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International

ISO 11898-1

Road vehicles — Controller area network (CAN) —

Part 1: Data link layer and physical coding sublayer

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

Partie 1: Couche liaison de données et sous-couche de codage physique

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

This third edition cancels and replaces the second edition (ISO 11898-1:2015), which has been technically revised.

The main changes are as follows:

— CAN XL requirements added;

— CAN FD light protocol (Annex A) requirements added;

— editorial corrections.

A list of all parts in the ISO 11898 series can be found on the ISO website.

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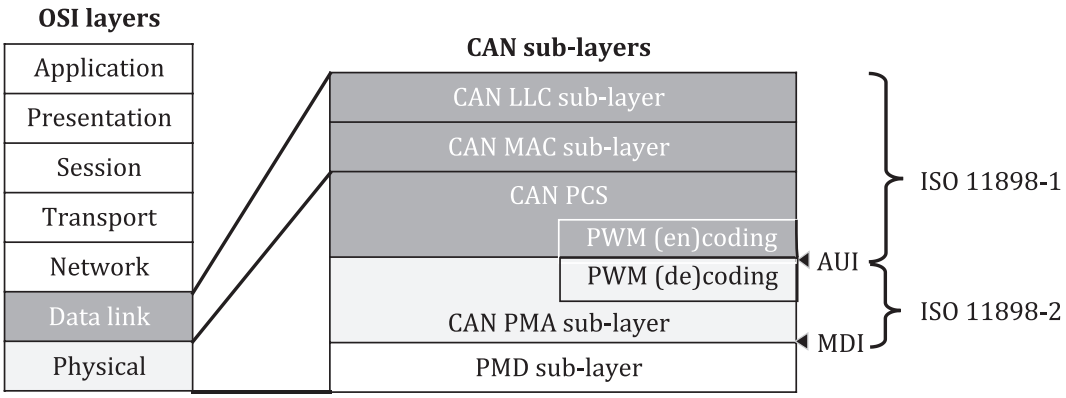
The ISO 11898 series provides requirement specifications for the controller area network (CAN) data link layer and physical layer. It is intended for chip implementers, e.g. this document can be used for CAN protocol controllers and ISO 11898-2 for CAN transceivers. The CAN data link layer models the open systems interconnection (OSI) data link layer; it is internally subdivided into logic link control (LLC) and medium access control (MAC). This document also specifies the physical coding sub-layer (PCS) by means of the attachment unit interface (AUI). The PCS also provides the pulse-with modulation (PWM) encoding to be linked to a CAN SIC XL transceiver, which provides the PWM decoding.

The OSI layers above the data link layer (e.g. the network layer) are not specified in the ISO 11898 series of specifications.

Figure 1 shows the relationship between the OSI layers and the CAN sub-layers.



Key

AUI attachment unit interface
LLC logic link control
MAC medium access control
MDI medium dependent interface
PCS physical coding sub-layer
PMA physical medium attachment
PMD physical medium dependent
PWM pulse-width modulation

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

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