connection

GB 17625.8 Electromagnetic compatibility – Limits - Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤ 75 A per phase

GB/T 17626.4 Electromagnetic compatibility - Testing and measurement techniques - Electrical fast transient/burst immunity test

GB/T 17626.5 Electromagnetic compatibility - Testing and measurement techniques - Surge immunity test

GB/T 18487.1-2015 Electric Vehicle Conductive Charging System - Part 1: General Requirements

GB/T 18655 Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers

GB/T 19596 Terminology of Electric Vehicles

GB/T 20234.1 Connection set for conductive charging of electric vehicles - Part 1: General requirements

GB/T 20234.2 Connection set for conductive charging of electric vehicles - Part 2: AC charging coupler

GB/T 20234.3 Connection set for conductive charging of electric vehicles - Part 3: DC charging coupler

GB/T 27930-2015 Communication protocols between off-board conductive charger and battery management system for electric vehicle

GB/T 29259 Road Vehicle - Electromagnetic Compatibility Terminology
GB 34660 Road Vehicles - Requirements and Test Methods of Electromagnetic Compatibility

3 TERMS AND DEFINITIONS

For the purposes of this document, the terms and definitions given in GB/T 18487.1-2015, GB/T 18655, GB/T 19596, GB/T 20234.1 and GB/T 29259, as well as the following apply.

3.1
Conductive charging
mode in which the rechargeable energy storage system (RESS) is charged by electrical conduction
[Source: GB/T 19596-2017, 3.4.2.1, modified]

3.2
Electric vehicle supply equipment (EVSE)
Equipment intended for supplying electric energy to electric vehicle and consisting of AC charging spot, off-board charger and/or connection set for charging
[Source: GB/T 18487.1-2015, 3.1.5, modified]

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