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 de données 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.

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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO’s adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword — Supplementary information.

The committee responsible for this document is ISO/TC 22, Road vehicles, Subcommittee SC 31, Data communication.

This second edition cancels and replaces the first edition (ISO 11898-1:2003), which has been technically revised. It also incorporates the Corrigendum ISO 11898-1:2003/Cor 1:2006.

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 ¹)
— Part 3: Low-speed, fault-tolerant, medium-dependent interface
— Part 4: Time-triggered communication
— Part 5: High-speed medium access unit with low-power mode ¹)
— Part 6: High-speed medium access unit with selective wake-up functionality ¹)

¹) Parts 2, 5, and 6 are being revised. They will be merged under a new edition of Part 2.
Introduction

ISO 11898 was first published as one document in 1993. It covered the CAN data link layer, as well as the high-speed physical layer.

In the reviewed and restructured ISO 11898 series:

— Part 1 defines the data link layer including the logical link control (LLC) sub-layer and the medium access control (MAC) sub-layer, as well as the physical signalling (PHS) sub-layer;
— Part 2 defines the high-speed physical medium attachment (PMA);
— Part 3 defines the low-speed fault-tolerant physical medium attachment (PMA);
— Part 4 defines the time-triggered communication;
— Part 5 defines the power modes of the high-speed physical medium attachment (PMA);
— Part 6 defines the selective wake-up functionality of the high-speed physical medium attachment (PMA).


Figure 1 shows the relations between the OSI reference layers and the parts of the ISO 11898 series.


Figure 1 — CAN data link and physical sub-layers relation to the OSI model