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**Functional Safety Requirements and Testing Methods
for Drive Motor System of Electric Vehicles**
电动汽车用驱动电机系统功能安全要求及试验方法

(English Translation)

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Functional Safety Requirements and Testing Methods for Drive Motor System of Electric Vehicles

1 SCOPE

This document specifies the functional safety requirements and test methods for the drive motor system (hereinafter referred to as “DMS”) of electric vehicles.

This document applies to the drive motor system for electric vehicles, while the other type of drive motor system may use this document as a reference.

2 NORMATIVE REFERENCES

The following normative documents contain provisions which, through normative reference in this text, constitute essential provision of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendment) applies.

GB 18384-2020 Electric Vehicles Safety Requirements

GB/T 18488 (all parts) Drive motor system for electric vehicles

GB/T 34590.1 ~ GB/T 34590.12-2022 Road vehicles - Functional safety

3 TERMS AND DEFINITIONS

For the purpose of this document, the terms and definitions established in GB/T 34590.1-2022 and the following apply.

3.1 drive motor system (DMS)

A system installed in the electric vehicle (EV), which provides propulsion force for vehicle running, and converts mechanical energy into electrical energy, and vice versa

Note: It consists of driver motor, driver motor controller and the auxiliary devices necessary for their operations. The auxiliary devices include a gearbox integrated with the drive motor.

[Source: GB/T 19596-2017, Definition 3.1.2.1.10, modified]

3.2 Drive motor

An electrical installation that converts electrical energy into mechanical energy to provide propulsion force for vehicle running, which is also able to convert mechanical energy into electrical energy

[Source: GB/T 19596-2017, Definition 3.2.1.1.2.1, modified]

3.3 drive motor controller

A device that controls energy transmission between power supply and drive motor, which is composed of control signal interface circuit, drive motor control circuit and drive circuit power electronic module, etc.

[Source: GB/T 19596-2017, Definition 3.2.1.2, modified]



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