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

GB/T 44130.2-2025

**Charging and battery swap service information exchange for
electric vehicles - Part 2: Common data exchange code**

电动汽车充换电服务信息交换 第2部分: 公共信息交换规范

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1 Scope

This document specifies the application architecture, common data model, common information exchange interface protocol, and application scenarios for common information exchange in charging and battery swap service information exchange for electric vehicles, it and describes the verification methods.

This document applies to the charging and battery swap service information exchange between electric vehicle charging and battery swap operation service platforms belonging to different operators, as well as between electric vehicle charging and battery swap operation service platforms and third-party services and management platforms.

2 Normative References

GB/T 2260-2007

GB 32100-2015

GB/T 44130.1-2024

GB/T 44130.5-2025

ISO 10646

3 Terms and Definitions

The terms and definitions defined in GB/T 44130.1-2024, and the following are applicable to this document.

3.1 Charge station operator platform

A platform providing charging and battery swap facility service management for infrastructure operators.

3.2 Data demander platform

A third-party platform that exchanges information with the infrastructure operator platform and has the demand to obtain and use common information data.

3.3 Common information integererface [Translator's note. Exchange Interface?]

An interface for implementing the common information exchange of charging and battery swap services.

NOTE. it is abbreviated as "Icomm interface".

[source. GB/T 44130.1-2024, 3.8]

4.1 Interaction Framework

The common information interaction framework for charging and battery swap services for electric vehicles is shown in Figure 1.

4.2 Business Roles

The main business roles participating in the common information exchange for charging and battery swap services for electric vehicles include charge station operator platforms and data demander platforms.

4.3.1 The transmission requirements for common information exchange shall comply with the

provisions of inter-platform data transmission in 7.1 of GB/T 44130.5-2025.

4.3.2 The message format for common information exchange shall comply with the provisions

of inter-platform data transmission in 7.1 of GB/T 44130.5-2025.

4.3.3 The interaction mechanism for common information exchange shall comply with the

provisions of inter-platform data transmission in 7.1 of GB/T 44130.5-2025.

4.3.4 The timestamp data format content involved in this document shall comply with the provisions of A.1 in Appendix A.

4.3.5 The definitions of operator ID and charging and battery swap equipment ID used in this document shall comply with the provisions of Table 1.

4.3.6 The information exchange encoding used in this document shall support the 8-bit

transformation format (UTF-8) specifications, and the format shall conform to RFC 3629.

4.3.7 The security of the information exchange interface used in this document shall comply with the provisions of GB/T 44130.5-2025.

5 Common Data Model

Common information encompasses five core categories. operator information, charging and

battery swap station information, charging and battery swap station billing policy information, charging and battery swap station equipment operating status information, and battery information.

Operator information is used to describe basic enterprise information related to infrastructures, including platform operator information, equipment owner information, and charging and battery swap service enterprise information.

Charging and battery swap station information is used to describe basic information of charging and battery swap stations, including basic charging business information and basic battery swap business information. In the basic charging business information, each charging station contains at least one charging equipment, and each charging equipment corresponds to one or more charging interfaces. In the basic battery swap business information, each battery swap station contains at least one battery swap equipment, and each battery swap equipment corresponds to one or more battery pack replacement equipment and quick-swap battery pack racks.

Charging and battery swap station billing policy information is used to describe various billing rules for charging and battery swap stations, including charging billing policy information and battery swap billing policy information. Charging billing policy information includes charging interface billing policy information and parking space usage fee information; battery swap billing policy information includes battery pack replacement equipment billing policy information and battery usage fee information.

The charging and battery swap station equipment operating status information is used to describe the real-time status of various equipment within the station, including the operating status of charging equipment interfaces, battery pack replacement equipment and quick-swap battery pack racks.

Battery information is used to describe basic battery-related information and real-time status, including basic battery pack information and battery operating status information.

The common information object relation diagram is shown in Figure 2.

The definition of common information objects shall comply with the requirements of Appendix B.