

ICS 35.240.60
CCS L73



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

GB/T 44130.1-2024

**Charging and battery swap service information exchange for
electric vehicles - Part 1: General**

电动汽车充换电服务信息交换 第1部分：总则

Issued on: May 28, 2024

Implemented on: September 1, 2024

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

This document was issued on 28 May 2024 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 September 2024.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

1 Scope

GB/T 44130.1-2024 is the general part of the Chinese standard for exchanging charging and battery swap service information for electric vehicles. China has the largest charging network in the world and the only substantial battery swap networks, operated by many companies whose systems must nonetheless present a single service to a driver who wants to find a working charger, start a session and be billed once. This part establishes the framework for that: the participants in the service and the relationships between them, the information exchange model and the business processes it supports, the general requirements on the interfaces, the data and its identification, the security and the conformance, providing the structure that the later parts populate with the detailed message definitions. It takes effect on 1 September 2024.

This document specifies the overall requirements for charging and battery swap service information exchange for electric vehicles, including the charging and battery swap service information exchange architecture, information exchange process, information exchange functions and information exchange security mechanism.

This document applies to information exchange between charging and battery swap service platforms that have the need to exchange charging and battery swap service information, and between charging and battery swap service platforms and other systems and equipment.

2 Normative references

The provisions of the following documents constitute the essential clauses of this document through normative references in this text. Among them, for referenced documents with dates, only the versions corresponding to the dates are applicable to this document; for referenced documents without dates, the latest versions (including all amendments) are applicable to this document.

GB/T 19596 Terminology of electric vehicles

GB/T 29317 Terminology of electric vehicle charging/battery swap infrastructure

GB/T 32100 Coding rule of the unified social credit identifier for legal entities and other organizations

GB/T 32960.3 Technical specifications of remote service and management system
for electric vehicles - Part 3: Communication protocol and data format
RFC 3986 Uniform Resource Identifier (URI): Generic Syntax

3 Terms and definitions

The terms and definitions defined in GB/T 19596, GB/T 29317 and the following apply to this document.

3.1 electric vehicle driver

Electric vehicle users who replenish energy for their electric vehicles through charging and battery swap facilities.

3.2 charging and battery swap service

The services provided by operators to electric vehicle drivers, which include identity recognition and authentication, charging and battery replacement, payment & settlement, etc.

3.3 electric vehicle charging service operation network

A collection of hardware, software, and processes that provide relevant services of charging and battery swap for electric vehicles and their users.

NOTE: It is referred to as the operation service network and consists of charging and battery swap

infrastructure and charging and battery swap service platforms.

3.3.1 electric vehicle charging service infrastructure

The charging and battery swap equipment, supporting equipment, power distribution-related equipment, and parking service equipment such as ground locks and barriers that are needed to provide support for a series of services for electric vehicles and users.

NOTE: It is referred to as charging and battery swap infrastructure.

3.3.2 charging and battery swap service platform

A support system that collects, processes and manages electric vehicle information and electric vehicle infrastructure information, and provides users with charging and battery swap services, business management and information service functions.

NOTE: It is referred to as the service platform.

3.4 charging and battery swap service operator

Providers of charging and battery swap services for electric vehicle drivers.

NOTE: Charging and battery swap service operators include charging and battery swap infrastructure

operators and charging and battery swap service platform operators.

3.4.1 charging and battery swap infrastructure operator

The main unit responsible for the operation, maintenance and service of electric vehicle charging and battery swap infrastructure.

NOTE: It is abbreviated as the infrastructure operator.

3.4.2 charging and battery swap service platform operator

Operators that provide operation monitoring, operation management, business services, information services and other services of the charging and battery swap service network through the charging and battery swap service platform.

NOTE: It is referred to as the platform operator.

3.5 charging and battery swap service roaming

The process by which one operator provides charging and battery swap services to another operator's registered users.

3.5.1 charge station operator; CSO

During the roaming process of charging and battery swap services, the platform operator who provides electric vehicle drivers with electric vehicle charging service infrastructure.

3.5.2 charge service provider; CSP

During the roaming process of charging and battery swap services, the platform operator where electric vehicle drivers register to join the network, who provides account management, information services and customer service support for electric vehicle drivers.

3.6 charging and battery swap service common information

Electric vehicle charging and battery swap service directory information involved in