

HJ

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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**Technical specification for emission remote supervision system
of heavy-duty vehicles - Part 3: Communication protocol and
data format**

(English Translation)

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Foreword

In order to implement the "Environmental Protection Law of the People's Republic of China" and "The Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution", prevent and control the environmental pollution, which is caused by the exhaust of heavy-duty vehicles, which are equipped with compression ignition and gas fuel ignition engines, improve air quality, regulate the emission remote monitoring of vehicle emissions technology, this standard is hereby formulated.

HJ 1239 "Technical specification for emission remote supervision system of heavy-duty vehicles" is divided into three parts:

- Part 1: On-board terminal;
- Part 2: Enterprise platform;
- Part 3: Communication protocol and data format.

This Part is Part 3 of HJ 1239.

This Part specifies the protocol structure, communication connection, data packet structure and definition, data unit format, definition for the data transmission of emission remote supervision system of heavy-duty vehicles.

Appendix A and Appendix B of this standard are informative appendixes.

This standard was formulated by the Department of Atmospheric Environment and the Department of Regulations and Standards of the Ministry of Ecology and Environment.

The main drafting organizations of this standard: China Academy of Environmental

Sciences, China Automotive Technology Research Center Co., Ltd., Zhilian Wanwei Technology Co., Ltd., Tangshan Environmental Monitoring Center.

This standard was approved by the Ministry of Ecology and Environment, on December 27, 2021.

This standard will be implemented from July 1, 2022.

This standard is interpreted by the Ministry of Ecology and Environment.

Technical specification for emission remote supervision
system of heavy-duty vehicles - Part 3: Communication
protocol and data format

1 Scope

This standard specifies the protocol structure, communication connection, data packet structure and definition, and data unit format and definition of data transmission of emission remote supervision system of heavy-duty vehicles.

This standard applies to the transmission of emission remote supervision system of heavy-duty vehicles.

2 Normative references

This standard refers to the following documents or clauses thereof. 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 standard.

GB/T 1988 Information technology - 7-bit coded character set for information interchange

GB 16735 Road vehicle - Vehicle identification number (VIN)

GB 17691-2018 Limits and measurement methods for emissions from diesel fueled heavy-duty vehicles (CHINA VI)

GB 18030 Information technology - Chinese coded character set

SAE J 1979DA Digital accessories for E/E diagnostic test modes

3 Terms and definitions

The terms and definitions, which are defined in GB 17691-2018, as well as the following terms and definitions, apply to this standard.

3.1

Upstream direction

The direction of data transmission, from the data sender to the data receiver.

3.2

Downstream direction

The direction of data transmission, from the data receiver to the data sender.

3.3

Vehicle login

Before the vehicle terminal transmits the vehicle status information to the data receiver, the vehicle shall be subject to the login authentication.

3.4

Vehicle logout

The on-board terminal confirms to the data receiver, that the transmission of vehicle data is stopped normally and logs out.

3.5

Platform login

The platform shall perform login authentication, before transmitting vehicle status information to the data receiver.

3.6

Platform logout

The enterprise platform stops data transmission for some reason AND logs out from the server.

4 Communication protocol of on-board terminal and data

format

4.1 Protocol structure

The protocol of on-board terminal shall be structured, in accordance with the requirements of Appendix Q.6.1 of GB 17691-2018.

4.2 Establishment of connection

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