



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

GB/T 20234.3-2023

Replacing GB/T 20234.3-2015

**Connection Set for Conductive Charging of Electric Vehicles –
Part 3: DC Charging Coupler**

电动汽车传导充电用连接装置 第3部分：直流充电接口

Issued on: September 7, 2023

Implemented on: September 7, 2023

**Issued by: State Administration for Market Regulation;
Standardization Administration of the People's Republic of China..**

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Foreword

This Document was drafted as per the rules specified in GB/T 1.1-2020 Directives for Standardization – Part 1: Rules for the Structure and Drafting of Standardizing Documents.

This Document was Part 3 of GB/T 20234 Connection Set for Conductive Charging of Electric Vehicles. GB/T 20234 consists of the following parts:

--- Part 2: AC charging coupler;

--- Part 3: DC charging coupler.

This Document replaced GB/T 20234.3-2015 Connection Set for Conductive Charging of Electric Vehicles – Part 3: DC Charging Coupler. Compared with GB/T 20234.3-2015, the major technical changes of this Document are as follows besides the structural adjustments and editorial modifications:

a) Change the rated voltage and rated current of the DC charging interface (see Clause 1, Tables 1 and 2 of this Edition; Clause 1, Tables 1 and 2 of the 2015 Edition);

b) Add requirements for locking devices (see 6.4 of this Edition);

c) Change the height dimensions of the vehicle socket CC2 plug bush (see 7.3 of this Edition;

Appendix A of the 2015 Edition);

d) Added structural examples of locking devices (see Clause 10 of this Edition).

Please note some contents of this Document may involve patents. The issuing agency of this Document shall not assume the responsibility to identify these patents.

This Document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This Document shall be under the jurisdiction of National Technical Committee of Auto Standardization (SAC/TC 114).

Motor Co., Ltd.; Suzhou Chilye Green Technology Co., Ltd.; China National Electric Apparatus Research Institute Co., Ltd.; Amphenol PCD (Shenzhen) Co., Ltd.; TELD New Energy Co., Ltd.; Zeekr Automobile (Ningbo Hangzhou Bay New Zone) Co., Ltd.; CSG Smart (Hefei) Science & Technology Co., Ltd.; Xiaomi Automobile Technology Co., Ltd.; Beijing Xiaoju New Energy Automobile Technology Co., Ltd.; Hangzhou Jiawa New Energy Technology Co., Ltd.; Qingdao Huashuo Gaoke New Energy Technology Co., Ltd.; Anhui Jianghuai Automobile Group Corp., Ltd.; Chery Automobile Co., Ltd.; Hefei Gotion High-Tech Power Energy Co., Ltd.; Shenzhen CEGN Co., Ltd.; Potevio New Energy Co., Ltd.; Zhengzhou Shanxiang New Energy Tech Co., Ltd.; Yunshan Smart New Energy Technology Co., Ltd.; Great Wall Motor Company Limited; Hozon New Energy Auto Co.,

Ltd.; and Shenzhen Daotong Hechuang New Energy Co., Ltd.

Chief drafting staffs of this Document: Ling Heping, Xu Xiao, Wang Fang, Shi Jianyong, Li Chuan, Zhao Ying, Li Jin, Liu Kai, Wang Xu, Zhou Guangying, Tan Yi, Shao Changhong, Cai Jun, Liang Wei, Liu Qingrong, Lan Hailong, Zhao Lvhu, Xu Pingan, Tian Yuwei, Jiang Yi, Wang Kai, Wang Min, Lv Guowei, Wang Jinming, Shi Laifeng, Yin Jiatong, Deng Chenghao, Huang Hongtu, Wang Bin, Lan Haibo, Li Changluo, Cheng Hao, Han Kang, Zhang Meng, Wu Liang, Jiang Rui, Ma Xing, Feng Bin, Qian Jindu, Gao Feng, Peng Bo, Jiang Dianshuang, Lin Xuan, Yan Yajiang, Peng Wenke, Guo Yinfei, Yue Yunpeng, Yue Zengquan, Gu Zhaoning, Chen Jiyong, Zhang Xin, Tian Zhilong, Li Yinrong, Deng Chaoqun, Wu Xuejian, Lin Weiyi, and Dai Jun.

The historical editions replaced by this Document are as follows:

--- It was second-time revised hereby.

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 of charging connection devices and unify the interface type and structural size of charging interfaces, thereby realizing the interconnection between electric vehicles and charging infrastructure. GB/T 20234 is planned to consist of the following 4 parts:

for charging connection devices and ensure the functionality and reliability of the product.

interface, structural dimensions, etc. of the AC charging coupler to achieve the interchangeability of the AC charging coupler.

interface, structural dimensions, etc. of the DC charging coupler (including high-power charging) to achieve the interchangeability of the DC charging coupler.

function and layout, cable requirements, thermal management system, technical requirements, test methods, etc. of the DC charging connection device, as well as the definition, technical requirements, test methods, inspection rules, etc. of the adapter.

In order to cover more charging scenarios, it is necessary to expand the rating of the DC charging coupler to meet the use requirements of high-power DC charging and low-power DC charging, respectively.

1 Scope

This Document specifies the general requirements, ratings, connection interface, contact arrangement, contact function, model, structural dimensions and other requirements for the DC charging coupler for conductive charging of electric vehicles.

This Document applies to DC charging couplers with rated voltage not exceeding DC

1500V and rated current (continuous maximum operating current) not exceeding 800 A.

2 Normative References

The provisions in following documents become the essential provisions of this Document through reference in this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the undated documents, only the latest version (including all the amendments) is applicable to this Document.

3 Terms and Definitions

4 General Requirements

shall meet the requirements of relevant standards or documents.

5 Ratings

The ratings of the DC charging coupler shall comply with the provisions of Table 1.

NOTE 1: The rated current (maximum continuous operating current) is the maximum continuous charging current

that the entire charging coupler (including necessary cables and wires) can carry after the vehicle plug and vehicle socket are fully connected.

larger rated current (maximum continuous operating current).

NOTE 3: Under active cooling conditions, the maximum continuous operating current of the charging coupler is affected by the cooling conditions. When the cooling capacity is sufficient, the charging coupler has a large maximum continuous operating current. The maximum continuous operating current of the charging coupler is usually greater than the current value given in the table.

NOTE 4: The short-term (non-continuous) maximum operating current allowed by the charging coupler can usually be greater than the rated current or the maximum continuous operating current. When charging, the charging current is adjusted in real time based on the thermal management system, contact temperature, surface temperature and other conditions of the charging connection device.

6 Connection Functions

6.1 Connection interface and contact arrangement

The connection interface and contact arrangement of the vehicle plug and vehicle socket shall comply with the provisions of Figures 1 and 2, respectively.