

Road vehicles — Implementation of WWH-OBD communication requirements —

Part 1: General information and use case definition

ICS 43.040.10; 43.180

National foreword

This Draft for Development was published by BSI. It is the UK implementation of ISO/PAS 27145-1:2006.

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It is being issued in the Draft for Development series of publications and is of a provisional nature. It should be applied on this provisional basis, so that information and experience of its practical application can be obtained.

A PAS is a Technical Specification not fulfilling the requirements for a standard, but made available to the public and established in an organization operating under a given procedure.

A review of this Draft for Development will be carried out not later than 3 years after its publication.

Notification of the start of the review period, with a request for the submission of comments from users of this Draft for Development, will be made in an announcement in the appropriate issue of *Update Standards*. According to the replies received, the responsible BSI Committee will judge whether the validity of the PAS should be extended for a further three years or what other action should be taken and pass their comments on to the relevant international committee.

Observations which it is felt should receive attention before the official call for comments will be welcomed. These should be sent to the Secretary of the responsible BSI Technical Committee at British Standards House, 389 Chiswick High Road, London W4 4AL.

The UK participation in its preparation was entrusted to Technical Committee AUE/16, Electrical and electronic equipment.

A list of organizations represented on AUE/16 can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

This Draft for Development was published under the authority of the Standards Policy and Strategy Committee on 30 November 2006

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ISBN 0 580 49543 4

Amendments issued since publication

Amd. No.	Date	Comments

PUBLICLY
AVAILABLE
SPECIFICATION

ISO/PAS
27145-1

First edition
2006-09-15

**Road vehicles — Implementation of
WWH-OBD communication
requirements —**

**Part 1:
General information and use case
definition**

*Véhicules routiers — Mise en application des exigences de
communication WWH-OBD —*

Partie 1: Informations générales et définition de cas d'usage



Reference number
ISO/PAS 27145-1:2006(E)

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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.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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/PAS 27145-1 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

ISO/PAS 27145 consists of the following parts, under the general title *Road vehicles — Implementation of WWH-OBD communication requirements*:

- *Part 1: General information and use case definition*
- *Part 2: Common emissions-related data dictionary*
- *Part 3: Common message dictionary*
- *Part 4: Connection between vehicle and test equipment*

NOTE ISO/PAS 27145-4 will be extended as necessary due to introduction of additional communication media.

Introduction

This document set includes the communication between the vehicle's OBD systems and test equipment implemented across vehicles within the scope of the WWH-OBd GTR (World Wide Harmonized On-Board Diagnostics Global Technical Regulations).

It has been established in order to apply the unified diagnostic services (specified in ISO 14229-1).

To achieve this, it is based on the Open Systems Interconnection (OSI) Basic Reference Model in accordance with ISO/IEC 7498-1 and ISO/IEC 10731, which structures communication systems into seven layers. When mapped on this model, the services specified by ISO/PAS 27145 are broken into:

- Diagnostic services (layer 7), specified in ISO/PAS 27145-3;
- Presentation layer (layer 6), specified in ISO/PAS 27145-2;
- Session layer services (layer 5), specified in ISO/PAS 27145-4;
- Transport layer services (layer 4), specified in ISO/PAS 27145-4;
- Network layer services (layer 3), specified in ISO/PAS 27145-4;
- Data link layer (layer 2), specified in ISO/PAS 27145-4;
- Physical layer (layer 1), specified in ISO/PAS 27145-4;

in accordance with Table 1.

Table 1 — Enhanced and legislated OBD diagnostic specifications applicable to the OSI layers

Applicability	OSI 7 layers	Implementation of WWH-OBd communication requirements, e.g. emissions-related UDS
Seven layers according to ISO/IEC 7498-1 and ISO/IEC 10731	Application (layer 7)	ISO/PAS 27145-3 / ISO 14229-1
	Presentation (layer 6)	ISO/PAS 27145-2
	Session (layer 5)	ISO/PAS 27145-4
	Transport (layer 4)	
	Network (layer 3)	
	Data link (layer 2)	
	Physical (layer 1)	

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