
**Road vehicles — Controller area
network (CAN) conformance test
plan —**

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

*Véhicules routiers — Plan d'essai de conformité du 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).

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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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

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

This first edition of ISO 16845-1 cancels and replaces ISO 16845:2004, which has been technically revised.

A list of all parts in the ISO 16845 series can be found on the ISO website.

Introduction

ISO 16845 was first published in 2004 to provide the methodology and abstract test suite necessary for checking the conformance of any CAN implementation of the CAN specified in ISO 11898-1.

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Road vehicles — Controller area network (CAN) conformance test plan —

Part 1: Data link layer and physical signalling

1 Scope

This document specifies the conformance test plan for the CAN data link layer and the physical signalling as standardized in ISO 11898-1. This includes the Classical CAN protocols as well as the CAN FD protocols.

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 11898-1:2015, *Road vehicles — Controller area network (CAN) — Part 1: Data link layer and physical signalling*

ISO/IEC 9646-1, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 1: General concepts*

ISO/IEC 9646-2, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 2: Abstract Test Suite specification*

ISO/IEC 9646-4, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 4: Test realization*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 11898-1 and the following apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp/>

3.1

bit rate prescaler

BRP

minimum time quantum used for a TQ in CAN Bit time configuration

3.2

conformance testing

applying the *test plan* (3.17) to an IUT

3.3

default state

state of the IUT

Note 1 to entry: The default state is characterized by the default value presented in 5.3.2.5.