

ICS 43.040.10

CCS T35



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

GB/T 42193.2-2022

**Road vehicles - Communication between vehicle and external
equipment for emissions-related diagnostics - Part 2: Guidance
on terms, definitions, abbreviations and acronyms**

道路车辆 车辆和外部设备之间排放相关诊断的通信 第2部分：术语、定义、缩写
和缩略语的指南

Issued on: December 30, 2022

Implemented on: July 1, 2023

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

Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 General Information	1
5 Document overview	2
6 Naming rules	3

Foreword

This document was issued on 30 December 2022 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 July 2023.

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

It is classified under ICS 43.040.10, Chinese classification T35.

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules for Standardization Documents" drafting.

This document is Part 2 of GB/T 42193 "Communication of emissions-related diagnostics between road vehicles and external equipment".

GB/T 42193 has issued the following parts.

- Part 1. General information and use case definitions;
- Part 2. Guidelines for terms, definitions, abbreviations and abbreviations;
- Part 3. Requirements and use of diagnostic connectors and related circuits;
- Part 4. External test equipment;
- Part 7. Data link security.

This document is equivalent to ISO 15031-2:2010 "Communication of emission-related diagnostics between road vehicles and external equipment Part 2

Section. A Guide to Terms, Definitions, Abbreviations and Acronyms.

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

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

This document is under the jurisdiction of the National Automotive Standardization Technical Committee (SAC/TC114).

This document is drafted by. Great Wall Motor Co., Ltd., China Automotive Technology and Research Center Co., Ltd., Dongfeng Motor Group Co., Ltd.

Co., Ltd. Technology Center, Geely Automobile Research Institute (Ningbo) Co., Ltd., SAIC Volkswagen Co., Ltd., SAIC-GM-Wuling Automobile Co., Ltd.

Co., Ltd., Sharon Zhixing Technology Co., Ltd., FAW-Volkswagen Co., Ltd., China Automotive Research Institute (Tianjin) Automotive Engineering Research Institute Co., Ltd.,

Beijing National New Energy Vehicle Technology Innovation Center Co., Ltd.

The main drafters of this document. Han Keqiang, Sun Jing, Wu Hanbing, Han Guangsheng, Yue Yi'e, Yang Lisha, Liu Xu, Yu Jianshan, Wu Shaohua, Liu Le,

Jiang Guokai, Ji Guotian, Chen Peng, Pan Junjia, Gao Changbin, Sun Ziyuan, Yang Lufeng, Zhang Dingyu, Yang Zhunying, Deng Litao, Li Zhaolin, Xu Yunzhen.

Introduction

GB/T 42193 consists of multiple parts, which together provide a coherent and organized set of specifications for the convenience of emissions

Close diagnostics.

GB/T 42193 consists of 7 parts.

--- Part 1.General information and use case definitions. The purpose is to give an overview of emission-related diagnostics between the vehicle and external equipment.

General information and use case definitions are intended to provide an overview of the series of documents.

--- Part 2.Guidelines for terms, definitions, abbreviations and abbreviations. The purpose is to provide emission-related diagnostics between the vehicle and external equipment

The terms, definitions, abbreviations and abbreviations of the communication provide guidance and aim to unify the rules.

--- Part 3.Requirements and use of diagnostic connectors and related circuits. The purpose is to provide an emission correlation between the vehicle and the external equipment

Diagnostic connectors and associated circuitry provide requirements for standard access to OBD data.

--- Part 4.External test equipment. The purpose is to give the communication establishment method and external test between the vehicle and the external test equipment

Equipment requirements designed to allow external test equipment to efficiently access the vehicle through OBD services.

--- Part 5.Emissions-related diagnostic services. The purpose is to give the emission-related diagnostic service requirements between the vehicle and the external equipment, aiming at On Unified Communications Requirements.

--- Part 6.Definition of diagnostic trouble codes. The purpose is to give a DTC format for emission-related diagnostics between the vehicle and external equipment and description, aiming to unify the fault code format.

--- Part 7.Data link security. The purpose is to provide guidance for the vehicle diagnostic data link to protect road vehicle modules from illegal intrusion.

South, designed to provide guidance on protecting vehicles from unauthorized access through vehicle diagnostic connections.

GB/T 42193 includes within the scope of emission-related on-board diagnostics (OBD), between the OBD system of the vehicle and the test equipment passing the vehicle communication between.

To achieve the above objectives, this document uses ISO /IEC 7498-1 and ISO /IEC 10731, the basic reference for Open Systems Interconnection (OSI).

model, which divides the communication system into seven layers. When mapping the services described in GB/T 42193 to the model, it can be divided into the following levels

(See Table 1).

---Application layer (layer 7), see.

* ISO 15031-5 (emission related OBD);

* ISO 27145-3 (WWH-OBD).

--- Presentation layer (layer 6), see.

* ISO 15031-2, SAEJ1930-DA;

* ISO 15031-5, SAEJ1979-DA;

* ISO 15031-6, SAEJ2012-DA(OBD);

* ISO 27145-2, SAEJ2012-DA (WWH-OBD).

---Session layer (layer 5), see.

* ISO 14229-2 supports ISO 15765-4 DoCAN and ISO 14230-4 DoK-Line protocols;

* ISO 14229-2 is not applicable to SAEJ1850 and ISO 9141-2 protocols.

---Transport layer (layer 4), see.

* DoCAN. ISO 15765-2 transport layer protocol and network layer services;

* SAEJ1850. ISO 15031-5 emissions-related diagnostic services;

* ISO 9141-2. ISO 15031-5 emissions-related diagnostic services;

* DoK-Line. ISO 14230-4, ISO 15031-5 emissions-related diagnostic services.

---Network layer (layer 3), see.

* DoCAN. ISO 15765-2 transport layer protocol and network layer services;

* SAEJ1850. ISO 15031-5 emissions-related diagnostic services;

* ISO 9141-2. ISO 15031-5 emissions-related diagnostic services;

* DoK-Line. ISO 14230-4, ISO 15031-5 emissions-related diagnostic services.

---Data link layer (layer 2), see.

* DoCAN. ISO 15765-4, ISO 11898-1;

* SAEJ1850;

* ISO 9141-2;

* DoK-Line. ISO 14230-2.

---Physical layer (layer 1), see.

* DoCAN. ISO 15765-4, ISO 11898-1, ISO 11898-2;

* SAEJ1850;

* ISO 9141-2;

* DoK-Line. ISO 14230-1.

Table 1 Emission-related OBD/WWH-OBD diagnostic specifications applicable to OSI layers

Applicability OSI Layer 7 emission-related OBD communication requirements
emission-related WWH-OBD communication requirements

according to

ISO /IEC

7498-1 and