



国家电网公司
STATE GRID
CORPORATION OF CHINA

GB/T 20234.4的进展

Progress of GB/T 20234.4

南瑞集团有限公司 朱小强

Zhu Xiaoqiang, NARI GROUP

2022.09

GB/T 20234.4 Connection devices for conductive charging of electric vehicles -
Part4: High power DC charging coupler

GB/T 20234.4 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

ICS 43.040.99
T 35



中华人民共和国国家标准

GB/T 20234.4—2022

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

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

(送审稿 2022年09月23日)

2022-XX-XX 发布

2022-XX-XX 实施

国家市场监督管理总局
国家标准化管理委员会 发布

The standard specifies the following:

标准规定了以下内容：

- Dimensions of the charging coupler 接口结构尺寸
- Requirements for charging cables 充电电缆要求
- Requirements for thermal management system 热管理系统的要求
- Technical requirements and test methods for charging coupler 连接装置技术要求和试验方法
- Technical requirements and test methods for vehicle adapters 车辆适配器技术要求和试验方法

Kick-off meeting启动会



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In October 2021, a kick-off meeting for standard preparation was held in the form of a combination of online and offline meetings.

2021年10月，以线上线下会议相结合的形式召开了标准编制的启动会。



Beijing

←----- online ----->

NanJing



Established a working group, including three sub-working group:
成立了工作组，包括三个子工作组：

- SWG1: General requirements 通用要求工作组
- SWG2: Thermal management 热管理工作组
- SWG3: Vehicle adapters 车辆适配器

国家标准化管理委员会文件

国标委发〔2021〕41号

国家标准化管理委员会关于下达 2021年第四批推荐性国家标准计划及 相关标准外文版计划的通知

各有关单位：

经研究，国家标准化管理委员会决定下达2021年第四批推荐性国家标准计划和99项推荐性国家标准外文版计划（附后）。本批推荐性国家标准计划共计584项，其中制定340项、修订244项，推荐性标准568项、指导性技术文件16项。

请你单位组织、监督有关全国专业标准化技术委员会和主要起草单位，在计划执行中加强协调，广泛征求意见，按要求完成推荐性国家标准制修订任务及相关标准外文版的组织编

- 1 -

译和技术审查工作，确保标准的质量和水平。



NWIP
国标委立项通知

WD&CD标准草案及征求意见稿



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- ◆ **2021.11(WD):** Based on the high-power charging enterprise standard of the State Grid Corporation of China, the working draft was completed.
基于国家电网公司大功率充电企业标准，完成了标准草案。
- ◆ **2021.11~2022.01(CD1):** Held seven meetings, discussed more than 200 comments, and the first committee draft was completed.
工作组召开7次会议，讨论了200余条内部意见，形成第1次征求意见稿。
- ◆ **2022.02~2022.06(CD2):** In the first round of circulation, more than 300 comments were received from more than 20 companies. seven public meetings were held to discuss and deal with the comments, and the second committee draft was completed.
在第1轮征求意见过程中，共收到20余家单位共计300余条意见，工作组召开7次会议讨论处理意见，形成第2次征求意见稿。
- ◆ **2022.07~2022.08:** In the second round of circulation, nearly 200 comments were received from more than 10 companies. two public meetings were held to discuss and deal with the comments.
在第2轮征求意见过程中，共收到10余家单位近200条意见，工作组召开2次会议讨论处理意见，形成第送审稿。

General requirements 通用要求部分

- ◆ Definition of rated current and its maximum value 额定电流定义及其最大值
- ◆ Requirements for charging cables 充电电缆的要求, 如电缆尺寸及抗挤压
- ◆ Test methods for mechanical properties of locking devices 锁止装置机械性能试验方法
- ◆ The size of protective conductor 保护导体的尺寸

Thermal management 热管理部分

- ◆ Requirements for coolant 冷却介质要求
- ◆ Leakage detection function 泄露监测功能
- ◆ Compatibility test method for coolant 冷却介质的兼容性试验方法
- ◆ Pressure test method for cooling tube 冷却管道的耐压力试验方法
- ◆ Temperature rise requirements and test methods 温升要求及试验方法

Vehicle adapters 车辆适配器部分

- ◆ Application scenarios of the adapter 适配器的应用场景
- ◆ Classification of adapters 适配器的分类
- ◆ The maximum value of the rated current of the adapter 适配器额定电流的最大值
- ◆ Lockout requirements 锁止要求
- ◆ IP Protection class requirements IP防护等级要求



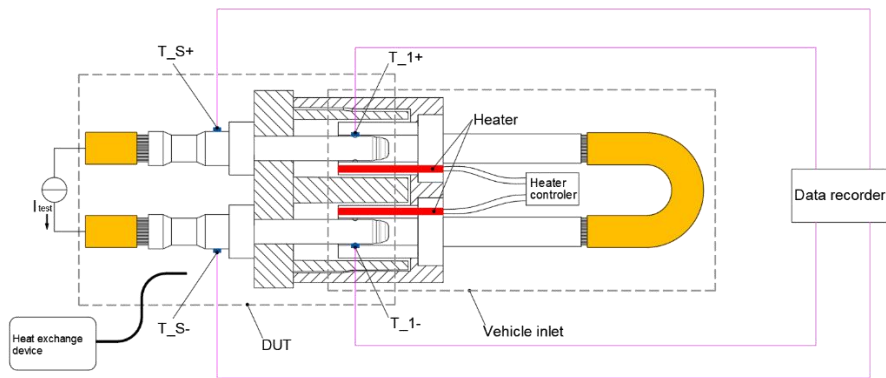
Discussion points 主要讨论要点



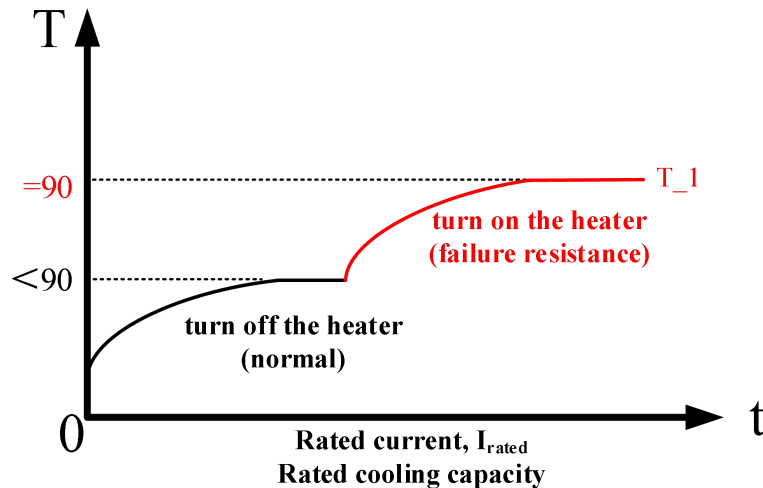
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Proposed a new temperature rise test method in GB/T 20234.4, which is different from the method specified in IEC TS 62196-3-1.

在GB/T 20234.4中提出一种新的温升测试方法，其与IEC TS 62196-3-1规定的测试方法不同。



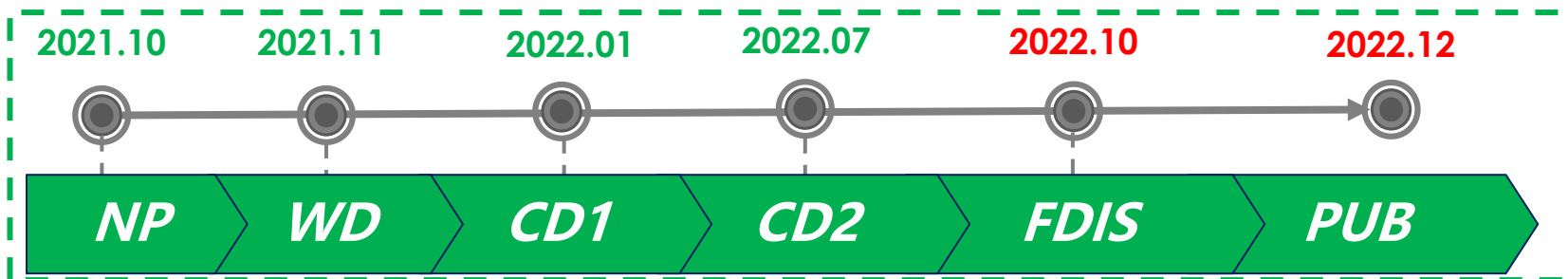
test setup



the method to determine the limited value of the failure resistance

Reference standards 参考标准

- IEC 62196-1 Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 1: General requirements
- IEC 62196-3 Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 3: Dimensional compatibility requirements for DC and AC/DC pin and contact-tube vehicle couplers
- IEC 62196-3-1 Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 3-1: Vehicle connector, vehicle inlet and cable assembly for DC charging intended to be used with a thermal management system
- GB/T 20234.1-2015 电动汽车传导充电用连接装置 第1部分：通用要求





Thank you!