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Road vehicles — Unified diagnostic services (UDS) —

Part 7: UDS on local interconnect network (UDSonLIN)

Véhicules routiers — Services de diagnostic unifiés (SDU) — Partie 7: SDU sur l'implémentation LIN (SDUsurLIN)

Reference number
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Contents

Page

Foreword ..... **v**
Introduction ..... **vi**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Symbols and abbreviated terms **2**
4.1 Symbols 2
4.2 Abbreviated terms 2
5 Conventions **2**
6 Service primitive interface definition **2**
7 Technical requirements **3**
7.1 Overview 3
7.2 Implementation guidelines 4
7.2.1 General 4
7.2.2 Definition of diagnostic classes 4
7.2.3 LIN node requirements 5
7.2.4 Signal-based diagnostics 6
7.2.5 Tool suite support 7
8 Application layer **7**
8.1 ISO 14229-1 service primitive parameters 7
8.2 A_Data.req, A_Data.ind, and A_Data.conf service interface 7
8.3 UDSonLIN services overview 7
8.4 A_PDU definition 9
8.5 A_Length definition 9
8.6 CommunicationControl service UDSonLIN implementation requirements 9
8.7 ResponseOnEvent service UDSonLIN implementation requirements 10
8.8 Timing parameter definition 10
9 Presentation layer **12**
10 Session layer **12**
10.1 Service primitive parameter definition 12
10.2 S_Data.req, S_Data.ind, and S_Data.conf service interface 12
11 Transport layer **12**
11.1 General 12
11.2 Service primitive parameters 12
11.3 T_Data.req, T_Data.ind, and T_Data.conf service interface 12
11.4 T_PDU definition 13
11.5 LIN transport and network layer interface adaptation 13
11.5.1 Mapping of data link independent service primitives onto LIN data link-dependent service primitives 13
11.5.2 Mapping of T_PDU onto N_PDU 13
12 Network layer **14**
12.1 Service primitive parameter definition 14
12.2 N_Data.req, N_Data.ind, and N_Data.conf service interface 14
12.3 N_PDU definition 14
12.4 N_TAtype service primitive parameter 15
12.5 LIN responder node requirements 15
12.6 LIN commander node requirements 16
12.6.1 Network address requirements 16
12.6.2 Use of functional addressing 16

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13 Data link layer **16**
13.1 Service primitive parameter definition 16
13.2 L_Data.req, L_Data.ind, and L_Data.conf service interface 16
13.3 L_PDU definition 17
13.4 L_PID definition 17
13.5 L_CS definition 17
14 Physical layer **17**
Bibliography **18**

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 31, *Data communication*.

This second edition cancels and replaces the first edition (ISO 14229-7:2015), which has been technically revised.

The main changes are as follows:

— restructuration of the document;

— introduction of requirement numbers, names and definitions;

— technical content improvements based on implementation feedback from the automotive industry.

A list of all parts in the ISO 14229 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The ISO 14229 series has been established in order to define common requirements for diagnostic systems, whatever the serial data link is.

To achieve this, the ISO 14229 series is based on the Open Systems Interconnection (OSI) Basic Reference Model in accordance with ISO/IEC 7498-1[1] and ISO/IEC 10731[2], which structures communication systems into seven layers. When mapped on this model, the services used by a diagnostic tester (client) and an electronic control unit (ECU, server) are structured into the following layers:

— application layer (layer 7) specified in ISO 14229-1 and ISO 14229-3 to ISO 14229-8;

— presentation layer (layer 6) specified in ISO 14229-1 and ISO 14229-3 to ISO 14229-8;

— session layer services (layer 5) specified in ISO 14229-2 and ISO 14229-3 to ISO 14229-8.

Figure 1 illustrates the UDSonLIN document and related documents according to the OSI model.

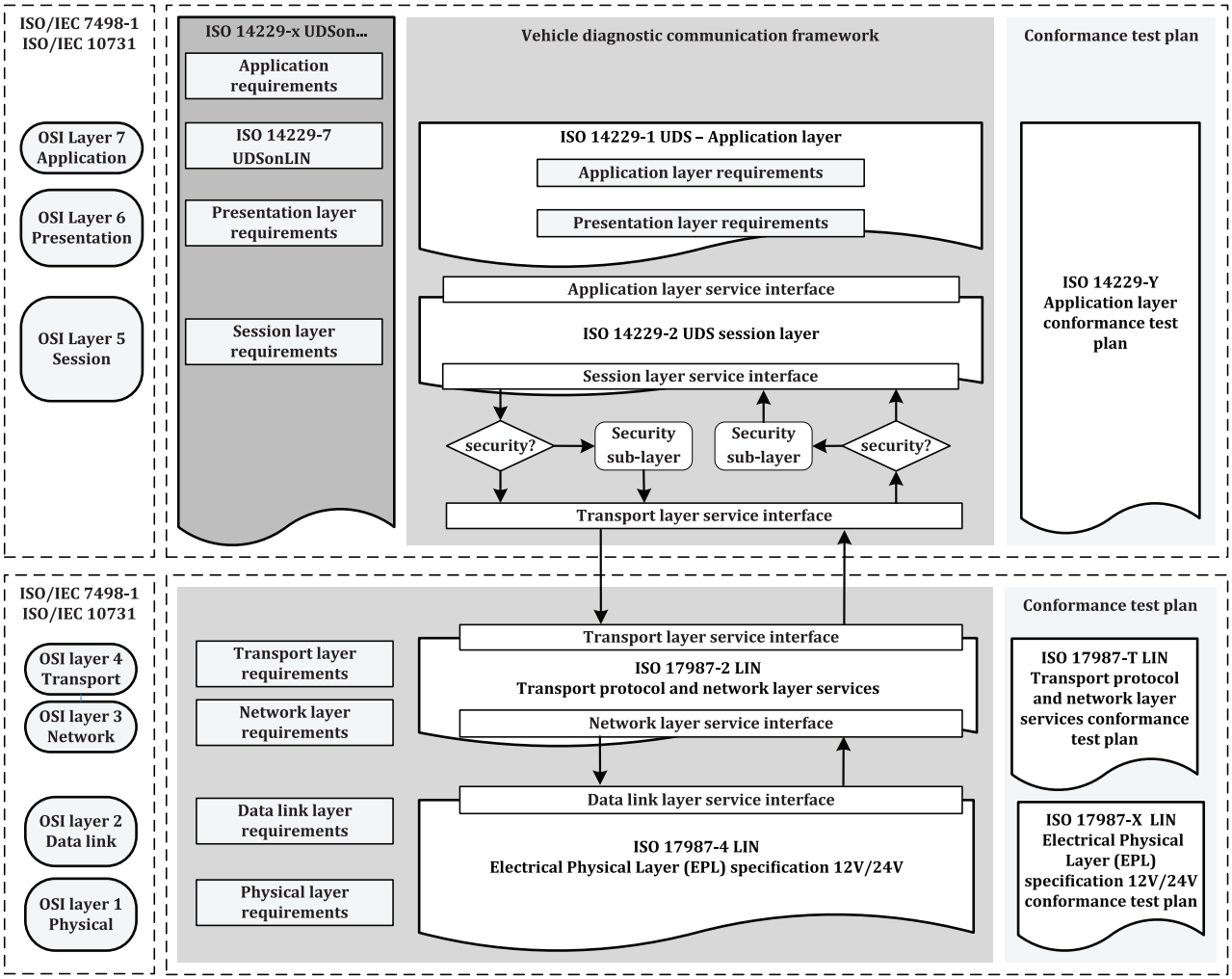


Figure 1 — UDSonLIN document reference according to OSI model

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Road vehicles — Unified diagnostic services (UDS) —

Part 7:
UDS on local interconnect network (UDSonLIN)

1 Scope

This document specifies an application profile for the implementation of unified diagnostic services (UDS) local interconnect network (LIN) in road vehicles (UDSonLIN).

UDSonLIN references ISO 14229-1 and ISO 14229-2 and specifies implementation requirements of the diagnostic services to be used for diagnostic communication on Local Interconnect Network.

This document includes:

— additional requirements specific to the implementation of UDS on local interconnect network; and

— specific restrictions in the implementation of UDS on local interconnect network.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14229-1, *Road vehicles — Unified diagnostic services (UDS) — Part 1: Application layer*

ISO 14229-2, *Road vehicles — Unified diagnostic services (UDS) — Part 2: Session layer services*

ISO 17987-2, *Road vehicles — Local Interconnect Network (LIN) — Part 2: Transport protocol and network layer services*

ISO 17987-3, *Road vehicles — Local Interconnect Network (LIN) — Part 3: Protocol specification*

ISO 17987-4, *Road vehicles — Local Interconnect Network (LIN) — Part 4: Electrical physical layer (EPL) specification 12 V/24 V*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14229-1 and ISO 14229-2 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

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