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Road vehicles — Controller area network (CAN) —

Part 2:
High-speed medium access unit

Véhicules routiers — Gestionnaire de réseau de communication (CAN) —

Partie 2: Unité d'accès au support à grande vitesse

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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.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 11898-2 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

This first edition of ISO 11898-2, together with ISO 11898-1, replaces ISO 11898:1993, which has been technically revised. Whereas the replaced International Standard covered both the CAN DLL and the high-speed PL, ISO 11898-2 specifies the high-speed MAU while ISO 11898-1 specifies the DLL, including LLC and MAC sublayers.

ISO 11898 consists of the following parts, under the general title *Road vehicles — Controller area network (CAN)*:

— *Part 1: Data link layer and physical signalling*

— *Part 2: High-speed medium access unit*

— *Part 3: Low-speed, fault tolerant, medium dependent interface*

— *Part 4: Time-triggered communication*

Road vehicles — Controller area network (CAN) —

Part 2:
High-speed medium access unit

1　Scope

This part of ISO 11898 specifies the high-speed (transmission rates of up to 1 Mbit/s) medium access unit (MAU), and some medium dependent interface (MDI) features (according to ISO 8802-3), which comprise the physical layer of the controller area network (CAN): a serial communication protocol that supports distributed real-time control and multiplexing for use within road vehicles.

2　Normative references

The following referenced documents are indispensable for the application 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 7637-3:1995, *Road vehicles — Electrical disturbance by conduction and coupling — Part 3: Vehicles with nominal 12 V or 24 V supply voltage — Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines*

ISO/IEC 8802-3, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements — Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications*

ISO 16845, *Road vehicles — Controller area network (CAN) — Conformance test plan*

3　Terms and definitions

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

3.1
bus voltage
V_{CAN_L} and V_{CAN_H} denoting the voltages of the bus line wires CAN_L and CAN_H relative to ground of each individual CAN node

3.2
common mode bus voltage range
boundary voltage levels of V_{CAN_L} and V_{CAN_H}, for which proper operation is guaranteed if up to the maximum number of CAN nodes are connected to the bus