
**Road vehicles — Controller area network
(CAN) —**

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

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

Partie 1: Couche liaison et signalisation physique



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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 11898-1 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

This first edition of ISO 11898-1, together with ISO 11898-2, 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 11898-1 specifies the DLL, including LLC and MAC sublayers, as well as the PLS sublayer, while ISO 11898-2 specifies the high-speed MAU.

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 1: Data link layer and physical signalling

1 Scope

This part of ISO 11898 specifies the data link layer (DLL) and physical signalling of the controller area network (CAN): a serial communication protocol that supports distributed real-time control and multiplexing for use within road vehicles. While describing the general architecture of CAN in terms of hierarchical layers according to the ISO reference model for open systems interconnection (OSI) established in ISO/IEC 7498-1, it provides the characteristics for setting up an interchange of digital information between modules implementing the CAN DLL — itself specified according to ISO/IEC 8802-2 and ISO/IEC 8802-3 — with detailed specification of the logical link control (LLC) sublayer and medium access control (MAC) sublayer.

2 Conformance

The conformance of the DLL shall be tested according to ISO 16845.

3 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/IEC 7498-1, *Information technology — Open Systems Interconnection — Basic Reference Model: The Basic Model*

ISO/IEC 8802-2, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements — Part 2: Logical link control*

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*