



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

GB/T 20234.4-2023

**Connection set of conductive charging for electric vehicles -
Part 4: High power DC charging coupler**

电动汽车传导充电用连接装置 第4部分：大功率直流充电接口

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 "Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents".

This document is Part 4 of GB/T 20234 "Connection set of conductive charging for electric vehicles". GB/T 20234 has released the following parts:

- Part 2: AC charging coupler;
- Part 3: DC charging coupler;
- Part 4: High power DC charging coupler.

This document was proposed by AND shall be under the jurisdiction of the China Electricity Council.

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Introduction

Conductive charging is the basic way to realize electric energy supply for electric vehicles. GB/T 20234 aims to standardize the technical requirements and test methods for charging

connection devices; unify the interface type and structural size of the charging coupler, thereby realizing the interconnection between electric vehicles and charging infrastructure. GB/T 20234 is planned to consist of four parts.

- Part 1: General requirements. The purpose is to establish the general performance requirements for charging connection devices AND ensure the functionality and reliability of the product.
- Part 2: AC charging coupler. The purpose is to establish the contact definition, contact connection interface, structural dimensions, etc. of the AC charging coupler, thereby achieving the interchangeability of the AC charging coupler.
- Part 3: DC charging coupler. The purpose is to establish the contact definition, contact connection interface, structural dimensions, etc. of the DC charging coupler, thereby achieving the interchangeability of the DC charging coupler.
- Part 4: High-power DC charging coupler. The purpose is to establish the composition and function, interface and parameters, cable requirements, thermal management system, technical requirements, test methods, etc. of the high-power DC charging coupler, as well as the technical requirements, test methods and inspection rules of the adapter, etc., thereby realizing the compatibility and interchangeability of high-power DC charging coupler.

The issuing organization of this document draws attention to the fact that, when stating compliance with this document, it may involve the use of patents related to Chapter 10, Appendix E and adapters.

The issuing authority of this document takes no position, regarding the authenticity, validity, or scope of this patent.

The patent holder has promised to the issuing organization of this document that he is willing to work with any applicant to license any organization or individual free of charge to implement the patent, when implementing this document, on reasonable and non-discriminatory terms and conditions. A statement of the patent holder has been filed with the issuing authority of this document. Relevant information can be obtained, through the following contact details:

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Please note that in addition to the above patents, some content in this document may still

involve patents. The publisher of this document assumes no responsibility for identifying patents.

1 Scope

This document specifies the composition and function, interface and parameters, cable requirements, thermal management system, technical requirements, test methods, etc. of the conductive DC charging connection device for electric vehicles, as well as the technical requirements, test methods, inspection rules of the adapter.

This document is applicable to the connection device for conductive DC charging of electric vehicles, whose rated voltage does not exceed 1500V DC and the rated current does not exceed 800A DC. This document is applicable to the adapter, that connects the GB/T 20234.3 vehicle connector and the vehicle inlet adapter of this document; its rated voltage does not exceed 1500V DC.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, for dated reference documents, only the version corresponding to the date applies to this document; for undated reference documents, the latest version (including all amendments) applies to this document.

Catalog of Hazardous Chemicals (2015 Edition). www.chinasafety.gov.cn.

3 Terms and definitions

The terms and definitions, as defined in GB/T 11918.1-2014, GB/T 18487.1, GB/T 29317, as well as the following terms and definitions, apply to this document. Components for connecting electric vehicles and electric vehicle's power supply equipment. Note: It consists of charging cable, vehicle connector, vehicle inlet, cap and other components. A component unit, which is used to convert the connection interface -between vehicle connectors and vehicle inlets, that comply with different standards. Note: It consists of control pilot circuit, detection circuit, additional functions, etc., referred to as adapter. Adapter, which has the connection function and control pilot circuit. An adapter, which has connection function and control pilot circuit, as well as temperature monitoring and communication functions. The interface on the adapter, that mates with the vehicle inlet. Note: Referred to as vehicle interface. The part of the adapter, that mates with the vehicle inlet. The interface on the adapter, that mates with the vehicle connector. The part of the adapter, that mates with the vehicle connector. The peer interface to which the adapter interface is connected. The cable in the adapter, which is used to connect the vehicle interface and the connector-interface. In terms of physical structure, an adapter which