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Drive Motor System for Electric Vehicles
电动汽车用驱动电机系统

(English Translation)

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Drive Motor System for Electric Vehicles

1 SCOPE

This document specifies the model designations, technical requirements, test methods, inspection rules, and markings and identifications, with respect to the drive motor system for electric vehicles.

This document is applicable to the drive motor system, drive motor and drive motor controller for electric vehicles.

For the onboard electric motors only intended for power generation and their controllers, this document can be used 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/T 1971	Rotating electrical machines—Terminal markings and direction of rotation
GB/T 2900.25	Electrotechnical terminology - Rotating electrical machines
GB/T 2900.33	Electrotechnical terminology - Power electronics
GB/T 4208-2017	Degrees of protection provide by enclosure (IP code)
GB/T 12673	Motor vehicle main dimensions measurement method
GB/T 15089	Classification of power-driven vehicles and trailers
GB 18384	Electric vehicles safety requirements
GB/T 18655-2018	Vehicles, boats and internal combustion engines—Radio disturbance characteristics—Limits and methods of measurement for the protection of on-board receivers
GB/T 19596-2017	Terminology of electric vehicles
GB/T 21437.2	Road vehicles—Test method of electrical disturbances from conduction and coupling—Part 2: Electrical transient conduction along supply lines only
GB/T 33014.2	Road vehicles—Component test methods for electrical /electronic disturbances from narrowband radiated electromagnetic energy—Part 2: Absorber-lined shielded enclosure
GB/T 33014.4	Road vehicles—Component test methods for electrical/electronic disturbances from narrowband radiated electromagnetic energy—Part 4: Bulk current injection (BCI)
GB 34660-2017	Road vehicles—Requirements and test methods of electromagnetic compatibility
GB/T 42284.3-2022	Road vehicles—Environmental conditions and testing for electrical and electronic equipment for drive system of electric propulsion vehicles—Part 3: Mechanical loads
GB/T 42284.4-2022	Road vehicles—Environmental conditions and testing for electrical and electronic equipment for drive system of electric propulsion vehicles—Part 4: Climatic loads

3 TERMS AND DEFINITIONS

For the purpose of this document, the terms and definitions established in GB/T 2900.25,

GB/T 2900.33, GB/T 15089 and GB/T 19596, as well as the following apply.

3.1 drive motor

An electrical device that converts electrical energy into mechanical energy to provide propulsion force for vehicle running; this device is also capable of converting mechanical energy into electrical energy.

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

3.2 drive motor controller

A device that controls energy transmission between power source and drive motor

Note: it is composed of control signal interface circuit, drive motor control circuit, drive circuit and power electronics module, etc.

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

3.3 drive motor system

A system installed on the electric vehicle, providing propulsion force for vehicle running, and realizing mutual conversion between mechanical energy and electrical energy

Note: It includes driver motor, driver motor controller and the auxiliary devices necessary for their operations; the auxiliary devices include the speed variator integrated to the drive motor.

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

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