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**Road vehicles — Tachograph systems —**  
**Part 6:**  
**Diagnostics**

*Véhicules routiers — Systèmes tachygraphes —*  
*Partie 6: Diagnostic*



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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](http://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](http://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](#).

This second edition cancels and replaces the first edition (ISO 16844-6:2004), which has been technically revised.

The committee responsible for this document is ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

ISO 16844 consists of the following parts, under the general title *Road vehicles — Tachograph systems*:

- *Part 1: Electrical connectors*
- *Part 2: Electrical interface with recording unit*
- *Part 3: Motion sensor interface*
- *Part 4: CAN interface*
- *Part 5: Secured CAN interface*
- *Part 6: Diagnostics*
- *Part 7: Parameters*

## Introduction

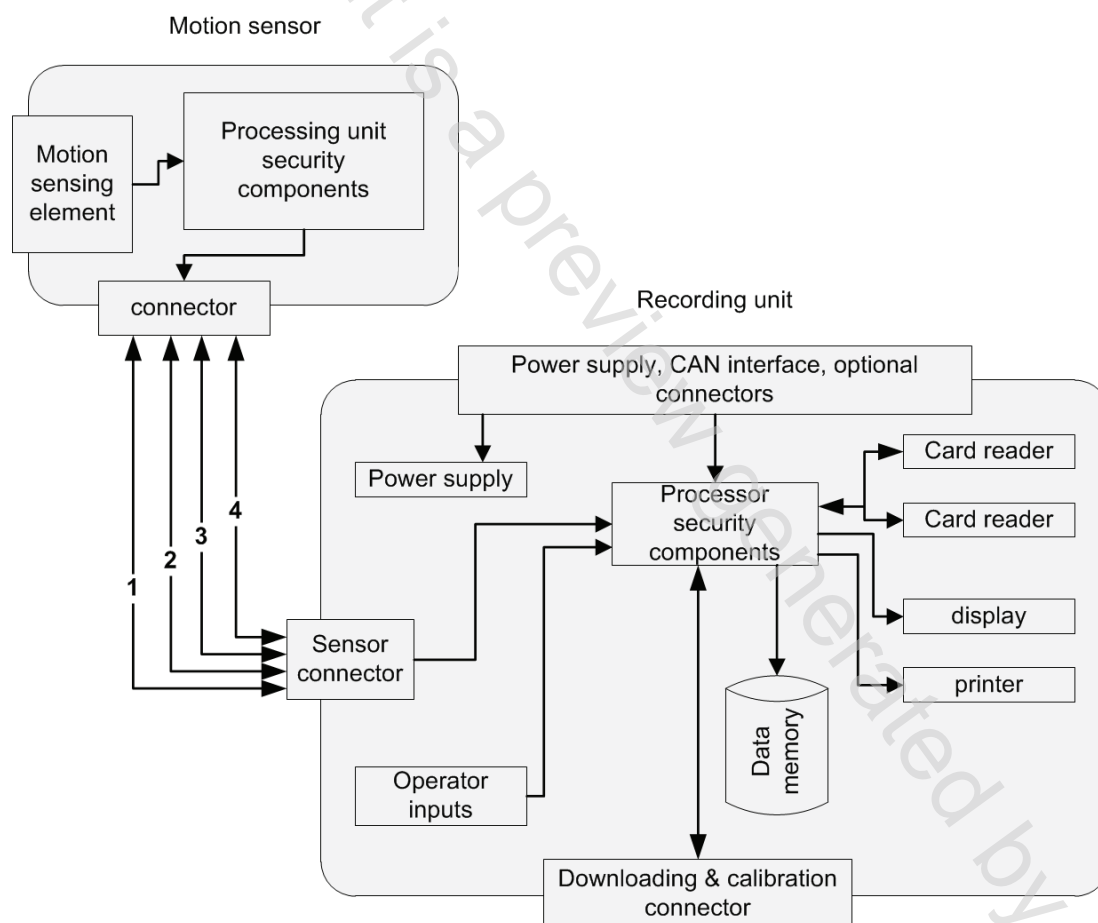
This International Standard supports and facilitates the communication between electronic control units and a tachograph. The tachograph is based upon the European Council Regulation (EC) No 561/2006<sup>[3]</sup> and (EEC) No 3821/85<sup>[4]</sup> as last amended.

The digital tachograph concept is based upon an RU storing data, related to the activities of the various drivers driving the vehicle, on which it is installed.

During the normal operational status of the RU, data stored in its memory are accessible to different entities (drivers, authorities, workshops, transport companies) in different ways (displayed on a screen, printed by a printing device, downloaded to an external device). Access to stored data is controlled by a smart card inserted in the tachograph.

In order to prevent manipulation of the tachograph system, the speed signal sender (motion sensor) is provided with an encrypted data link.

A typical tachograph system is shown in [Figure 1](#).



### Key

- 1 positive supply
- 2 battery minus
- 3 speed signal, real time
- 4 data signal in/out

**Figure 1 — Typical tachograph system**

This part of ISO 16844 has been established in order to enable the implementation of unified diagnostic services on CAN and on K-Line.

To achieve this, it is based on the Open Systems Interconnection (OSI) Basic Reference Model specified in ISO/IEC 7498-1[1] and ISO/IEC 10731,[2] which structures communication systems into seven layers. When mapped on this model, the services specified by ISO 16844 are divided as given in [Table 1](#).

**Table 1 — Diagnostics implementation reference applicable to the OSI layers**

Applicability	OSI seven layer	Diagnostics according to this part of ISO 16844	
		On CAN	On K-Line
Seven layer according to ISO 7498-1 and ISO/IEC 10731	Application (layer 7)	ISO 14229-1/ISO 16844-6/ISO 16844-5	
		ISO 14229-3	ISO 14229-6
	Presentation (layer 6)	Vehicle manufacturer specific	
	Session (layer 5)	ISO 14229-2	
	Transport (layer 4)	ISO 15765-2	—
	Network (layer 3)		
	Data link (layer 2)	ISO 16844-4	ISO 14230-2/ ISO 14230-1
	Physical (layer 1)		





# Road vehicles — Tachograph systems —

## Part 6: Diagnostics

### 1 Scope

This part of ISO 16844 defines diagnostic communication and services for tachograph systems of road vehicles. The communication is specified both for CAN communication mode and K-line communication mode.

The diagnostic services based on ISO 14229-1 and most services are common for the two communication interfaces. Interface specific implementations are specified in the respective sections.

### 2 Normative reference

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14229-1, *Road vehicles — Unified diagnostic services (UDS) — Part 1: Specification and requirements*

ISO 14229-2, *Road vehicles — Unified diagnostic services (UDS) — Part 2: Session layer services*

ISO 14229-3, *Road vehicles — Unified diagnostic services (UDS) — Part 3: Unified diagnostic services on CAN implementation (UDSonCAN)*

ISO 14229-6, *Road vehicles — Unified diagnostic services (UDS) — Part 6: Unified diagnostic services on K-Line implementation (UDSonK-Line)*

ISO 14230-1, *Road vehicles — Diagnostic communication over K-Line (DoK-Line) — Part 1: Physical layer*

ISO 14230-2, *Road vehicles — Diagnostic communication over K-Line (DoK-Line) — Part 2: Data link layer*

ISO 15765-2, *Road vehicles — Diagnostic communication over K-Line (DoK-Line) — Part 2: Transport protocol and network layer services*

ISO 16844-4, *Road vehicles — Tachograph systems — Part 4: CAN interface*

ISO 16844-5, *Road vehicles — Tachograph systems — Part 5: Secured CAN interface*

ISO 16844-7, *Road vehicles — Tachograph systems — Part 7: Parameters*

### 3 Terms and definitions

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

#### 3.1

##### recording unit

##### RU

part of the tachograph system which acquires and stores data concerning the vehicle and its driver(s) and their activities

Note 1 to entry: A recording unit is also referenced as a vehicle unit in other standards, both are synonyms.