NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA



# GB/T 42691.1-2023

# Road vehicles - Local Interconnect Network(LIN) - Part 1: General information and use case definition

**Issued on: May 23, 2023** **Implemented on: December 1, 2023**

**Issued by: SAMR; SAC**

# Table of Contents

Foreword... 3
Introduction... 5
1 Scope... 7
2 Normative References... 7
3 Terms, Definitions and Abbreviated Terms... 7
3.1 Terms and definitions... 7
3.2 Abbreviated terms... 9
4 Conventions... 9
5 Use Case Overview and Principles... 9
5.1 Basic principles for use case definition... 9
5.2 Use case clusters... 10
6 LIN Communications System Use Case Definition... 10
6.1 UC 1 LIN master task cluster... 10
6.2 UC 2 LIN slave task cluster... 10
6.3 UC 3 LIN communication protocol cluster... 12
6.4 UC 4 LIN physical layer cluster... 13
6.5 UC 5 LIN network management... 14
Bibliography... 15



## Foreword

This Document was drafted as per the rules specified in GB/T 1.1-2020 Directives for Standardization - Part 1: Rules for the Structure and Drafting of Standardizing Documents.

This Document was Part 1 of GB/T 42691 Road Vehicles - Local Interconnect Network (LIN).

GB/T 42691 has already published the following parts:

--- Part 1: General Information and Use Case Definition;

--- Part 2: Transport Protocol and Network Layer Services;

--- Part 3: Protocol Specification;

--- Part 4: Electrical Physical Layer (EPL) Specification 12V/24V;

--- Part 5: Application Programmers Interface (API);

--- Part 6: Protocol Conformance Test Specification;

--- Part 7: Electrical Physical Layer (EPL) Conformance Test Specification;

--- Part 8: Electrical Physical Layer (EPL) Specification: LIN over DC Powerline (DC-LIN).

This Document equivalently adopts ISO 17987-1:2016 Road Vehicles - Local Interconnect Network (LIN) - Part 1: General Information and Use Case Definition.

Please note some contents of this Document may involve patents. The issuing agency of this Document shall not assume the responsibility to identify these patents.

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

This Document shall be under the jurisdiction of National Technical Committee of Auto Standardization (SAC/TC 114).

Drafting organizations of this Document: Great Wall Motor Company Limited; China Automotive Technology and Research Center Co., Ltd.; China Automotive Research Institute (Tianjin) Automotive Engineering Research Institute Co., Ltd.; Dongfeng Motor Group Co., Ltd.; Pan-Asia Technical Automotive Center Co., Ltd.; Geely Automobile Research Institute (Ningbo) Co., Ltd.; China FAW Group Corporation; Huizhou Desay SV Automotive Co., Ltd.; FAW-Volkswagen Automotive Co., Ltd.; SAIC-GM-Wuling Automobile Co., Ltd.; SAIC Maxus Automotive Co., Ltd.; and National New Energy Vehicle Technology Innovation Center Co., Ltd.

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Road Vehicles - Local Interconnect Network (LIN)

- Part 1: General Information and Use Case Definition

## 1 Scope

This Document gives an overview of the structure and the partitioning of GB/T 42691. In addition, it outlines the use case where the GB/T 42691 will be used.

The terminology defined in this Document is common for all LIN communication systems and

is used throughout GB/T 42691.

This Document has been established in order to define the use cases for LIN.

## 2 Normative References

The provisions in following documents become the essential provisions of this Document

through reference in this Document. 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 Document.

ISO 17987-4 Road Vehicles - Local Interconnect Network (LIN) - Part 4: Electrical

Physical Layer (EPL) Specification 12V/24V

NOTE: GB/T 42691.4-2023 Road Vehicles - Local Interconnect Network (LIN) - Part 4: Electrical

Physical Layer (EPL) Specification 12V/24V (ISO 17987-4:2016, IDT)

### 3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 3.1.1 Break field

Entity that consists of a dominant part, the break and a recessive part, the break delimiter.

#### 3.1.2 Byte field

10 bit entity, which consists of a dominant start bit, 8 bit payload (least significant bit first) and

### 3.2 Abbreviated terms

For the purposes of this Document, the following abbreviated terms apply.

API: application programmers interface;

LDF: LIN description file;

NAD: node address for diagnostics;

OEM: original equipment manufacturer;

OSI: open systems interconnection;

PDU: protocol data unit;

PID: protected identifier;

SAP: service access point;

UC: use case;

UDS: unified diagnostic services.

## 4 Conventions

ISO 17987 (all parts) is based on the conventions specified in the OSI Service Conventions (see

ISO/IEC 10731) as they apply for physical layer, data link layer, network and transport protocol

and diagnostic services.

### 5.1 Basic principles for use case definition

Basic principles have been established as a guideline to define the use cases:

- pointing out features which support usual operating modes of networked systems in

OEM's products;

- pointing out features which support future expected properties of networked systems in

OEM's products;

- comparing the contrast between normal operating functionalities in the absence of errors

and limp-home operation functionalities in the presence of errors.

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