



NSAI
Standards

Irish Standard
I.S. EN ISO 15007-1:2014

Road vehicles - Measurement of driver visual behaviour with respect to transport information and control systems - Part 1: Definitions and parameters (ISO 15007-1:2014)

I.S. EN ISO 15007-1:2014

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN ISO 15007-1:2014

Published:

2014-11-12

This document was published under the authority of the NSAI and comes into effect on:

2014-12-07

ICS number:

13.180

43.040.15

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

EN ISO 15007-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2014

ICS 43.040.15; 13.180

Supersedes EN ISO 15007-1:2002

English Version

Road vehicles - Measurement of driver visual behaviour with respect to transport information and control systems - Part 1: Definitions and parameters (ISO 15007-1:2014)

Véhicules routiers - Mesurage du comportement visuel du conducteur en relation avec les systèmes de commande et d'information du transport - Partie 1: Définitions et paramètres (ISO 15007-1:2014)

Straßenfahrzeuge - Messung zum visuellen Verhalten des Fahrers in Bezug zu Transportinformationen und Regelsystemen - Teil 1: Definitionen und Parameter (ISO 15007-1:2014)

This European Standard was approved by CEN on 20 September 2014.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN ISO 15007-1:2014 (E)

Contents	Page
Foreword.....	3

Foreword

This document (EN ISO 15007-1:2014) has been prepared by Technical Committee ISO/TC 22 “Road vehicles” in collaboration with Technical Committee CEN/TC 278 “Intelligent transport systems” the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2015, and conflicting national standards shall be withdrawn at the latest by May 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 15007-1:2002.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 15007-1:2014 has been approved by CEN as EN ISO 15007-1:2014 without any modification.

This page is intentionally left blank

INTERNATIONAL STANDARD

ISO 15007-1

Second edition
2014-11-01

Road vehicles — Measurement of driver visual behaviour with respect to transport information and control systems —

Part 1: Definitions and parameters

*Véhicules routiers — Mesurage du comportement visuel du
conducteur en relation avec les systèmes de commande et
d'information du transport —*

Partie 1: Définitions et paramètres



Reference number
ISO 15007-1:2014(E)

© ISO 2014

ISO 15007-1:2014(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2014

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Definition of measures and metrics	4
4.1 Basic Direct Measures.....	5
4.2 Glance Metrics Derived From Basic Measures.....	5
5 Data collection and analysis	7
6 Data presentation	7
Annex A (informative) Supporting Figures to explain terms and definitions	9
Bibliography	13

ISO 15007-1:2014(E)

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. 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. 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 13, *Ergonomics applicable to road vehicles*.

This second edition cancels and replaces the first edition (ISO 15007-1:2002), of which it constitutes a minor revision.

ISO 15007 consists of the following parts, under the general title *Road vehicles — Measurement of driver visual behaviour with respect to transport information and control systems*:

- *Part 1: Definitions and parameters*
- *Part 2: Equipment and procedure* [Technical Specification]

Introduction

Vision provides the primary source of information available to a driver. Information is gathered by looking at objects and events and this in turn affords control and navigation of the vehicle in the road traffic environment. Assessment of a driver's visual behaviour provides a method of quantifying the driver's visual allocation to the roadway or in-vehicle information sources (see Reference^[1]).

Transport Information and Control Systems (TICS) applications for vehicles may have visual displays that can present a range of driver-selected information. If these visual displays have associated controls (e.g. to select a zoom level or menu option) then these associated hand-control activities may also be visually guided and become part of the visual behaviour associated with a display/TICS application. For this reason it may be important to consider not only the visual behaviour in relation to information display, but also the duration and frequency of glances following driver controlled actions.

Comparisons between specific vehicle systems have been made more difficult because the studies were conducted in different environments using different experimental techniques, different measurement definitions, and different analysis methods.

ISO 15007 has been developed to give guidance on the terms and measurements relating to the collection and analysis of driver visual behaviour data. This approach aims to assess how drivers respond to vehicle design, the road environment, or other driver-related tasks in both real and simulated road conditions. More specifically, the approach of this standard is based on the assumption that efficient processing of visual information is essential to the performance of the driving task.

ISO 15007-1 defines key terms and parameters applied in the analysis of driver visual behaviour focused on glance and glance related measurements. ISO 15007-2 gives guidelines on equipment and procedures for analysis of driver visual behaviour.

Practical assessments of drivers in real or simulated environments are conducted to quantify the allocation of visual behaviour to specified areas of interest. Visual behaviour may be quantified by the location, duration and frequency of glances to a specified area of interest in the visual scene (and, over time, between areas of interest). This approach often uses commonly available eye tracking and/or video-recording equipment. However, it does not preclude the use of more sophisticated technologies which may elicit additional driver visual behaviour information.

Results from such assessments should enable comparison of the relative influence of the TICS use with reference conditions.

Road vehicles — Measurement of driver visual behaviour with respect to transport information and control systems —

Part 1: Definitions and parameters

1 Scope

This part of ISO 15007 defines key terms and parameters applied in the analysis of driver visual behaviour focused on glance and glance-related measures. These terms and parameters can be applied in environments from real-world driving experiments to laboratory-based driving simulator studies.

The procedures described in this part of ISO 15007 could also apply to more general assessments of driver visual behaviour without the introduction of TICS-specific systems. The parameters and definitions described below are intended to assist development of a common source of reference for driver visual behaviour data.

Minimum requirements for reporting the results of Transport Information and Control Systems (TICS) evaluations are provided.

Further guidance including the specification of how to analyse and present the results of studies of visual behaviour is available in other ISO publications (see, for example, ISO 2854 and ISO/TR 13425:2006). However, data collected and analysed according to this standard will allow comparisons to be performed across different TICS applications and experimental scenarios.

2 Normative references

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 2854, *Statistical interpretation of data — Techniques of estimation and tests relating to means and variances*

ISO/TR 13425:2006, *Guidelines for the selection of statistical methods in standardization and specification*¹⁾

ISO/TS 15007-2:2014, *Road vehicles — Measurement of driver visual behaviour with respect to transport information and control systems — Part 2: Equipment and procedures*

3 Terms and definitions

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

3.1

accommodation

adjustment of the lens of the eye to bring about focusing of an image of an object upon the retina

Note 1 to entry: The time for the eye to accommodate from one object to another depends on the distance between the objects.

1) Withdrawn.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-